Bunge - Climate Change 2019

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 celebrated 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 2018	December 31 2018	Yes	1 year

C0.3

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

Argentina
Austria
Brazil
Canada
China
Finland
France
Germany
Hungary
India
Italy
Mexico
Netherlands
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	Both own land and elsewhere in the value chain [Agriculture/Forestry only]
Processing/Manufacturing	Direct operations only [Processing/manufacturing/Distribution only]
Distribution	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Consumption	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]

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 over 80% of 2018 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) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Director on board	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 sustainability and environmental performance for the 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 major plans of action 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) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	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) *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.*	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 (do not include the names of individuals).

Where in the structure does this committee sit?

The Sustainability and Corporate Responsibility Committee (SCRC) is made up of independent directors of the board. The Chair of the Committee provides updates and feedback to the full Board. The full Board also receives quarterly reports from the Senior Vice President, Sustainability & Governmental Affairs. The CEO is engaged in discussing and addressing, in the highest management level, the issues identified that are related to climate change.

The Senior Vice President, Sustainability & Governmental Affairs (SVP) serves as a regular conduit between the Sustainability Committee and the business. The SVP 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 SVP, 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 (do not include the names of individuals).

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

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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

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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 for 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	Bunge operates in over 40 countries, and as such is subject to various national, regional, and municipal-level laws or regulations that directly impact our operations and projects. Within each country, environmental teams ensure that the company operates in compliance with these laws and regulations, under the general oversight of Bunge's local legal department. For example in Brazil, Bunge observes and complies with applicable laws pertaining to legal reserves in its rural operations for sugarcane farming, in particular the requirement to restore previously farmed land. This may have an effect on the current farming capability. Nevertheless legal and regulatory staff in our South America office regularly monitor and review Bunge's practices to ensure, at a minimum, that operations are in compliance with local laws. In furthering Bunge's commitment to zero deforestation globally, national- and regional-level teams also comply with company-wide policies that in many cases go beyond the legal requirements of the national government or municipality.
Emerging regulation	Relevant, always included	Bunge may be impacted directly and/or indirectly by emerging regulation that may affect our business and operations, and are therefore always included in our assessments. Our government affairs teams work in close cooperation with national-level teams to monitor, review and assess the regulatory environment, engage with government stakeholders, and produce reports that embed emerging regulatory risks into short, medium and long-term planning. For example, carbon taxes or 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 that may affect financial performance in key markets. Additionally, industry-wide voluntary agreements are monitored. An example includes Brazil's Soy Moratorium, which currently restricts farming in the Amazon biome by barring soy traders from purchasing products connected to Amazon deforestation. Such regulation could potentially expand to include the Cerrado biome as well. Such voluntary agreements could potentially become a national regulation and expand over all expansion zones.
Technology	Relevant, always included	Technological advances have the potential to impact Bunge's business and operations, and are therefore included in risk assessments. 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. New technologies are incorporated into short and long-term strategies. For example, Bunge North America signed a 20-year contract with Westar Energy to provide 100% wind power to two facilities in Kansas, USA. The use of wind is expected to save around $200,000 per year.
Legal	Relevant, always included	Legal compliance is a minimum standard in Bunge's operations. Bunge maintains strong compliance standards and infrastructure across global and regional business units, and incorporates legal risks into its assessments. The company conducts employee training on a variety of environmental, human resources, and technology-related subjects. Bunge also requires legal compliance in supplier contracts that meet and sometimes exceed national regulation.
Market	Relevant, always included	Agricultural commodity markets are inherently volatile and influenced by government policy, consumer trends and other influences. Bunge regularly conducts global and local market research analyses to keep track of these trends, and communicates potential risks and opportunities to relevant stakeholders. A significant market demand that we have identified pertains to the availability of certified products. In 2018 we were the largest trader of RTRS-certified (Round Table for Responsible Soy) products, supplying customer demand. Bunge assesses the impact of certification demand and includes in long-term planning and supplier engagement.
Reputation	Relevant, always included	Reputational risks are always included in Bunge's annual assessments. Due to our global presence in key agricultural markets with known impacts on the environment, Bunge places high priority on compliance with national and local regulation to protect at-risk ecosystems, such as our commitment to zero deforestation and protection of HCV and HCS areas when applicable, i.e. mapped in a given ecosystem. Although Bunge is primarily a B2B organization, we do have consumer-facing brands in markets in South America and Eastern Europe. We therefore factor in consumer and customer perceptions into our risk assessments.
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. However certain products are more specific to geographic locations, such as sugar in Brazil. Severe climate changes and weather-related disasters can disrupt sugar plantations, and thus impact Bunge's financial performance.
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. As a company example, Bunge is using the sustainable expansion zoning tool, Agroideal.org, to map areas and trends of chronic physical risks in its supply chain of beans in South America.
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. Our continued use of Agroideal while planning our sourcing is a way for us to manage the risk of upstream non-compliance with our policies, while offering farmers a tool to help plan origination in areas of previously cleared land and to help identify other parameters for sustainable farming.
Downstream	Relevant, always included	Downstream risks are incorporated into Bunge's strategic planning. Bunge interacts with customers in multiple areas, including commercial, sustainability engagement, quality and marketing. Potential downstream risks include damage to major ports of entry into destination markets caused by severe weather patterns and natural disasters, thus causing disruption to Bunge's global distribution network. Additionally, downstream trends show a more concerted focus on product origination. We have developed policies and approaches to grant access to downstream markets where we have been operating.

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. Bunge expects to conduct a climate-related scenario risk assessment within the next two years to better identify risks and potential financial costs, and to inform the development of appropriate risk management strategies.

Adverse weather conditions, including as a result of climate change, may adversely affect the availability, quality and price of agricultural commodities and agricultural commodity products, as well as our operations and operating results. These risks are assessed regularly by our internal risk management team. The risk horizon is 1-3 years, and are reported to the board quarterly.

The risk team consists of key individuals across relevant business units who meet periodically to assess strategic risks to the company, to balance company-wide risks with management appetite for such risks, and to identify solutions to such risks using relevant business and operational functions available to the company. These results are reported to the Board of Directors.

A risk assessment example includes the threat of inclement weather due to climate change on agriculture facilities in the United States. For example, the mid-western states where Bunge sources some of its products have faced severe weather patterns over the last few years. While Bunge's global asset footprint can help mitigate risks in one region, it nevertheless presents financial risk in areas facing severe weather patterns.

Opportunity case study (including areas that are experiencing opportunities from climate change): An opportunity identified through risk and opportunity management stemming from climate-related issues involves Bunge's presence in the biofuels industry, notably our Brazil sugar operations. As demand for ethanol and other biofuels increases to offset the use of carbon-based fuel sources, Bunge is in the position to sustainably provide sugar as an ethanol source. When consumed domestically, bio-ethanols can significantly reduce GHG emissions from transportation energy.

The company is also positioning to increase its resilience in a climate change scenario by focusing on 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.

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

Company- specific description
Bunge's risk assessment process has identified weather-related disruptions in particular geographic areas as having an impact on financial, logistical and operational performance. Although Bunge's global footprint helps to mitigate the disruptions to our supply chain, there are nevertheless persistent risks to areas exposed to varying fluctuations in climate and weather patterns. For example, reduced access to water in high-stress regions of North America can have disruptive impacts on agricultural development.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Acute weather related changes have the potential to disrupt agriculture development, property and infrastructure integrity, transportation disruption, increased insurance costs, and loss of customers due to diminished supply. Please refer to financial note in section C-AC0.7

Management method
Bunge endeavors to source commodities from a variety of sources globally to mitigate disruptions in the supply chain. Our global footprint enables this wider logistic network. Additionally, Bunge widely uses technologies that help track and predict weather patterns that can help minimize instances of shocks from severe weather.

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
Reduced revenue from decreased production capacity (e.g., delayed planning approvals, 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

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
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.

Identifier
Risk 3

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

Risk type
Transition risk

Primary climate-related risk driver
Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact

Reduced revenue from decreased demand for goods/services

Company- specific description
Bunge has managed its impact on the environment from our supply chain, but it's known that agriculture accounts for nearly 30% of global carbon emissions, driven by land use change and agricultural operations overall. Therefore Bunge is subject to scrutiny by a variety of stakeholders: customers, investors, consumers, the media, NGOs, governments and international organizations, and its own employees. For example, Bunge is a trader of palm oil, which is a crop that has been considered a driver of deforestation on Southeast Asia. Although Bunge maintains a non-deforestation policy and commits to prevent development in HCS and HCV areas, and is an active participant of the Roundtable on Sustainable Palm Oil, there are nevertheless expectations that Bunge prevent deforestation more broadly, even outside of the scope of our direct operations and areas where we have direct impact. However Bunge has strong traceability scores for Palm and Palm Kernel Oil, and maintains strong relations with industry peers to develop solutions to deforestation that address stakeholder concerns.

Time horizon
Current

Likelihood
Unlikely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The financial impact is associated with the loss of customers. Bunge strives to ensure customer demands for traceability and disclosure are reasonably met, helping to ensure continued engagement. Relationship with suppliers under scrutiny from civil society could impose an extra reputational risk.

Management method
Since 2016 Bunge developed a supply chain-wide non-deforestation policy. Additionally, the company commits to environmental goals related to carbon emissions, water usage, and waste disposal to help mitigate our impact on ecosystems. The company also maintains high standards for labor, human rights, and workplace safety. Bunge is also a participant in a variety of trade associations, working groups, and international organizations that demonstrate our commitment to sustainability throughout our operations. Annual disclosures and a transparent culture help ensure that the brand is valued by stakeholders. Additionally, progress reports and dashboards have presented high standards of governance in the supply chain.

Cost of management
200000

Comment
Figures above are estimates based on management approach and monitoring systems.

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Enhanced emissions-reporting obligations

Type of financial impact
Other, please specify (Increased cost of non renewable energy due to carbon pricing.)

Company- specific description
Bunge is subject to regulations and carbon pricing for emissions in various local and regional contexts. The growth of this regulatory regime presents additional costs for our operating companies in these regions, as well as locations that are not yet subject to carbon prices.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure

Bunge is subject to regulations and carbon pricing for emissions in various local and regional contexts. The implementation of such schemes is subject to political environment, which is difficult to model and create a scenario analysis.

Management method
Presence of emissions team on staff that monitors the GHG market evolution.

Cost of management

Comment
Specific management cost is not calculated.

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
Reduced exposure to future fossil fuel price increases

Company-specific description
The majority of Bunge's facilities are in South America (primarily Brazil) and in North America. Since the facilities in Brazil are all powered by renewable energy, the main opportunity for growth in use of renewables is in North America. By utilizing solar and wind power, Bunge can reduce energy costs for its facilities. In 2018, the company signed a deal with a wind energy provider for two large facilities in Kansas to be 100% renewable, with additional locations already embracing clean electricity generation. Furthermore, Bunge North America is 100% coal-free.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
200000

Potential financial impact figure – maximum (currency)
200000

Explanation of financial impact figure
Positive impact due to reduction in energy procurement from third party sources in select regions.

Strategy to realize opportunity
Since 2016 the company has committed to a global energy consumption reduction target of 10% per year. This involves a commitment to using renewable energy where feasible. Bunge's journey towards Best in Class operations continues. Our Bunge Management Operating System is now implemented in almost 100% of our facilities. We have begun to develop this into an enhanced framework, called the Bunge Production System. Lead-Learning Sites in each region will be defining the next level of operational excellence in 2019. Building on previous successes, we had progressed with our Energy Optimization Program throughout 2018 and decided to focus on the 14 plants under current implementation until completion and results delivery. During 2019 the program will be evaluated and new targets will be defined based on the successes of this program. Under the program, Bunge is implementing energy reduction projects and enabling the use of modern software technology to monitor and optimize energy consumption on a continual basis. Furthermore, the company seeks to lock in low rate renewable energy deals with third party providers for facilities, particularly North America.

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
Products and services

Primary climate-related opportunity driver
Development of new products or services through R&D and innovation

Type of financial impact
Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company-specific description
Responding to consumer, investor, and customer demand for more sustainable supply chains, Bunge has developed and implemented policies that will improve our environmental footprint in the high-risk areas in which we operate. The commodities most affected by this policy are soy and palm oil, accounting for more than 80% of the Company's annual revenue. Bunge has developed traceability systems to ensure better management of climate and reputation-related supply chain issues, and has offered such systems as differentials in the commodity market. And in keeping with our differential factor in the certification market, Bunge was the trader with largest amount of certified RTRS beans during 2018. We continue to explore and embrace other certification programs whose purpose is to advance climate change mitigation efforts.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Use of certified products offers customers an option to buy beans and oil from sustainable sources in compliance with multistakeholder initiatives on non-deforestation. Bunge was the largest trader of RTRS-certified beans in 2018, amounting to over 180,000 MT of beans and credits. Please refer to financial note in section C-AC0.7

Strategy to realize opportunity
As the largest soy trader in Brazil, Bunge is an active member of multi-stakeholder platforms developing solutions to deforestation, including as a signatory to the Amazon Moratorium, and a participant of the Cerrado Working Group (GTC). Through dialogues with participants in these forums, Bunge is promoting industry-wide transparency and disclosure practices that will allow upstream suppliers and downstream customers to understand our positive environmental impact.

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?
Supply Chain

Opportunity type
Resilience

Primary climate-related opportunity driver
Resource substitutes/diversification

Type of financial impact
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-low

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Dislocation in agricultural supply can have a material impact on Bunge's results. This is mitigated by the company's global footprint, allowing the sourcing of products from diverse locations.

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
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

C2.5

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

	Impact	Description
Products and services	Impacted	Climate change as a result of fossil fuel-based energy emissions continues to be a growing concern. In order to wean consumers off dependency on fuels like extracted oil, it will be important to develop and integrate sustainable energy sources for consumption, particularly automotive use. Bunge has a number of facilities in Brazil that produce ethanol from sugar cane and the company is an important global player in the biofuel industry producing biofuel from soybeans. This fuel produces lower carbon emissions than traditional fuel sources. In 2018, this business accounted for 40% of Brazilian soybean oil production. The company also runs biofuel plants in Europe, sourcing other commodities and palm oil as raw materials.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Responding to consumer, investor, and customer demand for more sustainable supply chains, Bunge has developed and implemented policies that will improve our environmental footprint in the high-risk areas in which we operate. For example, we have established a company-wide goal of deforestation-free supply chain by 2020-2025. This policy applies to all of Bunge's operations. The commodities most affected by this policy are soy and palm oil, which are the main commodities operated by the company, accounting for more than 80% of annual revenue. Bunge has developed traceability systems to ensure better management of climate and reputation related supply chain issues, and has offered such systems as differentials in the commodity market. Keeping also the track of certification markets as differential, Bunge was the trader with largest amount of certified RTRS beans during 2018. The company continues to operate with other certification related to climate change mitigation / business opportunities. As the largest soy trader in Brazil, Bunge is an active member of multi-stakeholder platforms developing solutions to deforestation, including a signatory to the Amazon Moratorium, and a participant of the Cerrado Working Group (GTC). Through dialogues with participants in these forums, Bunge is promoting industry-wide transparency and disclosure practices that will allow upstream suppliers and downstream costumers to understand our positive environmental impact.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	As climate-related risks and opportunities become more apparent, Bunge is building adaptability and mitigation measures into its operations, and in particular to support our suppliers so they can conform to our sustainability policies. In North America, Bunge joined the Ecosystem Services Market Program, a product of more than 20 months of industry and sector leaders developing resources and information to establish a successful ecosystems market. The planned market offers the singular focus of enabling and encouraging farmers and ranchers to adopt and sustain conservation management practices to improve soil health, reduce GHG emissions, and improve related water quality and reduce water use. Adoption of such practices across millions of acres of the world's working lands would have a lasting global impact, creating positive social, economic and environmental outcomes.
Investment in R&D	Impacted	Bunge's Vénusz sunflower cooking oil has been a well-known brand in the market for years. By shifting the sourcing of oilseeds into ISCC +certification, the local team successfully rebranded the product. Vénusz, which was already GMO-free, is also now certified for sustainability in ISCC+ standards, bottled in 50% recycled PET, and using IFC-certified paper for its label. A marketing campaign advertised these benefits to customers to increase their visibility and, as a result, the brand has increased its sales and expanded into different markets. These and other future sustainability innovations, are helping the brand maintain its leadership in the eastern European market.
Operations	Impacted	Enhancing Bunge's operations is a key driver of company strategy, with particular emphasis on cutting costs associated with energy use. In 2016, Bunge committed to 10% reductions in both logistics and production by making wider use of renewable energy in facilities. Our Bunge Management Operating System is now implemented in nearly 100% of our facilities. We have embarked to develop this into an enhanced framework, called the Bunge Production System. Building on previous successes, we have progressed with our Energy Optimization Program throughout 2018 and decided to focus on the 14 plants under current implementation until completion and results delivery. Further development will evolve according to the successes of this program. Under the program, Bunge is implementing energy reduction projects and enabling the use of modern software technology to monitor and optimize energy consumption on a continual basis. It's also important to note that, currently, over 60% of Bunge's used energy derives from renewable sources due to innovation in its plants management and search for less pollutant sources of energy.
Other, please specify	Impacted	Bunge has diversified its sources of energy, reducing costs and emissions and increasing co-generation of energy at multiple sites, improving reliability and reducing costs. For its Brazilian sugarcane operations, 100% of the electricity used is offset by co-generation. Excess energy is sold into the local power grid. The company also co-generates energy in multiple soy crushing sites around the world.

C2.6

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

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	As customer preference for sustainably sourced commodities increases, Bunge has explored ways to add these products into our portfolio as an opportunity to increase revenue. Certification schemes provide a way to ensure verification for products with a premium cost. As long as customers demand for certification continues, Bunge will incorporate these into revenue expectations. The magnitude of impact is medium-low on overall revenue. In 2018, Bunge purchased and traded over 180,000 metric tons of RTRS-certified soy and credits, representing the largest volume of any trader globally.
Operating costs	Impacted for some suppliers, facilities, or product lines	The wide availability of renewable energy from wind power in key North American states where Bunge operates processing and crushing facilities has made it possible to lower operating costs associated with electricity generation. The magnitude of impact is medium-low because most facilities in North America are low-electricity usage grain storage. However in 2018 Bunge began purchasing wind power indirectly for two high-energy usage facilities in Kansas, which will be 100% renewable through wind. Expected energy savings are $200,000 per year. Bunge is actively seeking additional renewable energy sources for its other facilities in North America.
Capital expenditures / capital allocation	Not impacted	Bunge monitors capital expenditure risks and opportunities, but has not identified any materially relevant situations to date.
Acquisitions and divestments	Not impacted	Bunge monitors environmental, social and governance risks and opportunities when considering mergers and acquisitions. A global due diligence policy is applied throughout regional offices and include considerations for ESG topics that can have a material impact on the company within short-medium and long-term horizons. In 2018 Bunge acquired a majority ownership stake in Loders Croklaan. This was preceded by an extensive due diligence and integration process, taking into consideration the brand's exposure to key sustainability risks, including deforestation as a result of the palm oil value chain.
Access to capital	Impacted for some suppliers, facilities, or product lines	Bunge is developing new financial products and services for farmers that incentivize sustainable agricultural production and support the company's non-deforestation commitment. In 2018, Bunge signed a first-of-its-kind deal with Banco Santander and the Nature Conservancy in Brazil. The program is designed to promote agricultural production without further deforestation or conversion of native vegetation, by providing long-term loans to farmers willing to commit to this approach. Most of the loans currently available to soy farmers are for less than a year to finance their annual crop costs. This new mechanism will offer loans of up to 10 years, recognizing that investments in land acquisition and preparation have a long-term payback. The financing program is being led with approximately USD$50 million and is an example of granting access to capital in commodities markets for suppliers in compliance with non deforestation criteria set by Bunge and its partners. The magnitude of impact is low as the program is still new.
Assets	Impacted for some suppliers, facilities, or product lines	Continued government and public emphasis in countries where we operate on environmental issues, including climate change, conservation and natural resource management, have resulted in and could result in new or more stringent forms of regulatory oversight or other limitations on the agricultural industry, including taxes on GHG emissions from Bunge's assets. In 2018, investments were made in facilities to minimize GHG emissions and therefore lower the tax burden on assets under direct operation. Building on previous successes, we launched a new Energy Optimization Program in 2017 that will cover 55 facilities world-wide by 2020. By 2018, nearly 100% of facilities were covered. Under the program, Bunge is implementing energy reduction projects and enabling the use of modern software technology to monitor and optimize energy consumption on a continual basis throughout direct operation assets. The magnitude of impact is medium-low.
Liabilities	Impacted for some suppliers, facilities, or product lines	We are subject to various environmental protection and occupational health and safety laws and regulations in the countries in which we operate, and we incur costs to comply with these requirements. Compliance with applicable laws and regulations relating to environmental matters has not had a material financial or competitive effect on our business. However, due to our extensive operations across multiple industries and jurisdictions globally, we are exposed to the risk of claims and liabilities under these laws and regulations. Violation can result in substantial fines, administrative sanctions, criminal penalties, revocations of operating permits and/or shutdown of facilities. In 2018, Bunge was fined by the Brazilian environmental agency for allegedly sourcing soy produced in off-limit agricultural areas in Brazil. The company disputes these allegations and is formally contesting the fine.
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.

Climate change and other environmental issues are a significant part of the agriculture industry. As much as 30% of greenhouse gas emissions are a result of land use change and agricultural development. Therefore these issues are implicitly recognized in Bunge's long-term supply and demand strategic forecasting processes.

Bunge seeks to mitigate the effects of agricultural production on local ecosystems by employing a company-wide environmental management policy that requires reductions in emissions, water usage, waste disposal, and total energy use. Bunge also embraces the use of new technologies and strategies that minimize costs while also reducing our dependence on emissions-related operations.

For example, in 2016 the company established long-term targets after accomplishing multiple short-term management improvement policies (the most recent of which was between 2013-16 and resulted in improved efficiencies across a majority of Bunge facilities). The new emissions reduction goals are to reduce Scope 1 & 2 carbon emissions per unit of production by 10% between 2016-2026. The last two years show continued progress on meeting this goal.

Bunge also has short-term targets and objectives that are in alignment with business strategy and environmental performance. Our non-deforestation policy is applicable throughout our entire supply-chain, and performance against metrics and measures in our non-deforestation policy continue to improve as we source products from more suppliers each year. In 2018, Bunge sourced soy from nine high-risk areas in Brazil, Paraguay and Argentina, covering 12.5 million hectares of land on 7,700+ farms. The amount of land monitored is a 43% increase over the previous monitoring season. Despite the growth in land monitored and the possibility of increased exposure to deforestation, there was in fact an 18% drop in new cases identified.

Additionally, Bunge uses renewable energy sources in many of its facilities to reduce costs and lower GHG emissions. 100% of Bunge's energy is produced by bioethanols in Brazil. In North America, Bunge explores and implements the use of wind power across various facilities. In two locations in Kansas, Bunge is saving an estimated $200,000 a year on energy costs.

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 investigated 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

Targeted % reduction from base year
10

Metric
Metric tons CO2e per unit of production

Base year
2016

Start year
2016

Normalized base 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

% of target achieved
41

Target status
Underway

Please explain
The target for 2026 is reducing emissions intensity by 10%, considering a 2016 baseline. In the second year of the implementation plan, the company had already reduced 4.1% of the emissions comparing to the baseline, which means that 41% 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 by 10% by 2026.

KPI – Metric denominator (intensity targets only)
Total production (ton)

Base year
2016

Start year
2017

Target year
2020

KPI in baseline year
1.2

KPI in target year
1.08

% achieved in reporting year
13

Target Status
Underway

Please explain
In the reporting year we were able to decrease our energy consumption as a result of operational changes and new structures implemented across our operations.

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	
To be implemented*		
Implementation commenced*	13	
Implemented*	1	3628
Not to be implemented		

C4.3b

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

Initiative type
Energy efficiency: Processes

Description of initiative
Other, please specify (Energy audit/payback study concluded there was good energy and cost savings in the Kruszwicka plant in Poland. A new technological software that allows the real time / online monitoring of the energy used allows reduction of energy consumption.)

Estimated annual CO2e savings (metric tonnes CO2e)
1846

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
390000

Investment required (unit currency – as specified in C0.4)
2300000

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment
The investment above is related to total CAPEX in the plant allowing scope 1 and scope 2 reductions.

Initiative type
Energy efficiency: Processes

Description of initiative
Other, please specify (Energy audit/payback study concluded there was good energy and cost savings in the Kruszwicka plant in Poland. A new technological software that allows the real time / online monitoring of the energy used allows reduction of energy consumption.)

Estimated annual CO2e savings (metric tonnes CO2e)
1782

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
260000

Investment required (unit currency – as specified in C0.4)
2300000

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment
The investment above is related to total CAPEX in the plant allowing scope 1 and scope 2 reductions. The results from this plant are being evaluated and may be extended to other Bunge plants depending on feasibility.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	There is a dedicated program to improve energy efficiency in Bunge plants . Co-generation of energy is also targeted 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 to extend the life span of equipment that would allow company to realize financial optimization.

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
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

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

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

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 fields of operations

Primary climate change-related benefit
Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)
0

Please explain

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

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

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, 2018, our total installed co-generation capacity was approximately 322 megawatts, with approximately 126 megawatts available for resale to third parties after supplying our mills' energy requirements, representing approximately 600,000 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

Management practice reference number
MP9

Management practice
Low tillage and residue management

Description of management practice
The 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

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

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

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
January 1 2016

Base year end
December 31 2016

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?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
1666056

Start date
January 1 2018

End date
December 31 2018

Comment
Company reduced the Scope 1 overall emissions despite increase in production, this is a result of two main reasons: 1) Activity reduction in Argentina and increase in Europe and Asia of more efficient plants coming into operations. 2) Internal effort to achieve long term intensity 2026 goals

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
1722634

Start date
January 1 2017

End date
December 31 2017

Comment

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
Most sites we have location based scope2, there are a few locations where company is purchasing 100% renewable electricity, therefore the reported market base portion.

C6.3

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

Reporting year

Scope 2, location-based
1600008

Scope 2, market-based (if applicable)
0

Start date
January 1 2018

End date
December 31 2018

Comment
All scope 2 emission that are market-based are those bought as 100% renewable electricity under proper certificates.

Past year 1

Scope 2, location-based
1549444

Scope 2, market-based (if applicable)
0

Start date
January 1 2017

End date
December 31 2017

Comment
All scope 2 emission that are market-based are those bought as 100% renewable electricity under proper certificates. Overall there was an increase in scope2 emissions (grid related). This increase was fully offset by our S1 reduction.

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
silos and ports

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why this source is excluded
Emissions from silos and ports are not relevant in our operations.

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
42973908

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Extraction, production, and transportation of goods and services purchased or acquired by Bunge in the reporting year. Majority of emissions are from soybean Commodity Scenarios 1. Primary data was used on purchases of commodities from individual countries 2. Country specific cradle-to-gate emission factors for each commodity have been applied. Emission factor sources and documentation can be viewed below. 3. Where emission factors could not be sourced, averages were applied dependent on commodity and country 4. Due to the nature of agricultural emissions , there is a wide range of applicable emission factors. 5. As transport emissions are included within Category 4 of this disclosure , the cradle-to-gate transport emissions has been subtracted from the factor. OPEX 1. Emissions have been calculated using CEDA 5.0 economic input/output database 2. All factors applied have been normalized 3. Any spend items which relate to other Scope 3 categories (e.g. Air travel relating to Category 6 Business Travel) have been removed 4. "Unclassified spend" emissions have been calculated using an average of emission factors used 5. Within each spend category , once sufficient materiality has been reached in total cost in determining CEDA emission factors, remaining sub category emissions have been calculated using an average of the CEDA emission factors within the spend category. This the most relevant category of the Scope 3 study due to our interaction and partnership with a large amount of farm / farmers.

Capital goods

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
96502

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
1. Emissions have been calculated using CEDA 5.0 economic input/output database 2. All factors applied have been normalized 3. Any spend items which relate to other Scope 3 categories (e.g. Air travel relating to Category 6 Business Travel) have been removed 4. "Unclassified spend" emissions have been calculated using an average of emission factors used 5. Emissions calculated to 80% materiality of Category 2 spending.

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

Evaluation status
Relevant, calculated

Metric tonnes CO2e
1770069

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
This category includes emissions associated with the production of energy or fuel used during the reporting year which has not been accounted for in Scope 1 and 2 (i.e. Well-to-Tank and Transmission and Distribution emissions). 1. Emissions have been calculated for all fuels and purchased energy. 2. DEFRA emission factors have been applied with country specific application (T&D/WTT electricity) where appropriate 3. "Wood" under biomass is assumed to refer to "wood chip" 4. Non-wood biomass is shown in GJ as there is no DEFRA emission factor available in kWh for those sources.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
6036300

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Includes: - Transportation and distribution of products purchased in the reporting year between our suppliers our operations (in vehicles and facilities not owned or controlled by us) - Transportation and distribution services purchased in the reporting year, including inbound logistics, outbound logistics (e.g. of sold products), and transportation and distribution between own facilities (in vehicles and facilities not owned or controlled by us) 1. A mixture of Primary data (fuel used/distance travelled) and Secondary data (Cost of logistics) was considered 2. All transportation and distribution for which we were the purchasing party has been included 3. Primary data (provided for Brazil, South America and Marine Freight) has been calculated using DEFRA 2017 emission factors 4. Secondary data (USA) has been calculated using CEDA 5.0 economic input/output database 5. No data was received for Europe or Asia. This has been estimated as a ratio of non-marine freight emissions relative to the weight of purchased commodity as provided for Category 1 calculations.

Waste generated in operations

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
7241

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
This category includes the disposal and treatment of waste generated in our operations in the reporting year (in facilities not owned or controlled). 1. Broken down by hazardous / non-hazardous waste and type of waste 2. Emissions have been calculated using DEFRA emission factors.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
6782

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated). 1. A combination of primary and secondary data have been used covering air, train, vehicle rental, hotel stays and travel agency emissions. 2. Primary data consists of distance traveled and has been calculated using departure and destination locations. by the DEFRA emission factors 3. DEFRA emission factors have been used for all primary data sources. 4. Economy emission factors have been used for Economy and Premium short haul flights 5. Business class emission factors have been used for Business and First Class short haul flights 6. Where class was not provided, economy has been assumed as is our standard. 7. Secondary data has been calculated using CEDA 5.0 economic input/output database

Employee commuting

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
32128

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Transportation of employees between their homes and their worksites during the reporting year (in vehicles not owned or operated by company). 1. Carbon Clear Employee Commuting model used 2. Uses FTE per country to calculate emission factors Model assumptions 1. Data from the European Commission on Transport was used to calculate comparative proportion of car, bus, rail, and tram/metro journeys taken. 2. The data used compares the EU to several world countries. This was used to inform the public transport assumptions. 3. The findings are generalized by region to allow fort he most accurate representation for each country. 4. Data from Japan Guide, a tourism website, which has conducted surveys on commuting times in several countries worldwide is used - this is the best available information to calculate a global average of non-public transportation for commuting 5. Transport speeds can be generalized into categories e.g. light rail and metro are assumed the same as rail - best available information for globally representative speeds is used 6. 250 work days per year.

Upstream leased assets

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
85442

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Operation of assets leased by us (lessee) in the reporting year and not included in scope 1 and scope 2. 1. Data taken from 2010 for Silos, Ports and Warehouses. 2. No uplift or estimation has been made.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
2738708

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Transportation and distribution of products sold in the reporting year between the company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by us). 1. Provision of primary downstream data was not possible in the scope of this exercise 2. It is considered sold product as documented in the Annual Report requires further transportation to the end user 3. 51% of agribusiness sales were removed to account for our own Food and Ingredients businesses being the "principal purchaser" of agribusiness products. It is assumed that these distribution emissions are captured in Category upstream transport. 4. With no distance data available, emission have been calculated using the intensity of Category upstream transport carbon emissions per tonne of commodity purchased 5. Only continental travel from upstream transport has been used to create the intensity. Bunker marine freight emissions are excluded. It is assumed that the sold product remains in the geography of sale.

Processing of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
28505643

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Emissions from processing of sold intermediate products by third parties (e.g. manufacturers) subsequent to sale by the reporting company. They are products that require further processing, transformation, or inclusion in another product before use. They therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer. Methodology: 1. Our main customers of major business divisions were mapped using the Annual Report 2. Emission factors from CEDA's 5.0 database were selected for each customer type, based on their primary activity 3. An average of the emission factors found within each business division was calculated and applied to net sales to customers, as defined in the Annual Report 4. Fertilizer was not considered for this category as assumed fertilizer does not require further processing after sale

Use of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
215217

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
End use of goods and services sold by the reporting company in the reporting year Methodology: 1. The user of fertilizer sold by us has been included within this category. As Fertilizer is used directly and has therefore been included for use of sold goods 2. Total net sales of fertilizer was selected from the Annual Report 3. Emission factors from CEDA's 5.0 database were selected to represent the use of fertilizer by our customers

End of life treatment of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
15628727

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Emissions from the waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year. Methodology: 1. The main products of our Food and Ingredients businesses were taken from our website and assigned a "product type" (example products are shown against each) 2. The ratio of packaging per total product was estimated using online research to determine weights of plastic containers per unit volume 3. The ratio found (1%) was applied to the volume of sold goods in agribusiness (in 1000s of metric tons), as presented in the Annual Report 4. Total emissions were calculated using DEFRA's emission factor for closed-loop recycling of average plastics

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
Bunge does not lease any properties or assets

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
Bunge does not have any franchises, so this category is not relevant to its operations

Investments

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
44621

Emissions calculation methodology
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
This category includes the emissions associated with our investments in other companies during the year. Bunge has investments in other companies, of which their participation % is known. Revenues of each of the companies were used to estimate Bunge's total revenue ownership. Total emissions were estimated using an economic input-output model which has used emission factors from the CEDA 5.0 Database (Comprehensive Environmental Data Archive 5.0). Emission factors were selected based on the function of the business in which we have investments.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
All material upstream emissions are included in the Scope 3 calculation described on previous items.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
All material upstream emissions are included in the Scope 3 calculation described on previous items.

C-AC6.6/C-FB6.6/C-PF6.6

(C-AC6.6/C-FB6.6/C-PF6.6) Can you break down your Scope 3 emissions by relevant business activity area?
Yes

C-AC6.6a/C-FB6.6a/C-PF6.6a

(C-AC6.6a/C-FB6.6a/C-PF6.6a) Disclose your Scope 3 emissions for each of your relevant business activity areas.

Activity
Distribution

Scope 3 category
Downstream transportation and distribution

Emissions (metric tons CO2e)
2738708

Please explain
As "downstream transportation" calculated on scope 3.

Activity
Distribution

Scope 3 category
Upstream transportation and distribution

Emissions (metric tons CO2e)
6036300

Please explain
As "upstream transportation" calculated on scope 3.

Activity
Agriculture/Forestry

Scope 3 category
Purchased goods and services

Emissions (metric tons CO2e)
41949682

Please explain
Majority of emissions are from soybean Commodity Scenarios 1. Primary data (weight purchased) for purchases of commodities from individual countries 2. Country specific cradle-to-gate emission factors for each commodity have been applied. 3. Where emission factors could not be sourced, averages were applied dependent on commodity and country 4. Due to the nature of agricultural emissions and the influence of land use change to grow the crop , there is a wide range of applicable emission factors.

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.

Row 1

Emissions from biologically sequestered carbon (metric tons CO2)
4229900

Comment
The amount corresponds to the biomass emissions in the Sugar and Bioenergy segment

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)
5550836

Methodology
Process-based models

Please explain
The amount corresponds to the biogenic emissions of CO2, which is mainly from biomass use in S&B business

CO2 removals from land use management

Emissions (metric tons CO2)
0

Methodology
Default emissions factors

Please explain
Emissions related to land that is owned and land that was managed by Bunge. No land use removal in the reporting year.

Sequestration during land use change

Emissions (metric tons CO2)
0

Methodology
Default emissions factors

Please explain
There was no land use change .

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)
12684

Methodology
Default emissions factors

Please explain
The biofuel in Brazil, where we have machinery for field operations, has 10% of biofuel mixed in its composition.

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)
708.4

Methodology
Default emissions factors

Please explain
Biofuels use for static equipment is not material in our operations, considered % of biodiesel in the used diesel.

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2)
0

Methodology
Other, please specify (Biofuels use is not material in our operations.)

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?
Yes

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.

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

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

Soy

Reporting emissions by
Total

Emissions (metric tons CO2e)
17873000

Denominator: unit of production
<Not Applicable>

Change from last reporting year
This is our first year of measurement

Please explain
Corporate Value Chain (Scope 3) Accounting and Reporting Standard, GHG Protocol. 1. Primary data was used on purchases of commodities from individual countries 2. Country specific cradle-to-gate emission factors for each commodity have been applied. Emission factor sources and documentation can be viewed below. 3. Where emission factors could not be sourced, averages were applied dependent on commodity and country 4. Due to the nature of agricultural emissions , there is a wide range of applicable emission factors.

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
0.0000714

Metric numerator (Gross global combined Scope 1 and 2 emissions)
3266063

Metric denominator
unit total revenue

Metric denominator: Unit total
45743

Scope 2 figure used
Location-based

% change from previous year
0.14

Direction of change
Decreased

Reason for change
Bunge goal to reduce emissions with good success on Scope 1 , partially offset by larger Scope 2. Result is still positive.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Argentina	157824.93
Austria	16561
Brazil	56806
Canada	160835
China	1571
Finland	0
France	26711.61
Germany	4986
Hungary	1883.43
India	118704
Italy	26165.18
Mexico	969
Poland	87107.02
Romania	12129.94
Russian Federation	3485.94
Spain	180160.63
Turkey	34468.02
Ukraine	1522.35
United States of America	599145
Viet Nam	92698
Netherlands	82321

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
North America	760949
South America	214631
Europe	477502
Asia	212973

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)
199260

Methodology
Default emissions factor

Please explain
this refers to field operations in sugarcane segments

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)
126840

Methodology
Default emissions factor

Please explain
this refers to machinery emissions in operations of sugarcane segment

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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	444432		640170.19	
Canada	28974		173289.44	
Brazil	25986.74			13032093.5
Spain	2347.5		6146	192
Austria		0	25168	
Turkey	12763.08		29125	
Italy	10979.57		27209	
Hungary	17205.25		50026	
Ukraine	26436.08		76776	
Russian Federation	13679.36		41634	
Germany	25415		292043	37210
Poland	45116.74		64725	
Finland	3397		14769	5697
Romania	22194.17		51782	
France	7197.66		21170	
China	739490		935933.05	
India	40035		48536.94	
Mexico	27690		60771.11	
Viet Nam	31062		39413.33	
Argentina	70587.45		132046	
Netherlands	5019.1			

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
North America	501096	0
South America	95574	0
Europe	191751	0
Asia	810587	0

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	2239	Decreased	0.07	Renewable energy consumption has slightly increased in its importance, which led the emissions of scope 1 to be reduced in 2239 mTon over last year total of 3348856 ton
Other emissions reduction activities	110661	Decreased	3.3	Emissions reduction initiatives implemented across the business have cause the decrease reached. Figure considers reduction over previous year. Although the increase in the total output by the company, it was possible to decrease the emissions per output tonnage . Total reduction due to other emissions reductions and efficiencies are 110,661 over previous year total scope 1 and 2 emissions of 3,348,856 mton CO2.
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output	38107	Increased	1.14	Due to production increase over previous year, the increase of emissions would have represented 1.14% over previous year figures if no efficiency and increase of renewable energy was in place. 38107 ton of carbon in increase due to increase of production / previous year total production of 3,348,856 mton CO2
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

	Indicate whether your organization 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	Yes

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	13218892	8387983	21606875
Consumption of purchased or acquired electricity	<Not Applicable>	37155	2144422	2181577
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	25415	995260	1020675
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>	
Total energy consumption	<Not Applicable>			24809128

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	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	Yes
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

7405571

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Other, please specify (Gasoline)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1260

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Other, please specify (Light Oil)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
7124

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Diesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
61143

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Heavy Gas Oil

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
5811

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
58013

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Wood

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1620738

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Other, please specify (Seed Hulls)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1235960

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Other, please specify (Other Solid Biomass)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
579971

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Other, please specify (Sugar Cane Waste)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
9782223

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

Fuels (excluding feedstocks)
Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
849060

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment
The consumption of this fuel is not tracked at the above level.

C8.2d

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

Coal

Emission factor
0.0961

Unit
metric tons CO2e per GJ

Emission factor source
IPCC 2006

Comment

Diesel

Emission factor
0.0741

Unit
metric tons CO2e per GJ

Emission factor source
IPCC 2006

Comment

Heavy Gas Oil

Emission factor
0.0774

Unit
metric tons CO2e per GJ

Emission factor source
IPCC 2006

Comment

Liquefied Petroleum Gas (LPG)

Emission factor
0.0631

Unit
metric tons CO2e per GJ

Emission factor source
IPCC 2006

Comment

Natural Gas

Emission factor
0.0561

Unit
metric tons CO2e per GJ

Emission factor source
IPCC 2006

Comment

Wood

Emission factor
0.11

Unit
kg CO2e per metric ton

Emission factor source
LIFE 11/INV/ES/584-AIRUSE - REPORT9:EMISSION FACTORS FOR BIOMASS BURNING

Comment

Other

Emission factor
0.103

Unit
metric tons CO2e per GJ

Emission factor source

Comment
This is the average emission factor for seed hull (0.11), sugarcane waste (0.12) and ethanol (0.079)

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1049161	1049161	1049161	1049161
Heat				
Steam				
Cooling				

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
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

Low-carbon technology type
Other low-carbon technology, please specify (100% R Energy electricity)

Region of consumption of low-carbon electricity, heat, steam or cooling
Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling
37155

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

Comment
100% R Energy

Basis for applying a low-carbon emission factor
Contract with suppliers or utilities (e.g. green tariff), supported by energy attribute certificates

Low-carbon technology type
Other low-carbon technology, please specify (Steam from a municipal waste burning facility)

Region of consumption of low-carbon electricity, heat, steam or cooling
Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling
25415

Emission factor (in units of metric tons CO2e per MWh)
0.022

Comment
The Wastes Power plant is located next by the Mannheim plant and is providing a Low Emission Factor (22 KgCo2e/ MWh) of steam, certified and recognized by local authorities

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 third-party verification or assurance

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, but we are actively considering verifying within the next two years

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

28

Period start date

January 1 2018

Period end date

December 31 2018

Allowances allocated

280000

Allowances purchased

180000

Verified emissions in metric tons CO2e

0

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 group 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 2018, we decreased CO2 emissions in Europe by more than 3,600 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
Drive energy efficiency
Other, please specify (Calculate payback investments for CAPEX projects under carbon price)

GHG Scope

Scope 1
Scope 2

Application

Emissions and environmental markets liquidity provider and internal price on carbon is applied over certain facilities located in regions under regulation regarding Carbon emissions.

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

17.8

Variance of price(s) used

Prices vary according to markets. The reference presented is those used for some units in the European market were GHG regulation about it has be 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 priced. 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
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Run an engagement campaign to educate suppliers about climate change
Other, please specify (Non-deforestation policy applies to all farmers in the supply chain)

% of suppliers by number
100

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement
In 2015 Bunge established a non-deforestation policy that applies to all value chains, with a view to eliminate deforestation in supply chains between 2020-2025. Bunge's suppliers (farmers and other agricultural producers) must be in compliance with this policy. Regional teams engage with suppliers to ensure they are aware of the motivations and market demands related to the non-deforestation policy, while also educating suppliers about the risks to ecological systems due to land use changes.

Impact of engagement, including measures of success
Bunge has been reporting on progress against its non-deforestation policy since 2016. As the number of direct source farms monitored increases each year, our total traceability continues to grow, while the number of identified cases of illegal deforestation drops. In 2018, over 7,700 farms were monitored, with a drop of 18% of cases of deforestation compared to the previous year.

Comment

Type of engagement
Innovation & collaboration (changing markets)

Details of engagement
Run a campaign to encourage innovation to reduce climate impacts on products and services
Other, please specify (Use of technology to incentivize sustainable agricultural expansion)

% of suppliers by number

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement
Agroideal, an online decision support tool that helps companies and farmers plan more sustainable agricultural expansion by integrating economic, social and environmental data, is available to Bunge's suppliers in Brazil's Cerrado and Argentina's Chaco.

Impact of engagement, including measures of success
Agroideal.org allows for users to integrate agronomic, environmental and other data to make better decisions about how to expand agriculture production sustainably. Bunge has used this system in its operations to identify opportunities and risks for its future soy sourcing. Initial results show positive mid-term scenarios for expanding sourcing in the Brazilian Cerrado region. In 2019 Agroideal expanded to include Argentina's Chaco region.

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
Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number
100

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement
Bunge regularly discloses material information related to the traceability of its products that are sold to customers. The information is public, and therefore available to all customers. In addition, Bunge provides on-demand services to customers for key commodities to help them meet sustainability criteria in their supply chain.

Impact of engagement, including measures of success
Since 2016 Bunge has been disclosing information related to its soy value chain in high risk regions of South America, and since the acquisition of Bunge Loders Croklaan in 2018 has been doing so quarterly for palm oil. We are the only company in our sector to have this level of transparency and traceability data available to customers.

C12.1c

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

Bunge is a member of the Soft Commodities Forum, the Ecosystems Services Market Consortium, World Business Council for Sustainable Development, Field to Market, and other voluntary industry associations. These platforms allow Bunge to engage with others in our value chain to identify scalable solutions to common sustainability and climate-related challenges.

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

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

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

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number
MP1

Management practice
Biodiversity considerations

Description of management practice
Farmers in Brazil must keep a designated area that serves as biodiversity reserve.

Your role in the implementation
Knowledge sharing
Procurement

Explanation of how you encourage implementation
Farmers shall comply with local regulations and are monitored through official documentation provided.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Increase carbon sink (mitigation)
Reduced demand for pesticides (adaptation)

Comment
Set aside areas support machinery use in areas more suitable for cropping and thus reduce emissions. Also, it enhances resilience to climate change by creating a micro-climate. This area of increasing vegetation also serves as a carbon sink and serves as a nesting area for natural enemies of harmful insects, supporting the reduction of pesticides use.

Management practice reference number
MP2

Management practice
Low carbon energy use

Description of management practice
Support planted forests

Your role in the implementation
Financial
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
Support planted forests to increase local offer of biomass.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Increase carbon sink (mitigation)
Reduced demand for fossil fuel (adaptation)
Reduced demand for pesticides (adaptation)

Comment
Currently, our operations in Brazil are already based on a successfully implemented system of sourcing sustainable wood from planted forests.

Management practice reference number
MP3

Management practice
Contour farming

Description of management practice
Set aside areas on river banks and preservation on site.

Your role in the implementation
Knowledge sharing
Operational

Explanation of how you encourage implementation
Request compliance with environmental regulation where applicable, making certain that we collect farm information to verify compliance.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Increase carbon sink (mitigation)
Reduced demand for pesticides (adaptation)

Comment

Management practice reference number
MP4

Management practice
Governmental or institutional policies and programs

Description of management practice
Non deforestation policy

Your role in the implementation
Financial
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
Implementation of our non deforestation policy, supporting farmers to comply with sustainable expansion of agriculture. We support financially and technically the expansion over areas not related to original forest.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Increase carbon sink (mitigation)

Comment

Management practice reference number
MP6

Management practice
Crop rotation

Description of management practice
Incentive for different row crops to help Nitrogen fixation

Your role in the implementation
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
Offering various buy options to farmers and rotation of beans and cereals.

Climate change related benefit
Reduced demand for fertilizers (adaptation)
Reduced demand for pesticides (adaptation)
Other, please specify (diversification of production and revenue sources)

Comment

Management practice reference number
MP7

Management practice
Equipment maintenance and calibration

Description of management practice
Continuous calibration

Your role in the implementation
Knowledge sharing
Operational

Explanation of how you encourage implementation

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Reduced demand for fossil fuel (adaptation)

Comment

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

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

Yes

C12.3

(C12.3) 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 influenced, or are you attempting to influence their 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 influenced, or are you attempting to influence their 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 influenced, or are you attempting to influence their 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 voluntary sustainability report

Status
Underway – previous year attached

Attach the document

Page/Section reference

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

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
Biodiversity corridors, natural species preservation, harmful insects natural control. It includes principles of eco agriculture

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

Description of the response(s)
Pest integrated control, less use of fertilizer and water recycling. For all cases, there is an impact on emissions (not assessed) due to lower use of inputs and natural resources.

Management practice reference number
MP2

Overall effect
Positive

Which of the following has been impacted?

Biodiversity
Soil
Water
Yield

Description of impact
General enhancement. Benefits evaluated by public studies, not on site investigation. Local observation.

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

Description of the response(s)
Better yields and less use of agricultural inputs.

Management practice reference number
MP3

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impact
General enhancement. Benefits evaluated by public studies, not on site investigation. Local observation.

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

Description of the response(s)
Better yields and less use of agricultural inputs.

Management practice reference number
MP4

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Water
Yield

Description of impact
General enhancement. Calibration is a basic best practice of maintenance

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

Description of the response(s)
Wastes control and decrease of inputs usage

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
General enhancement. Benefits evaluated by public studies, not on site investigation. Local observation.

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

Description of the response(s)
Support to enhancement of agricultural practices in the surrounding of operations

---

Management practice reference number
MP6

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water

Yield

Description of impact
Less use of inputs

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

Description of the response(s)
Savings in field operations

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
Renewable fuel

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

Description of the response(s)
Support to environmental policies and diversification aligned with climate changed strategies.

Management practice reference number
MP8

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Water
Yield

Description of impact
General enhancement. Benefits evaluated by public studies, not on site investigation. Local observation.

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

Description of the response(s)
Better management on natural resources.

Management practice reference number
MP9

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Water
Yield

Description of impact
Less use of inputs, lower emissions related.

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

Description of the response(s)
Decrease on field related emissions

Management practice reference number
MP10

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Water
Yield

Description of impact
General enhancement

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
Soil coverage. Use of residues as renewable biomass source of energy

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

Description of the response(s)
Use of biomass as source of energy, implying lower emissions.

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
Reuse of water for soil fertilization. Best agronomic practice

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

Description of the response(s)
Higher yields in field activities; resilience of crop facing water stress and harmful insects

---

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?
Yes

C-AC13.2a/C-FB13.2a/C-PF13.2a

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

Management practice reference number
MP1

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impacts
Biodiversity reserves protect the soil locally, allow the maintenance of water shed supply and increase the yields by helping pollinators and other useful insects.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
on farm best practices implemented by farmers in supply shed.

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	SVP Sustainability & Government 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	45743000000

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

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Kellogg in 2018

Emissions in metric tonnes of CO2e
3233

Uncertainty (±%)
5

Major sources of emissions
Fuel combustion

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
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Unilever plc

Scope of emissions
Scope 1

Allocation level
Business unit (subsidiary company)

Allocation level detail
Allocation based on volume of products purchased from IOI Loders Croklaan Group sites supplying Unilever plc in 2018.

Emissions in metric tonnes of CO2e
3058

Uncertainty (±%)
5

Major sources of emissions
Fuel combustion

Verified
No

Allocation method
Other, please specify (Allocation based on volume of products purchased vs. total production IOI Loders Croklaan Group.)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Croda International

Scope of emissions
Scope 1

Allocation level
Business unit (subsidiary company)

Allocation level detail
Allocation based on volume of products purchased from IOI Loders Croklaan Group sites supplying Croda International in 2018. No products purchased from IOI Loders Croklaan Group in 2018.

Emissions in metric tonnes of CO2e
0

Uncertainty (±%)
0

Major sources of emissions
Fuel combustion.

Verified
No

Allocation method
Other, please specify (Allocation based on volume of products purchased from IOI Loders Croklaan Group sites supplying Unilever plc in 2018.)

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Kellogg Company

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Kellogg Co. in 2018

Emissions in metric tonnes of CO2e
1724

Uncertainty (±%)
5

Major sources of emissions
Electricity purchased to supply power to Bunge manufacturing facilities

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
Total electricity purchased based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Kellogg Company

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Kellogg Co. in 2018

Emissions in metric tonnes of CO2e
190470

Uncertainty (±%)
10

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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
To measure our value chain footprint, we followed the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This standard provides requirements and guidance for companies to prepare and report data from 15 distinct categories, providing companies with a systematic framework to understand its value chain related emissions. Our assessment sourced data from within the company, including primary data from our suppliers and internal business uses, as well as secondary data based on extrapolations and benchmarks.

Requesting member
PepsiCo, Inc.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying PepsiCo, Inc in 2019

Emissions in metric tonnes of CO2e
1795

Uncertainty (±%)
5

Major sources of emissions
Fuel combustion

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
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
PepsiCo, Inc.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying PepsiCo, Inc in 2018

Emissions in metric tonnes of CO2e

1724

Uncertainty (±%)
5

Major sources of emissions
Electricity purchased

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
Total electricity purchased based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
PepsiCo, Inc.

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying PepsiCo Inc in 2018

Emissions in metric tonnes of CO2e
105740

Uncertainty (±%)
10

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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
To measure our value chain footprint, we followed the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This standard provides requirements and guidance for companies to prepare and report data from 15 distinct categories, providing companies with a systematic framework to understand its value chain related emissions. Our assessment sourced data from within the company, including primary data from our suppliers and internal business uses, as well as secondary data based on extrapolations and benchmarks.

Requesting member
Arcos Dorados

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Arcos Dourados in 2018

Emissions in metric tonnes of CO2e
25

Uncertainty (±%)
5

Major sources of emissions
Fuel combustion

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
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Arcos Dorados

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Arcos Dorados in 2018

Emissions in metric tonnes of CO2e
24

Uncertainty (±%)
5

Major sources of emissions
Electricity purchased

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
Total electricity purchased based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Arcos Dorados

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Arcos Dorados in 2018

Emissions in metric tonnes of CO2e
1447

Uncertainty (±%)
10

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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
To measure our value chain footprint, we followed the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This standard provides requirements and guidance for companies to prepare and report data from 15 distinct categories, providing companies with a systematic framework to understand its value chain related emissions. Our assessment sourced data from within the company, including primary data from our suppliers and internal business uses, as well as secondary data based on extrapolations and benchmarks.

Requesting member
Unilever plc

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Unilever in 2018

Emissions in metric tonnes of CO2e
1714

Uncertainty (±%)
5

Major sources of emissions
Fuel combustion

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
Total fuel combustion (gas) based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Unilever plc

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Unilever in 2018

Emissions in metric tonnes of CO2e
1646

Uncertainty (±%)
5

Major sources of emissions
Electricity purchased

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
Total electricity purchased based on suppliers invoices. Using emission factors from the countries where our facilities are located.

Requesting member
Unilever plc

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying Unilever in 2018

Emissions in metric tonnes of CO2e
100977

Uncertainty (±%)
10

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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
To measure our value chain footprint, we followed the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This standard provides requirements and guidance for companies to prepare and report data from 15 distinct categories, providing companies with a systematic framework to understand its value chain related emissions. Our assessment sourced data from within the company, including primary data from our suppliers and internal business uses, as well as secondary data based on extrapolations and benchmarks.

Requesting member
Ajinomoto Co.Inc.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying in 2018

Emissions in metric tonnes of CO2e
23.11

Uncertainty (±%)
5

Major sources of emissions

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

Requesting member
Ajinomoto Co.Inc.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying in 2018

Emissions in metric tonnes of CO2e
11.06

Uncertainty (±%)
5

Major sources of emissions

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

Requesting member
Anheuser Busch InBev

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying ABinBev in 2018

Emissions in metric tonnes of CO2e
1166

Uncertainty (±%)
5

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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

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Requesting member
ARKEMA

Scope of emissions
Please select

Allocation level
Please select

Allocation level detail

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified
Please select

Allocation method
Other, please specify (no business operations registered in Brazil in 2018.)

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

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Requesting member
Croda International

Scope of emissions
Please select

Allocation level
Please select

Allocation level detail

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified
Please select

Allocation method
Other, please specify (no business operations registered in Brazil in 2018.)

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

---

Requesting member
S Group

Scope of emissions
Please select

Allocation level
Please select

Allocation level detail

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified
Please select

Allocation method
Other, please specify (no business operations registered in Brazil in 2018.)

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

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Requesting member
The Coca-Cola Company

Scope of emissions
Please select

Allocation level
Please select

Allocation level detail

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified
Please select

Allocation method
Other, please specify (no business operations registered in Brazil in 2018.)

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

---

Requesting member
Anheuser Busch InBev

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
Allocation based on volume of products purchased from Bunge sites supplying ABinBev in 2018

Emissions in metric tonnes of CO2e
1120

Uncertainty (±%)
5

Major sources of emissions
Purchased goods and services, processing of sold products and end of life treatments of sold 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

SC1.2

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

https://www.bunge.com/sustainability/climate

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.

SC2.2

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

No

SC3.1

(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?

No

SC4.1

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

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	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