

Bunge - Climate Change 2018

C0. Introduction

C0.1

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

Bunge Limited (www.bunge.com, NYSE: BG) is a leading global agribusiness and food company operating in over 40 countries with approximately 31,000 employees. Bunge buys, sells, stores and transports oilseeds and grains to serve customers worldwide; processes oilseeds to make protein meal for animal feed and edible oil products for commercial customers and consumers; produces sugar and ethanol from sugarcane; mills wheat, corn and rice to make ingredients used by food companies; and sells fertilizer in South America. The company is headquartered in White Plains, New York and celebrates its 200th anniversary in 2018.

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
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

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

- Argentina
- Austria
- Brazil
- Canada
- China
- Finland
- Germany
- Hungary
- India
- Italy
- Mexico
- Poland
- Romania
- Russian Federation
- Spain
- Turkey
- Ukraine
- United States of America
- Viet Nam

C0.4

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

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

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

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

	Relevance
Agriculture/Forestry	Own land only [Agriculture/Forestry only]
Processing/Manufacturing	Direct operations only [Processing/manufacturing/Distribution only]
Distribution	Direct operations only [Processing/manufacturing/Distribution only]
Consumption	No

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

Evaluated but judged to be unimportant

Please explain

Our products are sourced primarily from renewable sources (agricultural crops). Emissions from their use would fall into a biogenic scope or be immaterial related to emissions at other stages of our value chain.

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

Soy

% of revenue dependent on this agricultural commodity

More than 80%

Produced or sourced

Sourced

Please explain

The company is a major global trader and processor of oilseeds and grains. Soy is the principal crop Bunge handles in its agribusiness and edible oils segments. Combined net sales in these segments represented 87% of 2017 total net sales. Where provided, financial and cost figures in this submission are estimates presented for purposes of providing general insights into scale and materiality. They are unaudited and not immediately comparable to SEC figures reported in Bunge's public filings. Confidential figures have been omitted. Please refer to our annual report on Form 10-K for audited financials and other information.

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) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Director on board	Sustainability activities and issues, including climate change risks, are overseen by the Sustainability and Corporate Responsibility Committee of the Bunge Ltd. Board of Directors. This committee was established in 2014. Climate change is also considered by the full board and by various teams and functions, including global sustainability, corporate affairs and economic research. Daily management of emissions falls under our global Productivity, Quality, Safety and Environment (PQSE) program, which is managed by a member of our global senior leadership team, reporting to the Bunge Limited CEO. The selected individuals have oversight of climate related issues because they oversee the management and future direction of the entire company. Therefore, they are best placed to manage climate related issues as they are integrated in to general business strategy.

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	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Reviewing and guiding business plans Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Sustainability and Corporate Responsibility Committee regularly reviews issues, strategy and performance related to climate change, including emissions and deforestation. Written updates on overall sustainability performance, issues and related topics are provided to the full board at each of its meetings. Reviews consider adherence to strategy, risk mitigation and business alignment in Bunge’s operations, supply and value chains.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Sustainability Officer (CSO) <i>Vice President, Global Corporate Affairs serves as global lead for sustainability and reports on issues, strategies and progress to the Board Committee quarterly. The CEO attends all Board Committee meetings.</i>	Both assessing and managing climate-related risks and opportunities	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.

Where in the structure does this committee sit?

The sustainability committee is made up of independent directors of the board. The Chair of the Committee provides feedback to the full Board. The full Board also receives quarterly reports from the Vice President, Global Corporate Affairs. The CEO is engaged in discussing and addressing, in the highest management level, the issues identified that are related to climate change.

The Vice President Global Corporate Affairs serves as a regular conduit between the Sustainability Committee and the business. The VP interacts directly with EHS areas as well as global operations to assure policies and practices are implemented.

The company discloses progress on the monitoring and management of material issues regularly, and produces GRI reports at a global or regional level annually.

Why does responsibility lie here?

Responsibility for climate related issues sits here because the members of this committee have influence on the strategy and policy of Bunge's general management. Through this they can ensure that climate issues are integrated in to business strategy and monitor progress effectively.

What are the responsibilities of the committee?

The responsibilities of the committee include discussion on climate related issues, review and setting of goals, monitoring performance and identifying and considering major risks.

Description of position(s)/committee(s) specific climate-related issues monitoring process

Each area of global operations is responsible for its own climate related management. The committee, via the Vice President, engages with the different business areas to collect information on climate – related issues. This information is discussed with the committee at meetings and where required fed into board meetings.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?

Other C-Suite Officer

Types of incentives

Monetary reward

Activity incentivized

Supply chain engagement

Comment

Executives managing businesses or regional operations where there are material issues, often have supply chain related engagement included among annual performance goals.

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

Accomplishment of climate change related targets are part of incentive plans for environmental managers

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Supply chain engagement

Comment

Accomplishment of supply chain engagement goals are part of incentive plans for sustainability managers and staff

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	1	5	Due to the dynamics of the commodities market, horizons beyond 5 years may change significantly.
Medium-term	5	10	Medium term strategies and analyses consider longer evolution and cycles of international agricultural supply and demand. These may span 5 to 10 years due to climate patterns, government policy and market innovations.
Long-term	10	30	Long term horizons are those that consider scenarios beyond 10 years time and could span multiple commodity market cycles.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	1 to 3 years	Some issues, such as supply chain risks, demand a higher frequency of monitoring to assure that targets are accurate and goals are being accomplished.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

The identification and assessment of climate-related risks are based on the impact that these risks pose to the operations of the company and its capability to be resilient and achieve its strategic goals. Substantive financial impacts are defined as those which may potentially impact revenue or license to operate in major markets.

The process of identifying and assessing climate-related risks spans multiple internal areas, including environmental and sustainability, government affairs, operations, sales and stakeholder relations. Goals are based on input from multiple stakeholders. Monitoring is based on appropriate standards. Results are shared with the highest body of governance.

Some issues are monitored more frequently, depending upon materiality.

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	For Bunge's operations and projects, regulation and legal compliance represent a minimum threshold. Bunge operations are regulated by legislation that varies depending on country and local site. In each country, Bunge's environmental teams ensure that the company operates accordingly.
Emerging regulation	Relevant, always included	Bunge may be impacted directly and/or indirectly by emerging regulation. Changes to emissions regulations could have short-term impacts on industrial operations. Regulations pertaining to agriculture or trade could pose risks or opportunities across multiple time periods. Our governmental affairs teams monitor trends, engage with government stakeholders and produce internal reports that are used for planning, market analysis and operations.
Technology	Relevant, always included	Technological advances are enhancing the manner in which companies and others can evaluate near and longer-term agricultural supply and demand. Bunge works to evaluate and incorporate new technology into its market analyses and forecasting. The company also evaluates and invests in new technologies via its venture fund and works with supplying farmers in key areas to apply technologically supported agronomic best practices.
Legal	Relevant, always included	Legal compliance is a minimum standard. Bunge maintains strong compliance standards and infrastructure globally. The company conducts employee training and requires legal compliance in supplier contracts.
Market	Relevant, always included	Agricultural commodity markets are inherently volatile and influenced by government policy, consumer trends and other influences. Bunge conducts global and local market research analyses to keep track of these.
Reputation	Relevant, always included	Due to the nature of its operations and global presence, Bunge considers reputational risks and their potential impacts on its license to operate. The company monitors social media and interacts with multiple stakeholders to assess materiality, trends and customers' needs. Corporate affairs teams are continuously engaging with NGOs, industry associations and others, in order to both monitor trends and ensure that the company's positioning is clear and understood by all parties.
Acute physical	Relevant, sometimes included	Acute physical risks due to climate change are likely to impact specific locations. Bunge's global asset footprint is a natural mitigant to this risk. The company's strategy is to source commodities from multiple regions and leverage multiple logistics and distribution chains to ensure the ability to supply customers in times of market dislocation.
Chronic physical	Relevant, sometimes included	Bunge's diverse asset footprint could offset chronic physical risks. Persistent changes in agricultural production could impact specific operations and assets. Such changes could also result in adjustments in agricultural production and trade flows, which could have benefits to other parts of Bunge's business. The company considers potential long-term changes in agriculture as part of its regular economic research activities.
Upstream	Relevant, always included	Upstream risks are considered as part of Bunge's sourcing and agricultural supply and demand analysis (see above). Bunge maintains direct relationships with thousands of farmers in multiple geographies and strategically maintains a global network of assets which serve as a natural mitigant to upstream risks. The company also applies policies (e.g. our non-deforestation policy) to shift its supply to areas of higher compliance with our public commitments and lower climate risk.
Downstream	Relevant, always included	Downstream analysis of market trends is incorporated into Bunge's strategic planning. Bunge interacts with customers through multiple areas, including commercial, sustainability, quality and marketing. Risks and opportunities compose a matrix that guides the company's climate related strategies as well as mid-term projects.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Due to the nature of Bunge's footprint and operations, our business could be affected in the future by regulation, taxation of greenhouse gas emissions, or policies related to national emissions reduction plans and market access requirements. Potential consequences could include variances in energy, transportation and raw material costs. The company is dependent on global logistics systems to deliver its products. Issues related to emissions in these areas, as well as those related to sourcing from expanding agricultural regions, could affect the company's performance on climate related strategies.

Adverse weather conditions, including as a result of future climate change, may affect the availability, quality and price of agricultural commodities and agricultural commodity products, as well as our operations and operating results.

Risks are monitored and assessed regularly. The risk assessment horizon is 1- 3 years. Results are reported to the Board.

Risk are assessed by:

- Potential operational cost impacts;
- Likelihood
- Potential availability of raw material for our operations.

The company has taken steps, including increasing the share of renewable energy sources for its operations, reducing emissions in our facilities and no longer sourcing from newly deforested areas in the Amazon Biome, in an effort to respond to climate issues and shift such production to areas of lower environmental impact.

Risk Case Study:

Bunge conducts regular evaluation of agricultural supply and demand. Climate and environmental risks are inherent to this analysis. Results, which are updated frequently, inform both short and mid-term strategies. Agricultural supply disruptions pose risks and opportunities to our business. Bunge's global asset network enables the company to source from multiple regions and supply customers through multiple logistics networks.

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

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Specific locations dependent upon local supply (e.g. sugarcane) are subject to precipitation and climate variability risks. Advances in agronomic technology and practices may mitigate some of these impacts. Bunge maintains a global asset footprint to ensure the ability to source from multiple regions and serve customers through multiple logistics networks. Climate related variability in agricultural production can therefore pose risks and opportunities to the company.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Potential financial impact

0

Explanation of financial impact

Impacts would vary depending upon the nature of the operations affected. Sugarcane mills could suffer material impact due to lack of adequate feed stock. Impacts on other types of operations could be offset by higher results in other locations. Please refer to financial note in section C-AC0.7

Management method

Assessment of global changes in climate patterns. Use of technology to monitor of field production and improve forecasting.

Cost of management

100000

Comment

Please refer to financial note in section C-AC0.7

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Other

Type of financial impact driver

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Due to its large footprint, some units of the company are located in areas with high risk of acute climate events.

Time horizon

Current

Likelihood

Likely

Magnitude of impact

Medium-low

Potential financial impact

0

Explanation of financial impact

Severe adverse weather conditions, such as hurricanes or severe storms, may result in extensive property damage, extended

business interruption, personal injuries and other loss and damage to us. Our operations also rely on dependable and efficient transportation services. A disruption in transportation services, as a result of weather conditions or otherwise, may also impact our operations. The financial impact of this risk could vary. Bunge's global asset network provides a natural mitigation to impacts in any one location. Please refer to financial note in section C-AC0.7

Management method

Insurance for facilities in areas where, historically, such events have occurred.

Cost of management

0

Comment

The general insurance policy covers risks related to extreme acute events and is already embedded in the cost of doing business.

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?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact driver

Reduced exposure to future fossil fuel price increases

Company- specific description

Increased production of co-generated energy may reduce emissions and make it possible for the company to decrease its dependence on external energy sources.

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Potential financial impact

1

Explanation of financial impact

Positive impact due to reduction in energy procurement from third party sources in select regions.

Strategy to realize opportunity

The company generates energy from commodity input byproducts, and co-generates energy by using the steam from boilers in some plants.

Cost to realize opportunity

0

Comment

Costs to realize these opportunities have been considered as investments in past periods. Please refer to financial note in section C-AC0.7

Identifier

Opp2

Where in the value chain does the opportunity occur?

Supply Chain

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Type of financial impact driver

Increased diversification of financial assets (e.g., green bonds and infrastructure)

Company- specific description

Bunge is developing new financial products in collaboration with third parties that are aimed at promoting sustainable agriculture and the avoidance of land use change. The company is leveraging internal governance and management systems, as well as external resources and frameworks, to identify suitable locations and customers.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Potential financial impact

1

Explanation of financial impact

Although important for expanding our relationship with farmer customers, providing farmers with incentives to generate environmental additionality, and providing benchmarks for other regions, these opportunities do not promise material financial impact in the near term. Please refer to financial note in section C-AC0.7

Strategy to realize opportunity

Bunge has implemented traceability models in regions that area exposed to deforestation risks, and has mapped farmers that would be eligible to receive differentiated loans from investors, assuming additionality on climate related risks could be proven. The intent is to scale up the approach with additional farmers and third party sources of capital.

Cost to realize opportunity

0

Comment

Costs to realize the opportunity are based on gathering data from farmers, monitoring performance, and engaging and investing to build sustainable approaches in multiple regions. Please refer to financial note in section C-AC0.7

Identifier

Opp3

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Increased revenue through demand for lower emissions products and services

Company- specific description

The company sources agricultural raw materials and produces biofuel, which are sold as lower emission fuel in multiple markets.

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Potential financial impact

1

Explanation of financial impact

Financial impacts include revenue related to customer demand and government biofuel mandates and directives. Please refer to financial note in section C-AC0.7

Strategy to realize opportunity

Bunge works with certification schemes to supply customers with qualified biofuels, assure compliance with market directives and help customers execute emission reduction strategies. Today, the company operates sugarcane mills that produce ethanol, as well as processing plants and edible oil refineries that produce biofuel and other biofuel ingredients from oilseeds and palm oil.

Cost to realize opportunity

0

Comment

Investments to realize this opportunity have been made in past periods. Other costs include ongoing variable costs associated with the regular operation of our facilities. Please refer to financial note in section C-AC0.7

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Resource substitutes/diversification

Type of financial impact driver

Increased reliability of supply chain and ability to operate under various conditions

Company- specific description

Bunge operates a global asset footprint and sources agricultural commodities from multiple regions. This provides the company with an ability to supply world demand and meet customer needs in times of climate volatility and variability that may reduce agricultural production in specific areas or disrupt global trade flows.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Potential financial impact

1

Explanation of financial impact

Dislocation in agricultural supply can have a material impact on Bunge's results. Please refer to financial note in section C-AC0.7

Strategy to realize opportunity

Bunge maintains a global asset network and manages agricultural product flows in an integrated manner. The company conducts regular agricultural supply and demand analysis, considering climate and other variables.

Cost to realize opportunity

1

Comment

Costs to realize these opportunities are embedded in regular business operations and capital investment plans. Please refer to financial note in section C-AC0.7

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	Bunge has a number of facilities in Brazil that are can produce ethanol as well as sugar. This has allowed Bunge to produce biofuels that have lower emissions than traditional fossil fuels.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Bunge has identified specific segments of its supply chain that could benefit from lower emissions strategies (Non Deforestation) and is implementing a business model that will lead to higher loyalty and lower risks from suppliers. Although a premium price is not what is promoting the change, the company aims at establishing a new model of relationship with suppliers, customers and investors willing to collaborate for opportunities in climate related strategies.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	Bunge has developed traceability systems to ensure better management of climate and reputation related supply chain issues.
Investment in R&D	Impacted	Bunge has expanded the development of new certified products.
Operations	Impacted	Bunge has enhanced its operational controls, decreasing emissions and thus decreasing costs related to emissions in some specific geographies.
Other, please specify	Impacted	Bunge has diversified its sources of energy, reducing costs and emissions and increasing co-generation of energy at multiple sites. For its Brazilian sugarcane operations, 100% of the electricity used is offset by co-generation. Excess energy is sold into the local power grid.

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	The company has increased its revenues from sale of low carbon products, such as bioethanol in Brazil and biodiesel in multiple markets.
Operating costs	Impacted for some suppliers, facilities, or product lines	Bunge uses biomass and other renewable sources of energy in multiple plants that can contribute to lower costs.
Capital expenditures / capital allocation	Not impacted	
Acquisitions and divestments	Not impacted	
Access to capital	Impacted for some suppliers, facilities, or product lines	Bunge is developing some new financial products for farmers based on environmental performance.
Assets	Impacted for some suppliers, facilities, or product lines	Investments in facilities that produce biofuels were required in past periods.
Liabilities	Impacted for some suppliers, facilities, or product lines	In some regions where emissions are subject to taxes, Bunge's investments in lower emissions levels have positively impacted liabilities and license to operate, supporting the company's ability to be resilient in multiple markets.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i. How business objectives have been influenced by climate change

Climate change impacts on agriculture are implicitly included in Bunge's long-term agricultural supply and demand and strategic forecasting processes.

Bunge seeks to support mitigation of and adaptation and resilience to climate change in our operations and supply chain by managing the location and diversity of crops we source; reducing energy use and emissions in both our facilities and our fleet; and protecting forests.

ii. Linkage to target

Bunge has set long term targets, after accomplishing multiple short term management cycles (the latest being 2013-2016). Our new emissions reduction goal has a target of 10% reduction in Scope 1 & 2 emissions per unit of production between 2016 to 2026.

The company also has a strategy to mitigate supply chain emissions. Bunge has a non-deforestation policy in place, and aims to have a fully deforestation free supply chain between 2020 and 2025. This commitment is changing the manner in which the company interacts with the market and is influencing business objectives.

C3.1d

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify (Internal analysis and tailor made models)	The company uses internal models to define its emissions targets.
2DS	In 2018, Bunge has been investigating the alignment of the company's GHG emissions goals with with a 2 degrees Celsius pathway. To assess Bunge's SBT for Scope 1 & 2 emissions, the 2DS scenario was chosen, aligning Bunge's requirements to the Sectoral Decarbonisation Approach (SDA) methodology. To validate the outputs of the SDA model, Bunge has used RCP 2.6. As Bunge operates in the agricultural sector, which has no specific pathway, RCP 2.6 was analysed to ensure that the SDA output was appropriate. Science based targets are currently being modeled to a number of target years, with 2030 being the longest-term target assessed. 2030 has been identified and chosen due to the SBTi validation criteria C5 and the requirement of a long-term carbon reduction target. As Bunge would seek SBTi validation in setting an SBT, alignment to the validation criteria is necessary. Our entire Scope 1 & 2 footprint, including emissions originating from biogenic sources, have been included within the scope of our scenario analysis. This covers approximately 99% of our global Scope 1 & 2 GHG emissions and therefore all of our operations that have a material impact on our environmental performance.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

Bunge has medium-term emissions and energy reduction goals and the company is developing strategies to align with governance related to science-based targets. The company has incorporated sustainability as a foundational element of its strategy and management. It is also applying new and comprehensive efforts to reduce energy consumption and costs in its industrial footprint.

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

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

% reduction from baseline year

10

Metric

Metric tons CO2e per unit of production

Base year

2016

Start year

2016

Normalized baseline year emissions covered by target (metric tons CO2e)

45.49

Target year

2026

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

% achieved (emissions)

23

Target status

Underway

Please explain

The target for 2026 is reducing emissions intensity by 10%, considering 2016 baseline. In one year of the implementation plan, the company has already reduced 23% of the emissions comparing to the baseline, which means that 23% of the 2026 target has already been achieved.

% change anticipated in absolute Scope 1+2 emissions

10

% change anticipated in absolute Scope 3 emissions

0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target

Energy usage

KPI – Metric numerator

reduce our total use of energy (GJ) in our operations in 10% by 2026.

KPI – Metric denominator (intensity targets only)

total production (ton)

Base year

2016

Start year

2016

Target year

2026

KPI in baseline year

1.2

KPI in target year

1.08

% achieved in reporting year

0

Target Status

Underway

Please explain

In the reporting year we were not able to decrease our energy consumption yet due to some operational changes and new structures related to operations that will lead to a decrease in energy usage in near future.

Part of emissions target

No

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

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 projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	2	0
To be implemented*	0	0
Implementation commenced*	2	2000
Implemented*	3	8400
Not to be implemented	0	0

C4.3b

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

Activity type

Energy efficiency: Building fabric

Description of activity

Insulation

Estimated annual CO2e savings (metric tonnes CO2e)

3000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

500000

Investment required (unit currency – as specified in CC0.4)

1000000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Biomass quality preservation (construction of warehouses and storage of biomass prior to boiler burn in order to preserve quality and calorific value) in our Nova Mutum and Rio Grande facilities.

Activity type

Process emissions reductions

Description of activity

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

2700

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

500000

Investment required (unit currency – as specified in CC0.4)

2500000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

New boiler equipment in Luis Eduardo Magalhaes unit allows significant reduction comparing to the old one that did not allow co-generation of energy and use of steam.

Activity type

Process emissions reductions

Description of activity

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

2700

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

500000

Investment required (unit currency – as specified in CC0.4)

2500000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

New boiler equipment in Luziania unit allows significant reduction comparing to the old one that did not allow co-generation of energy and use of steam.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Some units have been using old equipment that need to be replaced in order to support energy efficiency and co-generation of energy when applicable, increasing the return on investment.
Dedicated budget for other emissions reduction activities	Some units have been using old equipment that need to be replaced in order to support approach for achieving emissions targets
Financial optimization calculations	Some initiatives aim at extending the life span of equipment that would allow company to get financial optimisation.

C-AC4.4/C-FB4.4/C-PF4.4

(C-AC4.4/C-FB4.4/C-PF4.4) Do you implement management practices on your own land with a climate change mitigation and/or adaption benefit?

Yes

C-AC4.4a/C-FB4.4a/C-PF4.4a

(C-AC4.4a/C-FB4.4a/C-PF4.4a) Specify the agricultural or forest management practice(s) implemented on your own land with climate change mitigation and/or adaptation benefits and provide a corresponding emissions figure, if known.**Management practice reference number**

MP1

Management practice

Afforestation

Description of management practice

Afforestation of river banks that equals 10 hectares in a sugar cane field site.

Primary climate change-related benefit

Increasing resilience to climate change (adaptation)

Estimated CO2e savings (metric tons CO2e)

6.6

Please explain

This carbon saving is modeled data from the paper 'Sugarcane the champion crop at carbon sequestration' (2007) by Jeffrey F. Parr and Leigh A.Sullivan. This paper states 'Some of the latest plantstone research shows that sugarcane is the clear champion crop at carbon sequestration. Sugarcane can sequester up to 0.66 tonnes of CO2 per ha per year'.

Management practice reference number

MP2

Management practice

Crop rotation

Description of management practice

Crop rotation is implemented in the sites we operate directly (sugarcane fields) according to best practices.

Primary climate change-related benefit

Reduced demand for fertilizers (adaptation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP3

Management practice

Biodiversity considerations

Description of management practice

A portion of the land we manage is set aside as a biodiversity reserve, encompassing nearly 20,000 hectares of natural vegetation preserved.

Primary climate change-related benefit

Increase carbon sink (mitigation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP4

Management practice

Equipment maintenance and calibration

Description of management practice

All the fleet that runs the 8 sugarcane mills for the company are maintained and calibrated, avoiding misuse of pesticides, herbicides and high fossil fuel use. The total areas owned where this best practice is implemented equals to 19,000 hectares.

Primary climate change-related benefit

Reduced demand for pesticides (adaptation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP5

Management practice

Fire control

Description of management practice

No fire is used in the company's operations, the company is signatory of public protocols to not use burning as agricultural practice and there are anti burning monitoring in all of our field operations

Primary climate change-related benefit

Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP6

Management practice

Green harvesting

Description of management practice

Our sugarcane planting and harvesting processes are substantially mechanised. Mechanised harvesting does not require burning of the cane prior to harvesting, significantly reducing the environmental impact when compared to manual harvesting, and resulting in improved soil conditions.

Primary climate change-related benefit

Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP7

Management practice

Integrated pest management

Description of management practice

The company applies integrated pest management throughout all of its 19,000 hectares fields, decreasing the need to the use of pesticides.

Primary climate change-related benefit

Reduced demand for pesticides (adaptation)

Estimated CO2e savings (metric tons CO2e)

0

Please explain

<Not Applicable>

Management practice reference number

MP8

Management practice

Low carbon energy use

Description of management practice

All of our sugarcane plants run on 100% renewable sources of energy and co-generate electricity exceeding their own needs. We generate electricity from burning sugarcane bagasse in our mills. As of December 31, 2017, our total installed co-generation capacity was approximately 322 megawatts, with approximately 131 megawatts available for resale to third parties after supplying our mills' energy requirements, representing approximately 596,000 megawatt hours of electricity available for resale.

Primary climate change-related benefit
Reduced demand for fossil fuel (adaptation)

Estimated CO2e savings (metric tons CO2e)
0

Please explain
<Not Applicable>

Management practice reference number
MP9

Management practice
Low tillage and residue management

Description of management practice
The 19,000 ha fields we own may only receive tillage every 5 years maximum

Primary climate change-related benefit
Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)
0

Please explain
<Not Applicable>

Management practice reference number
MP10

Management practice
Waste management

Description of management practice
Residue from harvest is left on the soil to protect land and increase soil moisture and organic matter, harvest / production residues are used as a source of renewable energy (biomass) for boilers.

Primary climate change-related benefit
Reduced demand for fossil fuel (adaptation)

Estimated CO2e savings (metric tons CO2e)
0

Please explain
<Not Applicable>

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products

Description of product/Group of products

The company produces ethanol, which can be used as fuel and reduces 60% of emissions when compared to fossil fuels. The company produces biodiesel from soybeans, which reduces at least 35% of emissions when compared to fossil fuels.

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

Avoided emissions

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

Other, please specify (EU Directive 2009/28/EC)

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

1

Comment

We own and operate biodiesel facilities in Europe and Brazil and have equity investments in biodiesel producers in Europe and Argentina. This business is complementary to our core Agribusiness operations as in each case we supply some of the raw materials (crude vegetable oil) used in their production processes. Due to business confidentiality, we do not disclose the specific revenue from such product or sales. Important to note, though, that up to 40% of crude oil sales in Brazil are linked to biofuel supplies.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

1663890

Comment

Includes direct CO2 emissions from fuel use in facilities.

Scope 2 (location-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

1674805

Comment

This refers to GHG emissions from purchased energy.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

Brazil GHG Protocol Programme

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

US EPA Mandatory Greenhouse Gas Reporting Rule

Other, please specify (Argentina / Brazil governmental sources)

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

The Argentine Secretary of Energy and the Brazilian Ministry of Science and Technology are also sources of regional indexes that support the use of global guidelines like the GHG protocol and IPCC

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

1722634

End-year of reporting period

<Not Applicable>

Comment

In 2017, Bunge continued to pursue a variety of energy-efficiency programs across our operating companies, including launch of our Energy Optimization Program that enables real-time monitoring and analysis of energy consumption to drive improvements.

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 have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report 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?

Row 1

Scope 2, location-based

1549444

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<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

Port terminals

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

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

Emissions are not relevant

Explain why the source is excluded

Total emissions from these units represent a non representative portion of Bunge's overall emissions

Source

Grain elevators

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

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

Emissions are not relevant

Explain why the source is excluded

Total emissions from these units represent a non representative portion of Bunge's overall emissions

Source

Offices

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

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

Emissions are not relevant

Explain why the source is excluded

Total emissions from these units represent a non representative portion of Bunge's overall emissions

C6.5

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

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Capital goods

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Upstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Waste generated in operations

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Business travel

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Employee commuting

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Upstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Downstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Processing of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Use of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

End of life treatment of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

0

Explanation

Downstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Franchises

Evaluation status

Please select

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Investments

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (upstream)

Evaluation status

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (downstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

C6.7

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

Yes

C6.7a

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

5598163

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 land use management

Emissions (metric tons CO2)

0

Methodology

Default emissions factors

Please explain

CO2 removals from land use management

Emissions (metric tons CO2)

0

Methodology

Default emissions factors

Please explain

there is no CO2 removal from direct operations in land management

Sequestration during land use change

Emissions (metric tons CO2)

0

Methodology

Empirical models

Please explain

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)

5598163

Methodology

Default emissions factors

Please explain

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)

5598163

Methodology

Default emissions factors

Please explain

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2)

0

Methodology

Default emissions factors

Please explain

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?

No, not currently but intend to collect or calculate this data within the next two years

Please explain

Currently, we are not collecting emissions for this commodity but we are considering doing so for the future.

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

0.0000715

Metric numerator (Gross global combined Scope 1 and 2 emissions)

3272078

Metric denominator

unit total revenue

Metric denominator: Unit total

45794000000

Scope 2 figure used

Location-based

% change from previous year

8.7

Direction of change

Decreased

Reason for change

In 2017, Bunge continued to pursue a variety of energy-efficiency programs across our operating companies, including launch of our Energy Optimization Program that enables real-time monitoring and analysis of energy consumption to drive improvements. The initial assessments at specific Bunge sites revealed opportunities to reduce energy consumption by an average of 25%. This multi year program will cover 55 facilities worldwide by 2020.

Intensity figure

0.0445724

Metric numerator (Gross global combined Scope 1 and 2 emissions)

3272078

Metric denominator

metric ton of product

Metric denominator: Unit total

73410376

Scope 2 figure used

Location-based

% change from previous year

2

Direction of change

Decreased

Reason for change

savings and production change

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

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)
Argentina	323008
Austria	16919
Brazil	59807
Canada	158373
China	0
Finland	0
France	5407
Germany	5878
Hungary	1682
India	123448
Italy	26909
Mexico	4793
Poland	87571
Romania	10653
Russian Federation	3262
Spain	189343
Turkey	45166
Ukraine	1925
United States of America	579152
Viet Nam	79338

C7.3

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

Please select

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?

Partially

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

(C-AC7.4a/C-FB7.4a/C-PF7.4a) Select the form(s) in which you are reporting your agricultural/forestry emissions.

Emissions disaggregated by category (advised by the GHG Protocol)

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

Agriculture/Forestry

Emissions category

Non-mechanical

Emissions (metric tons CO2e)

199073.11

Methodology

Default emissions factor

Please explain

This refers to field operations in Sugarcane segment.

Activity

Agriculture/Forestry

Emissions category

Land use change

Emissions (metric tons CO2e)

0

Methodology

Default emissions factor

Please explain

there was no land use change in the reporting year.

Activity

Agriculture/Forestry

Emissions category

Mechanical

Emissions (metric tons CO2e)

149415.5

Methodology

Default emissions factor

Please explain

This refers to machinery emissions in operations of sugarcane segment.

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	438676		633060.55	0
Canada	29926		178978.05	0
Brazil	30507		563907	0
Spain	2193		7466.4	1904.03
Austria	0		25704.45	25704.45
Turkey	12093		27595.22	0
Italy	11312		28033.73	0
Hungary	16105		46826.32	0
Ukraine	24883		72265.58	0
Russian Federation	13214		40219.99	0
Germany	27577		317889.76	263189.02
Poland	40159		57612.27	0
Finland	3488		14747.74	5432.74
Romania	19884		46391.85	0
France	1369		4026.9	0
China	678682		856049	0
India	24313		25772	0
Mexico	26005		57138.05	0
Viet Nam	26447		33558	0
Argentina	122611		229365	0

C7.6

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

Please select

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	0	No change	0	Renewable energy consumption has had no impact on our emissions profile
Other emissions reduction activities	72840	Decreased	2.18	Emissions reduction initiatives implemented across the business have caused this decrease. Total reduction in emissions from emission reduction activities 72,840. $72,840/3,338,695 = 2.18\%$
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified	6289	Increased	0.19	
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?

Location-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 undertakes this energy-related activity
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	No

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 MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	21297333	21297333
Consumption of purchased or acquired electricity	<Not Applicable>	0	3266607.88	3266607.88
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	296230.24	296230.24
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	0	24860171	24860171

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 steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

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

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

7608224

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Fuels (excluding feedstocks)

Petrol

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1195

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Crude Oil Light

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5994

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

64494

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Crude Oil Heavy

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4733

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

61384

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Wood Waste

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1610758

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Other, please specify (Seed Hulls)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1242714

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Solid Biomass Waste

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

572090

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Other, please specify (Sugarcane waste)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

10064363

MWh fuel consumed for the 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

Fuels (excluding feedstocks)

Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

61384

MWh fuel consumed for the 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

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Coal

Emission factor

0.0961

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Crude Oil Heavy

Emission factor

0.0774

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Crude Oil Light

Emission factor

0.0741

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Diesel

Emission factor

0.0741

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Liquefied Petroleum Gas (LPG)

Emission factor

0.0631

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Natural Gas

Emission factor

0.0561

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Petrol

Emission factor

0.0741

Unit

metric tons CO2 per GJ

Emission factor source

IPCC 2006

Comment

Solid Biomass Waste

Emission factor

0.11

Unit

kg CO2 per metric ton

Emission factor source

LIFE11/ENV/ES/584 - Airuse - report 9: emission factors for biomass burning

Comment

Wood Waste

Emission factor

0.11

Unit

kg CO2 per metric ton

Emission factor source

LIFE11/ENV/ES/584 - Airuse - report 9: emission factors for biomass burning

Comment

Other

Emission factor

0.103

Unit

metric tons CO2 per GJ

Emission factor source

Comment

This is the average emission factor for Seed hulls (0.11), sugar cane (0.12) and ethanol (0.079)

C8.2f

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

Basis for applying a low-carbon emission factor

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

Low-carbon technology type

<Not Applicable>

MWh consumed associated with low-carbon electricity, heat, steam or cooling

<Not Applicable>

Emission factor (in units of metric tons CO2e per MWh)

<Not Applicable>

Comment

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No emissions data provided

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?

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

EU ETS

% of Scope 1 emissions covered by the ETS

26.49

Period start date

January 1 2017

Period end date

December 31 2017

Allowances allocated

286607

Allowances purchased

168577

Verified emissions in metric tons CO₂e

456350

Details of ownership

Facilities we own and operate

Comment

Where applicable, the information relates to facilities we own and operate.

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Bunge has a long history in the Clean Development Mechanism system and has been an active participant in the ETS. Market changes have forced us to evolve our strategy for carbon trading.

For the ETS scheme, we are complying with regional legislation. We comply with this scheme as we have a team internally that is dedicated to monitoring changes, engaging with working groups and ensuring that relevant data is collated and reviewed in line with annual deadlines. Countries involved in ETS are Spain, Italy, Poland and Austria. Only Spain and Poland are required to purchase EUAs in the market.

The allowances allocated are the free allocation we receive. The emissions verified are the amount that we send/pay to the authorities.

During 2016, we decreased CO2 emissions in Europe by more than 10,000 mt primarily as a result of efficiency increases and changes in production volumes.

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

GHG Scope

Scope 1

Application

Internal price on carbon is applied over certain facilities located in regions under regulation regarding Carbon emissions.

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

5.8

Variance of price(s) used

Prices vary according to markets. The reference presented is those used for some units in the European market where GHG regulation about it has been clearly in place for some countries.

Type of internal carbon price

Implicit price

Impact & implication

Internal carbon price has been used in selected facilities located in areas where carbon is or may be taxed. Although not relevant, the internal price helps Bunge to identify possible opportunities such as EU ETS or risks that should be considered while assessing operational costs of such sites.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

C12.1a

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

Type of engagement

Compliance & onboarding

Details of engagement

Included climate change in supplier selection / management mechanism

Climate change is integrated into supplier evaluation processes

% of suppliers by number

10

% total procurement spend (direct and indirect)

10

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

The figure represents a material portion of our direct supply chain for biodiesel certification. The company promotes best agricultural practices in its supply chain, as well as works with certified biofuel production. Our sourcing for biofuel certification has continuously increased. Farmers prioritized are those closer to logistic flows of certified beans. Also, we have no-deforestation commitments in place to avoid further major emissions from primary suppliers. Progress report on these commitments can be found at <http://www.bunge.com/sustainability/zero-deforestation>.

Impact of engagement, including measures of success

For biofuel related operation, we have been able to certify production and sell differentiated products in the market. For our Non Deforestation Policy, we've been able to identify risky areas and track progress of the policy implementation, disclosing public numbers of farmers flagged and establishing indicators with figures reaching 90% of traceability for risky areas in general.

Comment

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

Size of engagement

10

% Scope 3 emissions as reported in C6.5

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

For customers, we have public reports of emissions and we supply site data when demanded. In some geographies, we also sponsor post-consumer recycling programmes

Impact of engagement, including measures of success

Customers may use our public figures for their own purposes and may also establish goals as well as procurement specific requirements. We have expanded our sales of certified products with a focus on biofuel markets, where commercial agreements have been made possible in multiple markets we source from.

C12.3

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

Direct engagement with policy makers

Trade associations

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (bioenergy)	Support with minor exceptions	Bunge engages with policy makers on issues related to biofuel production, marketing, sustainability and trade. The company supports market based approaches to promoting economically and environmentally efficient first generation biofuels.	To encourage the use of biofuel and bio-electricity where it is available, considering a proper relation to food supply and local economic viability

C12.3b

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

Yes

C12.3c

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

Trade association

Fediol

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Support the use of oilseed raw materials for biofuel

How have you, or are you attempting to, influence the position?

Participation in the board

Trade association

Abiove

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Support the use of oilseed raw materials for biofuel

How have you, or are you attempting to, influence the position?

Participation in the council

Trade association

Unica

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Support the use of sugar cane ethanol as a source of fuel where applicable

How have you, or are you attempting to, influence the position?

Participation in the council

C12.3f

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

Public affairs' activities at Bunge are overseen by the MD Global Governmental Affairs, who reports to the Bunge Limited CEO. The Global Government Affairs committee, which is comprised of public affairs' heads from each of Bunge's regional operating companies and global segments, coordinates policies, positions and activities on an ongoing basis.

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 other regulatory filings

Status

Complete

Attach the document

10-k Bunge 2018.pdf

Content elements

Governance

Strategy

Risks & opportunities

Other metrics

Publication

In voluntary communications

Status

Complete

Attach the document

Bunge global sustainability report at corporate website.jpg

C12.4 row 2 - bungeinfographic_2.28_0.pdf

Content elements

Emissions figures

Emission targets

Other metrics

Publication

In voluntary sustainability report

Status

Complete

Attach the document

BungeBrazilSustainabilityReport18.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Publication

In voluntary sustainability report

web based global sustainability report

Status

Complete

Attach the document

Bunge global sustainability report at corporate website.jpg

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

C13. Other land management impacts

C-AC13.1/C-FB13.1/C-PF13.1

(C-AC13.1/C-FB13.1/C-PF13.1) Do you know if any of the management practices implemented on your own land disclosed in C-AC4.4a/C-FB4.4a/C-PF4.4a have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.1a/C-FB13.1a/C-PF13.1a

(C-AC13.1a/C-FB13.1a/C-PF13.1a) Provide details on those management practices that have other impacts besides climate change mitigation/adaptation and on your management response.

Management practice reference number

MP1

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Other, please specify (environmental compliance)

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP3

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP4

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP5

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Other, please specify (bBtter community relations)

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP6

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP7

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Other, please specify (lower emissions)

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP8

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP9

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP10

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

No

Description of the response(s)

Management practice reference number

MP11

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Water

Yield

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Management practice reference number

MP12

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Water

Yield

Other, please specify (less water use)

Description of impact

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

C14. 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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Vice President, Sustainability and Corporate Affairs	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	45794000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	BMG1696210

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

Kellogg Company

Scope of emissions

Scope 1

Emissions in metric tonnes of CO₂e

3445

Uncertainty (±%)

Major sources of emissions

Production of products

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG emissions for each plant are measured each month and aggregated.

Requesting member

Arcos Dourados

Scope of emissions

Scope 1

Emissions in metric tonnes of CO₂e

421.781

Uncertainty (±%)

Major sources of emissions

Natural Gas burned in boilers

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Natural Gas burned in boilers is the only source for scope 1 on this industrial operation. Your consumption is monthly measured and this value were transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

Arcos Dourados

Scope of emissions

Scope 2

Emissions in metric tonnes of CO₂e

24.642

Uncertainty (±%)

Major sources of emissions

Acquisition of electricity

Verified

No

Allocation method

Allocation based on the energy content of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Electricity is the only energy source for scope two on the industrial operational that produced for Arcos Dourados. Your consumption is monthly measured and this value were transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 1

Emissions in metric tonnes of CO2e

2080.602

Uncertainty (±%)**Major sources of emissions**

Natural Gas and Liquefied Petroleum Gas

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

All energy sources from all industrial operational that produced for Pepsico are monthly measured. This value are transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 2

Emissions in metric tonnes of CO2e

87.778

Uncertainty (±%)**Major sources of emissions**

Acquisition of electricity

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Electricity is the only energy source for scope two on the industrials operational that produced for Pepsico. Your consumption is monthly measured and this value were transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

Kellogg Company

Scope of emissions

Scope 1

Emissions in metric tonnes of CO2e

430.595

Uncertainty (±%)**Major sources of emissions**

Natural Gas burned in boilers

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Natural Gas burned in boilers is the only source for scope 1 on this industrial operation. Your consumption is monthly measured and this value were transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

Kellogg Company

Scope of emissions

Scope 2

Emissions in metric tonnes of CO2e

25.16

Uncertainty (±%)**Major sources of emissions**

Acquisition of electricity

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Electricity is the only energy source for scope two on the industrial operations that produced for Kellogg. The consumption is monthly measured and this value were transformed for GHG emissions corresponding for volume of purchased product. (Bunge Brazil Data)

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 1

Emissions in metric tonnes of CO2e

1722

Uncertainty (±%)**Major sources of emissions**

Production of products

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG emissions for each plant are measured each month and aggregated.

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 2

Emissions in metric tonnes of CO₂e

1549

Uncertainty (±%)**Major sources of emissions**

Generation of electricity used in production

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG emissions for each plant are measured each month and aggregated.

Requesting member

Kellogg Company

Scope of emissions

Scope 2

Emissions in metric tonnes of CO₂e

3098

Uncertainty (±%)**Major sources of emissions**

Generation of electricity used to produce products in North America.

Verified

No

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

GHG emissions for each plant are measured each month and aggregated.

SC1.2

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

Bunge Brazil Data - All emission data were based on Brazilian GHG Protocol Guidelines. It is available at:

<<http://ferramenta.ghgprotocolbrasil.com.br>>

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
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	Full life cycle analysis.

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.

Bunge currently allocates emissions to specific customers based on total revenue.

Additionally Bunge adopts the continuous improvement in order to improve accuracy of data and calculations

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

Relationship sustainability assessment

Type of project

Assessing products or services life cycle footprint to identify efficiencies

Emissions targeted

Actions that would reduce our own supply chain emissions (our own scope 3)

Estimated timeframe for carbon reductions to be realized

3-5 years

Estimated lifetime CO2e savings

Estimated payback

3-5 years

Details of proposal

Continue to collaborate on sustainable ag projects at the farm level; providing resources and tools to farmers to promote more efficient operations and land use.

SC2.2

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

Yes

SC2.2a

(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.

Requesting member

Kellogg Company

Initiative ID

2017-ID1

Group type of project

Change to supplier operations

Type of project

Implementation of energy reduction projects

Description of the reduction initiative

Centerfield and Field to Market

Emissions reduction for the reporting year in metric tons of CO2e

Did you identify this opportunity as part of the CDP supply chain Action Exchange?

No

Would you be happy for CDP supply chain members to highlight this work in their external communication?

Yes

SC3.1

(SC3.1) Do you want to enroll in the 2018-2019 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2017-2018 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services, if so, what functionality will you be using?

No, I am not providing data

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms