C0. Introduction

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

JBS S.A. is the world's second largest food Company and a global leader in several of its businesses. JBS SA is a food Company with 65 years of tradition and global leader in animal protein processing.

The Company has a diverse brand and product portfolio with options ranging from fresh and frozen meat to added value, ready-to-eat, prepared and processed products. In 2017, the company's businesses were divided into the following units: JBS South America (Seara, JBS Beef, JBS Leather, JBS New Business) and JBS North America (JBS USA Beef: JBS Australia + JBS Canada, Pilgrim’s Pride: Pilgrim’s Moypark).

It sells these products under brands well-known for their excellence and innovation, and which are leaders in their respective markets, including Friboi, Seara, Swift, Primo, Pilgrim’s Pride, Moy Park, Just Bare, and others. The structure involves processing units of cattle, pigs, sheep, poultry, leather, and confinement of cattle and sheep.

JBS has production units and commercial offices in over 20 countries throughout the world (Brazil, United States, Australia, Canada, Ireland, France, UK, Italy, Argentina, Uruguay, Mexico, etc.), operating in the segments of beef, pork, lamb and chicken, production and marketing of leather, pet products, hygiene and cleanliness, cans, collagen, biodiesel, transportation and vegetables.

The Company also focuses on the highest possible food safety and quality standards and has adopted best sustainability practices throughout its value chain, operating a global and diverse food production and distribution platform, with production units and commercial offices in over 20 countries and approximately 230,000 team members - from factories to sales offices. We serve over 350,000 customers in more than 150 countries, managing a customer portfolio that includes various types of retailers, from major regional chains to small-scale retailers, as well as wholesale clubs and food service companies (restaurants, hotels, food service distributors and supplementary processing companies).

The Company’s commitment to innovation also reflects its management approach to related businesses such as leather, biodiesel, collagen, personal hygiene and cleaning products, natural casings, solid waste management solutions, metal packaging and transportation, as well as the sustainability practices adopted throughout the value chain. One example is the constant cattle supplier monitoring using satellite imagery, georeferenced maps of supplier farms and official data from government agencies. The purpose is to identify and block the supplying farms that presents any non-compliance with the socio-environmental criterias of JBS.

Also incorporated into its business management is the pursuit for modernization, quality of products and raw materials, as well as the establishment of better relationships with partners, customers, employees and society, the satisfaction of its shareholders and the commitment to social and environmental responsibility issues.

With an annual net revenue of BRL 163,2 billion, equivalent to US$51.5 billion, JBS is positioned as the largest animal protein Company in the world, with a strong presence in the most competitive production regions on earth.

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

<table>
<thead>
<tr>
<th>Row</th>
<th>Start date</th>
<th>End date</th>
<th>Indicate if you are providing emissions data for past reporting years</th>
<th>Select the number of past reporting years you will be providing emissions data for</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>January 1 2017</td>
<td>December 31 2017</td>
<td>No</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>2</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>3</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>4</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
</tbody>
</table>

C0.3

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

- Argentina
- Australia
- Brazil
- Canada
- France
- Germany
- Ireland
- Italy
- Mexico
- Netherlands
- New Zealand
- Puerto Rico
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- Uruguay

C0.4

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

BRL

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
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?

<table>
<thead>
<tr>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Forestry</td>
</tr>
<tr>
<td>Both own land and elsewhere in the value chain [Agriculture/Forestry only]</td>
</tr>
<tr>
<td>Processing/Manufacturing</td>
</tr>
<tr>
<td>Direct operations only [Processing/Manufacturing/Distribution only]</td>
</tr>
<tr>
<td>Distribution</td>
</tr>
<tr>
<td>Both direct operations and elsewhere in the value chain [Processing/Manufacturing/Distribution only]</td>
</tr>
<tr>
<td>Consumption</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

Why are emissions from the consumption of your products not relevant to your current CDP climate change disclosure?

Primary reason
Evaluated but judged to be unimportant

Please explain
The mostly of JBS products are food, consumed by humans and in a wide variety of ways and locations. For these reasons, any attempt to estimate the emissions from the consumption of JBS products should present a huge uncertainty, besides these emissions could be considered as lower than the emissions from the other parts of the value chain, as agriculture and industrial process, for example. We serve over 350,000 customers in more than 150 countries, managing a customer portfolio that includes various types of retailers from major regional chains to smallscale retailers, as well as wholesale clubs and food service companies (restaurants, hotels, food service distributors and supplementary processing companies). During the 8th International Conference on Lifecycle Management (LCM 2017) in Luxemburg, JBS presented a first-of-akind study on the Company’s carbon footprint across its beef (Picanha Maturatta Friboi) and chicken (Seara DaGranja Whole Chicken) product manufacturing cycle. Carried out in partnership with the Getulio Vargas Foundation’s Sustainability Study Center (GVces as part of the Applied Lifecycle (CiViA) initiative, the study was used as a benchmark for the Lifecycle Assessment (ACV) methodology, a technique used to analyze industrial performance (for goods and services) based on natural resource usage across various stages of the value chain: from raw material production to product disposal, including processing, distribution and consumption. Using this information, the ACV is able to identify environmental impacts from these processes and support strategic decisions to minimize them.
<table>
<thead>
<tr>
<th>Agricultural commodity</th>
<th>Percentage of revenue dependent on this agricultural commodity</th>
<th>Produced or sourced</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle products</td>
<td>More than 80%</td>
<td>Produced</td>
<td>JBS is the world's largest beef producer. There are 35 beef processing units in Brazil and 19 in USA, Canada and Australia.</td>
</tr>
<tr>
<td>Other, please specify (Poultry products)</td>
<td>More than 80%</td>
<td>Produced</td>
<td>There are 29 poultry processing units in Brazil and 36 in USA, Mexico and Europe.</td>
</tr>
<tr>
<td>Other, please specify (Pork products)</td>
<td>More than 80%</td>
<td>Produced</td>
<td>There are 8 pork processing units in Brazil and 5 in USA.</td>
</tr>
</tbody>
</table>

**C1. Governance**

**C1.1**

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

Yes
(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

<table>
<thead>
<tr>
<th>Position of individual(s)</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer (CEO)</td>
<td>Created in 2008, the Sustainability Committee was first reformulated in 2013, following the governance restructure in the Company and another rearrangement was made in 2016. The last reformulation has been made in 2017, which is currently established, resulted in a structure composed by five members of the senior management, including two independent consultants, one of them heads the Sustainability Committee as President and the company’s COO.</td>
</tr>
<tr>
<td>Other, please specify (Exec. Director of JBS Internal Relations)</td>
<td>The other two Members of the Sustainability Committee are the President of JBS Beef Brazil business division and the President of Seara business division.</td>
</tr>
<tr>
<td>Other, please specify (President of JBS Beef Brazil)</td>
<td>The Sustainability Committee Board is responsible for dealing with and connecting all subjects related to the topic of sustainability and climate change in the Company's business in a global perspective, such as: identification, evaluation and treatment of critical issues that result in risks and business impact; monitoring and implementation of policies, strategies and specific actions; and evaluation of proposals for investments in sustainability with positive impacts in the short, medium and long run. Moreover, the committee activities focuses on i) integrating the JBS' sustainability culture and practices in the recent acquired companies and ii) create a sustainability framework at a global level to set guidelines regarding both the supply chain (cattle purchase programs and actions on the poultry chain) and processing products (internal environmental improvements and eco-efficiency).</td>
</tr>
<tr>
<td>Other, please specify (Independent consultant)</td>
<td>Besides, JBS also has a corporate team dedicated to the Sustainability issues, including climate change strategy and projects, and trained professionals - environmental analysts in all production units, ensuring the unique tracking ahead to the issues of Sustainability.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Frequency with which climate-related issues are a scheduled agenda item</th>
<th>Governance mechanisms into which climate-related issues are integrated</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled – all meetings</td>
<td>Reviewing and guiding strategy Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives</td>
<td>As a priority issue strictly related to our core operations, climate-related issues are discussed in all meetings of JBS’s Sustainability Committee Board. The discussions about this subject comprises the assessment and reviewing of the related strategy elements, the undergoing plans of actions and its related budgets, assessment of whether every Company's business plan is considering climate-related issues and setting underlying performance objectives and monitoring implementation and performance of objectives through following the emissions reductions projects results and KPIs of the related strategic drivers, for example, correcting any needed routing paths.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Name of the position(s) and/or committee(s)</th>
<th>Responsibility</th>
<th>Frequency of reporting to the board on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Sustainability Officer (CSO)</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>

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.

The CSO reports its results and performance to the Sustainability Committee Board and to the Company's CEO. In general words and in relation to climate issues, its responsibility is both assessing and managing climate-risks and opportunities - sustainability strategy to support risk management, reduce the Company's environmental footprint and manage relationships with society and stakeholder engagement. These tasks are performed through the Sustainability corporate team and for each sustainability/environmental specific professionals and managers/supervisors allocated in each production plant (complying with the Environmental Policy and engaging with the suppliers, for example). For these operational employees, the responsibility is to implement, operationally, action plans and monitoring actions defined firstly by the Sustainability Committee Board, and, in the immediate below level, the CSO action drivers.

So, the defined structure for managing climate-related issues is i) Sustainability Committee Board; ii) CSO and iii) Sustainability/environmental professionals and plant managers/supervisors of each plant.

The objective of this management structure is setting an ongoing process of continuous improvement that involves increasing business performance in the short and long terms related to the identified climate related risks and opportunities related to climate change.

C1.3

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

Yes

C1.3a

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

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction project

Comment

The eco-efficiency and emissions reduction projects are carried out in a global amplitude, which encompass diverse business units (beef, leather, poultry etc.). Based on NBR ISO 14001:2004, Brazilian operational units are underpinned by the implementation of the environmental management system and by the action plans from the sustainability assessment strategy, which contains targets for water consumption, wastewater treatment, environmental compliance, by-product recovery in wastewater treatment plant, energy efficiency, solid waste and water consumption (indicators related to production). The operational unit's projects are essentially linked to targets related to JBS's program of annual bonus, resulting in monetary rewards for Environment/Sustainability managers.
Facilities manager

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction project

Comment
Also includes Corporative Manager of Engineering and Operations Director. The eco-efficiency and emissions reduction projects are carried out in a global amplitude, which encompass diverse business units (beef, leather, poultry etc.). Based on NBR ISO 14001:2004, Brazilian operational units are underpinned by the implementation of the environmental management system and by the action plans from the sustainability assessment strategy, which contains targets for water consumption, wastewater treatment, environmental compliance, by-product recovery in wastewater treatment plant, energy efficiency, solid waste and water consumption. JBS puts targets into effect for these eco-efficiency projects (intensity indicator/ consumption per tonnes produced), applicable for facility managers, Corporative Manager of Engineering, also Operations Director. The operational unit’s projects are essentially linked to targets related to JBS’s program of annual bonus, resulting in monetary rewards to them.

Who is entitled to benefit from these incentives?
Other, please specify (Regional environmental coordinators)

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction project

Comment
As cited previously the eco-efficiency and emissions reduction projects are carried out in a global amplitude, which encompass diverse business units (beef, leather, poultry etc.). Based on NBR ISO 14001:2004, Brazilian operational units are underpinned by the implementation of the environmental management system and by the action plans from the sustainability assessment strategy, which contains targets for water consumption, wastewater treatment, environmental compliance, by-product recovery in wastewater treatment plant, energy efficiency, solid waste and water consumption (indicators related to production). The operational unit’s projects are essentially linked to targets related to JBS’s program of annual bonus, resulting in monetary rewards for Environment/ Sustainability coordinators and supervisors as well.

Who is entitled to benefit from these incentives?
Other, please specify (Manager w/ sustainability responsibility)

Types of incentives
Monetary reward

Activity incentivized
Energy reduction project

Comment
The incentivized performance indicator is embodied with annual objectives and forms portion of performance review annually.

C2. Risks and opportunities

C2.1

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

<table>
<thead>
<tr>
<th></th>
<th>From (years)</th>
<th>To (years)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>0</td>
<td>3</td>
<td>Time horizon defined by Sustainability Committee Board.</td>
</tr>
<tr>
<td>Medium-term</td>
<td>4</td>
<td>6</td>
<td>Time horizon defined by Sustainability Committee Board.</td>
</tr>
<tr>
<td>Long-term</td>
<td>7</td>
<td>10</td>
<td>Time horizon defined by Sustainability Committee Board.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Frequency of monitoring</th>
<th>How far into the future are risks considered?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six-monthly or more</td>
<td>&gt;6 years</td>
<td>The process of risks and opportunities identification is under the responsibility of the Sustainability Direction, which reports to the Sustainability Committee Board. The Sustainability Committee Board meets every quarter, where major advances and new opportunities and risks identified are evaluated, which guidelines and action plans are forwarded to the technical team developing the necessary actions. It comprises every JBS's operations around the world and aims to identify risks and opportunities in the long-term view. Since JBS is a commodity company, climate change is an issue strictly linked to its core business, which demands a very intensive investment in risk management procedures.</td>
</tr>
</tbody>
</table>

C2.2b

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

Risks such as environmental and operational risks, are addressed in a series of Regulatory Instructions and In-House Procedural Manuals. These documents are approved by the Sustainability Committee Board and describe the procedures team members are required to adopt in their specific areas and businesses in order to map all possible risks the Company may face.

Climate change could have a negative impact on the Company’s businesses. Resources like water, electricity and animal feed (which is dependent on farming) are critical for production of raw materials (cattle, poultry, pork and lamb). Businesses could also be affected by new legislation and regulation in this area.

We monitor the environmental impacts from our direct (industrial, logistics and shipping) operations and taking steps to minimize the impact of our own and our suppliers' operations. Monitoring involves taking a global inventory of direct and indirect GHG emissions using the international GHG Protocol methodology. The results of the inventory are published annually on the CDP platform. JBS also monitors indicators representing the volume of water and electricity used by its operations in order to optimize production processes and gradually reduce consumption. To reduce the impact from JBS operations and create opportunities, the Company has an annual plan to invest in environmental improvements that focuses on use of natural resources, water and waste recycling and other issues.

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

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Relevance &amp; Inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current regulation</td>
<td>Relevant, always included</td>
<td>We are subject to strict environmental legislations due to the nature of our business and, further on, due to emerging legislations related, for example, requirements of the National Policy of Climate Change in Brazil and related legislations in the countries which we operate, as well as the NDCs requirements, which can include carbon taxes.</td>
</tr>
<tr>
<td>Emerging regulation</td>
<td>Relevant, always included</td>
<td>We are subject to strict environmental legislations due to the nature of our business and, further on, due to emerging legislations related, for example, requirements of the National Policy of Climate Change in Brazil and related legislations in the countries which we operate, as well as the NDCs requirements, which can include carbon taxes.</td>
</tr>
<tr>
<td>Technology</td>
<td>Relevant, sometimes included</td>
<td>We recognize the potential of supporting and mitigation of climate change effects and emissions of greenhouse gases due to technology improvements. However, it is not so far fully explored in our business and should increase as soon as Company participates in emissions trade schemes.</td>
</tr>
<tr>
<td>Legal</td>
<td>Relevant, always included</td>
<td>It is very relevant and assessed in order to avoid all possible climate-related litigation claims.</td>
</tr>
<tr>
<td>Market</td>
<td>Relevant, always included</td>
<td>Markets changes, mainly in commodities products supplying, is very risky, comprising availability and prices fluctuation, and could be damage to our business due to this variability.</td>
</tr>
<tr>
<td>Reputation</td>
<td>Relevant, always included</td>
<td>Our efforts are increasing towards the mitigation of climate change. The new Field project, which aims to recover degraded pastures, is a good example.</td>
</tr>
<tr>
<td>Acute physical</td>
<td>Relevant, always included</td>
<td>It is very risky to our business since its effects already caused damage to us. For example, in 2017 JBS plant had to be shutdown due to water scarcity. The company mapped all its plants and the possibilities of water shortage due to lack of water, etc.</td>
</tr>
<tr>
<td>Chronic physical</td>
<td>Relevant, always included</td>
<td>It is very risky to our business since its effects already caused damage to us. For example, in 2017 JBS plant had to be shutdown due to water scarcity. The company mapped all its plants and the possibilities of water shortage due to lack of water, etc.</td>
</tr>
<tr>
<td>Upstream</td>
<td>Relevant, always included</td>
<td>It is related to the risks type above. This means that JBS mapped its climate-related risks always considering its effects upstream.</td>
</tr>
<tr>
<td>Downstream</td>
<td>Relevant, always included</td>
<td>It is related to the risks type above. This means that JBS mapped its climate-related risks always considering its effects downstream.</td>
</tr>
</tbody>
</table>
(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

The processes of risk and opportunity identification applied are under the responsibility of the Sustainability Direction, which reports to the Sustainability Committee Board. To evaluate the climate change risks and opportunities at the Company (strategic) level and at the operational (asset) level, the process follows a methodology issued by the Sustainability Committee Board. It includes mapping and description of risks and opportunities, performed by the technical team; analysis and prioritization of mapped risks and opportunities; evaluation and study to transform the risks into opportunities.

The Sustainability Committee Board meets every quarter, where major advances and new opportunities and risks identified are evaluated. The guidelines and action plans elaborated are forwarded to the technical team developing the necessary actions.

In the asset level, each manager is responsible for monitoring the environmental legislation of their region / country and establishes measures for compliance.

Climate change risks and opportunities assessment are directly linked with JBS operations performance in the matter that climate change affects water availability, which consequently impacts grain (commodities) and energy availability.

JBS has an annual plan to invest in environmental improvements that focuses on its use of natural resources. Through the risk identification processes both in Company and asset level, any social and environmental factors that have been identified as operational risks can also represent business opportunities, helping JBS to improve efficiency and productivity and reduce costs. As an example, the new plants built aim compliance with the best sustainability practices. The projects are elaborated with best practices implemented in JBS worldwide, assuring higher yields and production efficiency.

To evaluate and prioritize the risks and opportunities within JBS (Company and asset level) in relation to climate change, the process itself follows a methodology issued by the Sustainability Committee Board, in which the main steps are described below:

a) Identification/ Description of risks and opportunities allow the Technical Team to perform the mapping process;

(b) Analysis of mapped Risks and Opportunities and their prioritization. This step is based on business impact level and likelihood of occurrence:

i) Each risk or opportunity is classified as a consequence of its impact on business and its likelihood of occurrence. This classification is developed under three different scenarios: short, medium and long term.

ii) The Sustainability Committee Board focuses the Action Plan on the short-term scenario with risks or opportunities classified as high or medium impact to business, and high or medium probability of occurrence. In medium and long-term scenarios, only the risks or opportunities classified as high business impact and high probability of occurrence are object of attention on the Sustainability Committee Board;

(c) Study of the risks in order to forecast consequences, prevent them from occurring and transform them into opportunities;

Moreover, the investments decisions are also based on legal requirements, payback and environmental benefits. JBS's unit's size is also taken into consideration, due to its proportional potential impact to the environment.

For example, in JBS Beef and Seara this assessment determined that the plants need to have targets related to air quality, wastewater amount and parameters, energy efficiency, etc., controlled through a scorecard in order to mitigate the related-climate change risks.

In JBS USA, it is defined and benchmarked key performance indicators based on performance data for 2013, 2014 and 2015, across facilities. Each facility was then tasked with identifying data-informed 2020 improvement goals and an implementation plan by which to achieve these goals. Based on the cumulative facility improvement goals, each JBS USA business unit developed reduction targets that were agreed to by the executive team, including the CEO and business unit presidents, and aggregated to form aggressive JBS USA 2020 improvement goals.

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**
Transition risk

**Primary climate-related risk driver**
Policy and legal: Increased pricing of GHG emissions

**Type of financial impact driver**
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

**Company-specific description**
Both due to the Nationals Policies on Climate Change and NDCs in countries which we operate, JBS considers Carbon Taxes a very likely measure that the Company will have to deal in a close future. We have been constantly monitoring Carbon Taxes legislations in countries where we operate, in order to anticipate the related rules and to prepare the management of this issue. For JBS Global, the risks about Carbon Taxes are related to financial penalties imposed to the Company due to the not achievement of the assumed/imposed GHG emissions reduction targets.

**Time horizon**
Medium-term

**Likelihood**
Likely

**Magnitude of impact**
High

**Potential financial impact**
153000000

**Explanation of financial impact**
JBS must anticipate additional costs as result of additional investments that will bear to comply with new regulations and the price of carbon, which may need to pay as a result of its level of carbon emissions. If the US President fails to consider climate change when formulating federal energy policies (emerging trend seen from pulling out of Paris Agreement) the attitude will coincide with the boosting costs of climate according to an important projection. The updated Dynamic Integrated model of Climate and the Economy (DICE) estimated that the price associated with each ton of carbon dioxide emitted should be about 50% higher than the previous DICE version. DICE is one of the top three “integrated assessment models” used by governments and the private sector to estimate the cost, in today’s dollars, of the damage that climate change will cause. The current US estimate is about $40 (dollars per tonne of CO2 emitted), which means roughly 153 million dollars in 2017.

**Management method**
Every JBS unit throughout the world has GHG emission reduction projects, which is, indeed, besides an efficiency measure, an efficient manner to anticipate eventual penalties related to Carbon Taxes. Up to this moment, we had identified Carbon Taxes, in countries where we have units, in Mexico, UK and France, but not strictly related to our core businesses so far.

**Cost of management**
3000000

**Comment**
Costs related to the processes identification of carbon taxes are related to each country, specifically. For example, in Brazil this activity is in charge of the Sustainability Department. In 2017 were spent approximately R$ 3,000,000 (BRL).
Risk 2

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

Risk type
Transition risk

Primary climate-related risk driver
Technology: Substitution of existing products and services with lower emissions options

Type of financial impact driver
Technology: Costs to adopt/deploy new practices and processes

Company-specific description
Tied to the Brazilian National Policy on Climate Change, that incentivizes financial mechanisms for emissions mitigation and climate change adaptation actions, JBS and other companies are jointly discussing ways to implement a Brazilian Emissions Trading Scheme through EPC (“Empresas pelo Clima" - Business for the Climate Platform). This means that JBS will have to increase the development of most efficiency process, climate-friendly, and increase new technology adoption, which in the short-term could represent an increase in operational costs.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
Medium

Potential financial impact
3000000

Explanation of financial impact
Increase of operational costs. May incur increased energy costs (as shows the real increase over 30% in energy cost for Brazilian industry in 2017) environmental costs and other, and investments to comply with existing or new restrictions GHG emissions.

Management method
In Brazil, JBS currently is an active member of EPC (Business for the Climate Platform), which are designing a Brazilian Emissions Trading Scheme.

Cost of management
3000000

Comment
Brazil – Cap and trade schemes opportunities are managed by the Sustainability Department, where in 2017 approximately R$ 3,000,000 (BRL) were spent.

Risk 3

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

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Other

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company-specific description
Energy related to regulations, including fossil fuel and electricity taxation, might affect the Company’s costs of goods sale (COGS), since as a production inputs until the transportation of products.

Time horizon
Short-term
Likelihood
Likely

Magnitude of impact
Low

Potential financial impact
3000000

Explanation of financial impact
Brazilian units are experiencing an increase on electricity bills (also known as “red flag”). The “red flag” occurs in those months which the national energy agency considers that it was necessary an increase in feeding the Brazilian national grid with energy produced from fossil sources. This happens due to restrictions of energy from renewable sources, most of them produced from hydropower sources. This latter sources of energy eventually presents some constraints due to droughts / lack of rain, which could be a current effect of climate change, damaging the natural flow of the rains around the country.

Management method
In Brazil, Corporate Sustainability department is monitoring any similar taxation, mainly through EPC (Business for the Climate Platform). Also, production units of JBS throughout the world develops energy efficiency projects, promoting current and long run benefits, also supporting Company mitigate energy/fuel taxation effects in the operational costs. JBS Brazil buys energy from free market (there is an area for that) and it also has a unit that produces energy. Therefore, it is possible to prevent some future expenses.

Cost of management
3000000

Comment
Brazil – Fuel/ Energy Taxes and Regulations are managed by the Sustainability Department, where in 2017 approximately R$ 3,000,000 (BRL) were spent.

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: Exposure to litigation

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
As JBS is present in many different countries worldwide and faces different regulatory risks according to its location, in the medium and long term we have been expecting more strict legislation regarding GHG emissions reduction as an approach to mitigate climate change. Therefore, there is a risk that our business will have to comply by changing operation processes and investing in new mandatory technologies, processes and complying schemes. The risks related to uncertainty surrounding new regulation are the following: - Brazilian National Policy on Climate Change: In December 2010, the Brazilian government published Decree 7390, which regulates the National Policy on Climate Change. It was established through two plans: the Prevention and Control Action Plans of deforestation in the biomes, and the Department of Mitigation and Adaptation. The decree states that the sector plans will be prepared and shall include emission reduction targets for 2020. Although there are no reduction targets for each sector separately, the Decree emphasizes the voluntary commitment to reduce national emissions by 36.1% to 38.9% by 2020. - Brazilian States Carbon Mitigation regulations: First of all, JBS had identified two regulations in state level in Brazil: 1. Environmental Company from São Paulo State (CETESB) – according to the regulation 254/2012/V/I, from August 22nd 2012, it institutes the obligation of some sectors to elaborate its greenhouse gases inventory and are demanded to provide it annually to the environmental body. 2. Environment State Institute (INEA) – Rio de Janeiro – according to the regulation Nr. 64, companies that applies for the environmental licenses are obligated to provide its verified greenhouse gases inventory to the environmental body. - COP 21 – Paris Agreement: According to the Paris Agreement, countries should comply with their own INDC (Intended Nationally Determined Contribution). These commitments varies from countries and, as a global company, JBS business units should map every local agreements and regulations towards the achievement of each assumed commitment. Since this agreement occurred in December 2015, JBS units around the world are still determining the related impacts and preparing the planning to attend it.

Time horizon
Medium-term
Likelihood
Very likely

Magnitude of impact
Medium

Potential financial impact
3000000

Explanation of financial impact
The risks presented by this type of regulation translate into higher production and energy costs, as well as a possible effect on market competitiveness. So far, it is not possible to provide an accurate or even an estimated final implication. Nevertheless, JBS is expecting consequences in the agriculture, livestock and production operations sectors.

Management method
JBS believes that the inclusion of sustainability principles, aligned with its Sustainability strategy, in all operations allows innovation and continuous development of its business; therefore, it could anticipate future obligations. The adoption of good governance practices and socio-environmental management by JBS units have provided success in the development of initiatives through mapping risks and opportunities. Climate Change was defined as a material issue for the company globally. In addition, every JBS unit is aware about these issues, which implies in the identification of these risks locally and, further, the need of anticipate future obligations. Finally, as an example, since 2015 JBS voluntarily adhered to the São Paulo State Climate Protocol, which aim is stimulate companies in reducing their GHG emissions and seeks for climate change adaptation measures. In addition, in 2016 and in 2017 JBS won Parana Climate Seal Recognition from the Parana State Government.

Cost of management
3000000

Comment
Brazil – The related regulation are monitored and managed by the Sustainability Department, where in 2017 approximately R$ 3,000,000 (BRL) were spent.

Identifier
Risk 5

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

Risk type
Transition risk

Primary climate-related risk driver
Technology: Costs to transition to lower emissions technology

Type of financial impact driver
Technology: Costs to adopt/deploy new practices and processes

Company-specific description
Specifically for Moy Park, JBS units in UK, participate in the EU ETS emissions reduction scheme as well as the Climate Change Agreement Scheme across industrial and agricultural sectors.

Time horizon
Long-term

Likelihood
Virtually certain

Magnitude of impact
Low

Potential financial impact
69550

Explanation of financial impact
2017 financial impact roughly £ 69,550.

Management method
Moy Park Ltd – Dungannon is eligible with EU ETS and, according to “GB-ETS-0030-04”, had set the allocations allowances from 2013 to 2020 phase three period of EU ETS (total of 63,756 tCO2e). Management reviewing proposal specialist advisory service to strategically purchase carbon.
Cost of management
5000

Comment
It costs roughly £2,000/year for external verification fees.

 Identifier
Risk 6

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

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Increased pricing of GHG emissions

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company-specific description
Whilst Climate Change Agreements (CCA) are not compulsory within the UK, they provide the certain Agriculture and Food & Drink sectors an opportunity to commit to emissions reductions through the CCA Scheme. By embracing this scheme over a prescribed percentage of the UK organizational activities this provides an exemption from a mandatory Carbon management compliance Scheme Carbon Reduction Commitment Scheme (CRC). As the CRC scheme is an indirect tax scheme the business impact, financially and reputationally are materially higher than the CCA Scheme. Therefore, selecting and remaining within the CCA scheme mitigates the associated risks of the CRC scheme.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Low

Potential financial impact
100000

Explanation of financial impact
In UK, due to the “Climate Change Agreements”, Moypark expects for the period between 2019-2023 a cost of energy carbon to increase by roughly 100,000 pounds. The agreement states that if the UK is to cut its greenhouse gas emissions by 80% by 2050, energy efficiency will have to increase across all sectors to the extent that energy use per capita is between a fifth and a half lower than it is today.

Management method
In Brazil, Corporate Sustainability department is monitoring any similar taxation, mainly through EPC (Business for the Climate Platform). In UK, this issue is fully comprised by Moypark risk management. Management techniques include fuel switching to lower carbon thermal fuel, introduction of wood based biomass within the Agricultural division, improving utility efficiency, installation of lower carbon lighting, setting annual energy efficiency targets and management of these targets through KPIs.

Cost of management
5000

Comment
Costs are embodied within the Sustainability management function of which energy and subsequent emissions mitigation management fall.

 Identifier
Risk 7

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

Risk type
Transition risk
Primary climate-related risk driver
Technology: Costs to transition to lower emissions technology

Type of financial impact driver
Technology: Costs to adopt/deploy new practices and processes

Company-specific description
Specifically for USA units, the probability to create a national cap and trade market for GHG emissions is considered as high within the next years. Our units in the United States are currently seeking strategic positioning and studying how it might adapt to emission targets. The West Coast of the United States is developing several climate change initiatives, especially the State of California, which has developed a cap and trade scheme. The Environmental Protection Agency has released in April 2009 new mandatory GHG reporting guidelines that are being enforced since the beginning of 2011 in different sectors, including the Food Processing and Manure Management.

Time horizon
Long-term

Likelihood
About as likely as not

Magnitude of impact
Low

Potential financial impact
100000000

Explanation of financial impact
USD50-100 million CAPEX project to take advantage of carbon trading.

Management method
In the USA, EPA regulates emissions of greenhouse gases through the Clean Air Act. A number of the Company’s facilities are already required to monitor and report emissions of greenhouse gases, according to reports from the EPA.

Cost of management
50000

Comment
These risk issues are managed by the JBS USA Sustainability corporate team.

Identifier
Risk 8

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

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company-specific description
The physical risks identified by JBS are both local and global, and are divided by physical assets, supply chain and business structure. The water scarcity, due to the lack of a steady rainy season attributed to, among others, climate change, is a phenomenon that the Company faced in the recent years, mainly in Brazil, negatively influencing our business. The water scarcity had negatively influenced the availability of energy to our production units and caused the raise of electrical energy fares. In addition, JBS was obligated to partially discontinue some operations in Brazil due to the lack of water access.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
High
Potential financial impact

3000000

Explanation of financial impact
The potential financial implications of the risk before taking action are related to the increase in operational costs. JBS is facing financial implications due to changes in natural resources already.

Management method
Regarding electrical energy in Brazil, JBS prioritizes the energy acquired from clean sources (free Market) and from own production (power plant by sugar cane bagasse). Regarding water availability, JBS mapped the water stress for all its production units in Brazil (which comprises a substantial part of its supply chain).

Cost of management

3000000

Comment
Brazil – Mapping of water stress is managed by the Sustainability Department, where in 2017 approximately R$ 3,000,000 (BRL) were spent.

Identifier
Risk 9

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

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company-specific description
The productivity of livestock and crops/pasture may be severely affected by increasing temperatures, CO2 concentration in the atmosphere, changes in annual rain patterns and future increase in disease, pests and weeds that affect livestock and plants alike. The studies regarding these variables have been developed for several years, however the effects are still fairly uncertain.

Livestock: from an animal physiology perspective, an increase in overall temperatures to which the animals are exposed could have severe effects on the animals. If average temperatures reach a level above the animal’s upper critical limit in its thermal neutral zone, studies have shown that the animal will suffer from heat stress and will require a higher energy and water intake, affecting the animal’s weight gain and its ability to reproduce. In the long run this may affect cattle prices as well as its supply as farmers may prefer to raise other livestock that reacts better to higher temperatures. Feed: considering that part of the JBS’s livestock supply is raised in feedlots, and that the largest percentage of feed, produced and supplied by the company to the pork and poultry suppliers, also contains grains, there is a natural worry about the supply and cost of feed. The precise effects of climate change in soybean and maize yields are yet uncertain, due to the complexity of the models required to make such estimates. While numerous studies expect the crop yields to increase due to higher CO2 concentrations in the atmosphere, it is also widely accepted that due to the controlled nature of these studies their results cannot be considered conclusive due to the uncertainties regarding the interactions with water availability, soil nutrients, pests, weeds, etc. While JBS identifies feed availability as a risk, it is still uncertain about its magnitude. Pasture: as mentioned before, the effects of climate change are still uncertain regarding plants. Pastures can be considered a specific case, since there are known differences in the response to climate change between plants with different metabolic carbon fixations such as pastures. Changes in the pasture growth and availability could be risky for the supply of livestock, especially in Brazil.

Time horizon
Short-term

Likelihood
More likely than not

Magnitude of impact
High

Potential financial impact
18000

Explanation of financial impact
According to a recent study published by FAO and EU, the production of agricultural commodities shall rise up to 60% in the next
25 years. One of the main factor that may negatively influence this result is climate change. Therefore, the reversal of the current tendency of low prices is a likely possibility. High prices of agricultural commodities may continue to have an adverse effect on the JBS’s operating results.

Management method
JBS seeks to assume advance purchase or financial derivative contracts for the purchase of agricultural commodities in order to manage their costs with feed ingredients. Moreover, JBS develops projects for avoiding and mitigating GHG emissions, as for example, the New Field Project in a partnership with ICV (“Instituto Centro de Vida”), which aims to promote sustainable livestock farming in the Amazonia biome. Moreover, Seara invests in projects that improve the feed conversion of poultry and pork, so that less food is necessary.

Cost of management
18000

Comment
As a result of the partnership with ICV, JBS developed subsidy protocols for purchase of cattle in the project area which comply with the criteria of quality and the basic requirements of Good Agricultural Practices. Other costs are related to the support on the dissemination of results of Good Agricultural Practices through corporate videos, brochures, field days in conjunction with the ICV and training of technical and ranchers together with ICV regarding good practice. The costs in 2017 regarding this partnership are estimated in BRL 18,000 including travel expenses, sponsorship for day camp and institutional video, advertising materials (banners and brochures) and training in agricultural techniques.

Identifier
Risk 10

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

Risk type
Transition risk

Primary climate-related risk driver
Market: Changing customer behavior

Type of financial impact driver
Market: Reduced demand for goods and/or services due to shift in consumer preferences

Company-specific description
JBS is exposed to risks that affect its operations and ability to operate in the international market. Climate change can induce changes in customer preferences for products/services. As the topic of climate change becomes a concern to consumers all over the world, the Company is aware of its responsibility, since it is a sensitive business for climate change like cattle raising and general agroindustry. JBS is working to create tools and control mechanisms that allows it to mitigate its exposure to reputational and image risks regarding the effect of its activities in climate change. The image risks that could affect JBS is related to food security, cattle raising and its wide supply chain, which may cause deforestation to create new pastures. Deforestation is a very sensitive issue not just in Brazil, but also with huge range throughout the world. Furthermore, cattle raising is usually linked to deforestation and degradable pasture lands. Added to this, deforestation is the main greenhouse gas emissions source in Brazil. This means that cattle raising and, consequently, JBS core business is very sensitive to public opinion, which could damaged our revenues and the demand for our products, since, for example, campaigns against our products could raise against a suppose effort to mitigate deforestation.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact
1500000000

Explanation of financial impact
The potential financial implication is a decrease of income due to the changing of consumer behavior and reputational risk. As an example of estimative, whether JBS is accused of commercializing meat from a deforested area in the Amazon region, the financial implication could be related to the purchase embargo from JBS’s clients outside Brazil (which is a sensitive market considering this aspect) And the Brazilian retail clients due Greenpece’s Brazilian campaign “Carne ao Molho Madeira” (“Beef in wood sauce”). This embargo could be estimated in around BRL 1.5 billion.
Management method
JBS assumed the commitment to ensure the responsible origin of its raw materials. It does not acquire cattle from suppliers involved in the deforestation of native forests, the invasion of public lands such as indigenous lands or environmental conservation units, rural violence and agrarian conflicts, or the use of compulsory and child labor. To ensure it, JBS has developed a system for social and environmental monitoring of cattle suppliers. This system is comprised of two joint analysis procedures. The first involves geospatial monitoring of the suppliers properties that performs the digital overlay of georeferenced maps of cattle suppliers’ farms to official data of deforestation in Brazil and indigenous land and environmental conservation areas maps. The second performs the intersection of the registration data of the Company’s cattle suppliers with the information from the public lists of areas embargoed by IBAMA - by illegal deforestation – and employers who used work practices that are degrading or analogue to slavery, according the Ministry of Labor (MTE). This entire process of social and environmental analysis and monitoring of the farms is carried out on a daily basis, both for new suppliers as well as for those who are already included in JBS’s registry of suppliers. The aim is to maintain the social and environmental compliance of the suppliers and block the purchase of raw materials from farms that do not comply with the JBS social and environmental criteria.

Cost of management
1500000

Comment
Approximately R$ 1,500,000 (BRL) are spent per year with the social and environmental monitoring system, considering the costs with third parties (geographic monitoring, preparation of Easy Map project system, advanced analysis and integration of systems), audits, travel for training and meetings with involved employees.

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
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Type of financial impact driver
Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company- specific description
Despite it also represents a risk, Cap and trade schemes are, on the other hand, a good opportunity for JBS globally. Due to its operational features and number of operational units, the Company could identify a significant amount of GHG emissions reduction projects opportunities. Currently, JBS has developed 2 CDM projects in Brazil (in monitoring phase), which can generate revenue through the sale of carbon credits. The scope of the project is avoidance of methane through wastewater treatment. The projects were implemented in two units: Vilhena (Rondônia) and Barra dos Garças (Mato Grosso), which were registered on UNFCCC (United Nations Framework Convention on Climate Change) in 2011. Especially in Brazil, the participation of JBS in the EPC (Business for the Climate Platform), which are designing a Brazilian Emissions Trading Scheme, may open new opportunities to the Company earn a new source of revenues through the selling of carbon credits.

Time horizon
Short-term
Likelihood
More likely than not

Magnitude of impact
Medium

Potential financial impact
58400

Explanation of financial impact
The development of project activities to reduce GHG emissions can generate positive financial implications to JBS through the revenue of sales of carbon credits. According to the PDDs from JBS CDM projects, about 73066 tCO2e would be generated per year. As currently the credit amount is low (roughly EUR 0.20), the potential financial impact will not be significant. Thus, JBS is waiting for a better time to verify the monitoring of these projects and sell the CERs in the market.

Strategy to realize opportunity
Besides its participation in EPC and in the other initiatives towards a cap a trade scheme in other locations where it operates, JBS will continue to invest in GHG emission reduction projects. The reason is because it is a prioritized issue and it is a Company guideline related to its sustainability strategy, regardless of the generation of additional revenue from the sale of carbon credits.

Cost to realize opportunity
3000000

Comment
Costs related to the processes identification of carbon projects and discussions about future opportunities are related to each country, specifically. For example, in Brazil this activity is in charge of the Sustainability Department. In 2017 were spent approximately R$ 3,000,000 (BRL).

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resilience

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Reducing exposure and operational risks)

Company- specific description
JBS develops its GHG emissions inventory and reports into public voluntary platforms and in financial reports. Despite an obligation for some conditions, as in Brazil (state of Rio de Janeiro: environmental license conditions; state of São Paulo: report to the environmental areas is an obligation for some business sectors and/or GHG emissions threshold) it is an efficient management tool and allows Company participates in a specific stock exchange index in Brazil (ICO2 Index).

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Potential financial impact
150000

Explanation of financial impact
The participation of JBS in a sustainability index like B3 (Brazilian stock exchange) ICO2, promotes intangible benefits, as increase on reputation and market penetration, and tangible benefits, as the increase on shares negotiation (shares liquidity).

Strategy to realize opportunity
The GHG Emissions report is elaborated annually by specialized advisory consultants and involves the Company globally. The participation of JBS in ICO2 Index is prepared by the same consultants and by the Investor Relations Department. Moreover, in order to lead good practice and strengthen the relationship with the government, in 2015 JBS had adhered to the São Paulo State
Climate Protocol in a voluntary manner, which aim is stimulate companies in reducing their GHG emissions and seeks for climate change adaptation measures. This protocol intends to establish public policies by improving competitiveness from the adoption of clean technologies. In the next years JBS plans to adhere to initiatives from others state governments. In addition, in 2017 JBS won Parana Climate Seal Recognition from the Parana State Government, an initiative form the state environmental agency to mitigate climate change threatens.

**Cost to realize opportunity**
150000

**Comment**
The assumed costs is related to the advisory consultancy to support JBS in preparing the documents and information required by B3 (Brazilian stock exchange).

<table>
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<tr>
<th>Identifier</th>
<th>Opp3</th>
</tr>
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**Where in the value chain does the opportunity occur?**
Direct operations

**Opportunity type**
Products and services

**Primary climate-related opportunity driver**
Development and/or expansion of low emission goods and services

**Type of financial impact driver**
Increased revenue through demand for lower emissions products and services

**Company-specific description**
Biodiesel – In 2008 the Brazilian government, through the National Program of Biodiesel Production and Use (PNPB) forced the mix of pure biodiesel (B100) in diesel oil used in the country in order to reduce GHG emissions. Between January and June 2008, the blend of biodiesel in diesel oil was 2% (B2) and in 2015 the blend was 7% (National Petroleum Agency). From 2014 to 2015, the blend percentage increased 1.3% (from 5.67% to 7%). In 2015, the Brazilian Government also sanctioned the law nº 3834/2015, which established a timetable for increasing the mandatory blending of biodiesel to diesel. The regulatory framework establishes that, in 12 months, the mixture should be 8%, increasing to 10% in 3 years. In 2017, this mixture was 7.8%, in annual average. The regulation increases the demand for this biofuel in Brazil, consequently increasing the demand for the Biodiesel produced and sold by JBS.

**Time horizon**
Current

**Likelihood**
Virtually certain

**Magnitude of impact**
Medium

**Potential financial impact**
500000000

**Explanation of financial impact**
Thanks to regulations, today the biodiesel production also generates revenue for JBS. The estimated financial implications due to this opportunity is revenues of around an order of magnitude around BRL 500 millions.

**Strategy to realize opportunity**
JBS Biodiesel is the world’s largest vertically integrated producer of biodiesel using beef tallow. JBS has two plants in Brazil, one in Lins (SP) and another in Campo Verde (MT), the latter having received investments of R$15 million in 2015 to double its production capacity, from 48 million liters/year to 100 million liters/year. In 2016, having concluded refurbishment of the Campo Verde (MT) factory, it produced 210.000 L of biodiesel. In 2017, it also started using cooking oil to produce biodiesel. It is important to mention that 80% of the animal fat from JBS processes are used in biodiesel generation.

**Cost to realize opportunity**
550000

**Comment**
Investments in Lins (SP) plant around BRL 5,500,00 in 2017.

| Identifier | CD8 |
Where in the value chain does the opportunity occur?  
Supply Chain

Opportunity type
Products and services

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Supply chain efficiency improvements)

Company-specific description
Changes in temperature and rainfall can cause the increase of productivity in pasture areas.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact
18000

Explanation of financial impact
The potential financial implication is the increase of production capacity due to the increase in raw material availability. This opportunity, added to partnership of JBS and NGO ICV to promotes sustainable livestock farming in the Amazon biome, has the potential to become an important competitive advantage to the Company.

Strategy to realize opportunity
JBS and NGO ICV have partnered to support sustainable livestock farming in the Amazon biome by showing that livestock farming can be profitable even within a framework of rigorous environmental controls. The project, called New Field, helps the Livestock farmers to refurbish degraded pasture, promotes sustainable cattle raising in the Amazon biome, developing production models that improve management, increase productivity, increment quality in the product delivered to the market, strengthening of the local economy, reduce emissions of greenhouse gases in the production system (mainly avoided deforestation) and comply with environmental legislation. The results were that not only farm incomes rose, but the properties automatically started to implement a more environmentally responsible production model.

Cost to realize opportunity
18000

Comment
As a result of the partnership with ICV, JBS developed subsidy protocols for purchase of cattle in the project area which comply with the criteria of quality and the basic requirements of Good Agricultural Practices. Other costs are related to the support on the dissemination of results of Good Agricultural Practices through corporate videos, brochures, field days in conjunction with the ICV a and training of technical and ranchers together with ICV regarding good practice. The costs in 2017 regarding this partnership is estimated in BRL 18,000 including travel expenses, sponsorship for day camp and institutional video, advertising materials (banners and brochures) and training in agricultural techniques.

Identifier
Opp5

Where in the value chain does the opportunity occur?  
Supply Chain

Opportunity type
Resilience

Primary climate-related opportunity driver
Other

Type of financial impact driver
Increased reliability of supply chain and ability to operate under various conditions
**Company-specific description**

JBS has the opportunity to support initiatives that promote the benefits for mitigating climate change along the value chain of its businesses. The Company has a distinct opportunity to become a market leader regarding environmental practices and climate change management in its operations worldwide. JBS intends to continue its pioneering initiatives regarding carbon markets as well as a special care for product stewardship. The Company is conscious of its responsibilities regarding stakeholder engagement, especially cattle ranchers. The Sustainable Livestock program offers advisory for cattle ranchers for pasture management, pointing out the best practices available for sustainable ranching. This program promotes several indirect benefits for mitigating climate change, such as more sustainable and intensive use of the land, avoiding expansion of pasture areas, contributing substantially to the reduction of deforestation and, consequently, emissions related to changes in land use in Brazil.

**Time horizon**
Medium-term

**Likelihood**
Very likely

**Magnitude of impact**
Medium-high

**Potential financial impact**
3000000

**Explanation of financial impact**
The financial implications are not measurable but it is estimated to result in increased income for JBS.

**Strategy to realize opportunity**
JBS is developing mechanisms to support initiatives that promote the certification of its value chain. JBS supports the sustainable growth of the Brazilian livestock sector with the Sustainable Livestock Program. The program raises awareness and trains suppliers on social and environmental issues, food safety and animal welfare. To facilitate these trainings, JBS signed a partnership with EMBRAPA (Brazilian Agricultural Research Corporation). The Sustainable Livestock Program offers free technical support and assistance to providers of JBS through a specialized technical team. Another important measure that contributes to JBS’s reputation is the commitment to not purchase raw materials from farms that have deforested native forests in the Amazon Biome that are located within Indigenous Lands and Environmental Conservation Areas or have used work practices that are degrading or analogous to slavery. The management of this opportunity is done through its System for social and environmental monitoring of cattle suppliers. Every year the Company is audited by a third party and publishes the results about its endeavour against deforestation. In 2017 JBS achieved a compliance level of 99.97%.

**Cost to realize opportunity**
3000000

**Comment**
To monitor and deal with reputational opportunities for the Company, the costs can be described as expenses in the area of sustainability, where in 2017 approximately R$ 3,000,000 (BRL) were spent.

**Identifier**
Opp6

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

**Opportunity type**
Products and services

**Primary climate-related opportunity driver**
Development and/or expansion of low emission goods and services

**Type of financial impact driver**
Increased revenue through demand for lower emissions products and services

**Company-specific description**
Biolins, a sugarcane bagasse powerplant, provides renewable electricity energy for JBS's industrial complex located in Lins - SP.

**Time horizon**
Current

**Likelihood**
Virtually certain

**Magnitude of impact**
Medium

**Potential financial impact**

0

**Explanation of financial impact**

This business opportunity revenues in 2017 are not publicly available.

**Strategy to realize opportunity**

Biolins is an example of opportunity identified with the potential to have a substantive financial or strategic impact on JBS business, since it is a diversification of JBS core business, supplying renewable energy to other JBS plants and near companies, reducing JBS exposure to GHG emissions and another source of revenue through demand for lower emissions source of energy.

**Cost to realize opportunity**

58000000

**Comment**

Facility expansion investment in 2017.

---

**Identifier**

Opp7

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

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

**Company-specific description**

JBS Environment (Ambiental) is an exclusive and independent business unit that offers solid waste management solutions, with treatment and proper allocation of recyclable, non-recyclable and hazardous waste, as well as ensuring waste certification to contribute to the Company’s and its client's commitment to sustainability. The goal is to reduce waste disposal in landfills and to create value from waste processing and turning it back into raw material. Waste from plastic packaging generated in the JBS units or coming from other sources are routed to the JBS Environmental, where is made all the plastic transformation process in recycled raw material.

**Time horizon**

Current

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Potential financial impact**

0

**Explanation of financial impact**

This business opportunity revenues in 2017 are not publicly available.

**Strategy to realize opportunity**

JBS Environment (Ambiental) is an example of JBS ability to diversify business activities while reducing exposure to GHG emissions (decreasing the amount of waste sent to landfills) and an opportunity to increase Company's revenue.

**Cost to realize opportunity**

8284101.36

**Comment**

Personnel expenses, waste disposal, effluent treatment, laboratory analysis, fees and taxes and maintenance in general (equipment, structural improvements).
(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Products and services</strong></td>
<td>Impacted Products and services may be impacted due to climate-related risks and opportunities. Risks are mostly related to supply of commodities constraints, reduced demand from customers and reputational effects generated from climate change effects. On the other hand, opportunities are raised since JBS has mitigation action and activities related to the identified risks, changing this challenges in market opportunities for its products, once it has robust management strategy and process related to the climate change effects. For example, the New Field project and the monitoring of suppliers farms located in the Amazon region.</td>
</tr>
<tr>
<td><strong>Supply chain and/or value chain</strong></td>
<td>Impacted for some suppliers, facilities, or product lines Social and Environmental Risks: Raw Material Procurement (The risk of purchasing raw materials from suppliers involved in deforestation of native forests, invasion of protected areas such as indigenous land or environmental conservation units, use of child or forced labor or products that could pose a risk to consumer health - Cattle purchases: Notify the market of the social and environmental criteria adopted for cattle purchases and support for the use of best farming practices. In Brazil, monitor supplier farms located in the Legal Amazon States using a geospatial system capable of identifying non-conformities and barring raw material purchases from non-compliant suppliers. Poultry: the Company's relationship with animal breeders assures raw material quality. Suppliers are visited periodically and are audited to ensure production practices are in line with the JBS’s criteria.</td>
</tr>
<tr>
<td><strong>Adaptation and mitigation activities</strong></td>
<td>Impacted Social and Environmental Risks: Climate Change (Climate change could have a negative impact on the Company’s businesses. Resources like water, electricity and animal feed (which is dependent on farming) are critical for production of raw materials (cattle, poultry, pork and lamb). Businesses could also be affected by new legislation and regulation in this area - We monitor the environmental impacts from our direct (industrial, logistics and shipping) operations and taking steps to minimize the impact of our own and our suppliers’ operations. Monitoring involves taking a global inventory of direct and indirect GHG emissions using the international GHG Protocol methodology. The results of the inventory are published annually on the CDP platform. JBS also monitors indicators representing the volume of water and electricity used by its operations in order to optimize production processes and gradually reduce consumption. To reduce the impact from JBS operations and create opportunities, the Company has an annual plan to invest in environmental improvements that focuses on use of natural resources, water and waste recycling and other issues.</td>
</tr>
<tr>
<td><strong>Investment in R&amp;D</strong></td>
<td>Not impacted Not predicted impact in R&amp;D investments.</td>
</tr>
<tr>
<td><strong>Operations</strong></td>
<td>Impacted JBS operations (plants) are very sensitive to the climate change effects. For example, mapping the risk of water shortage for every plant is a management process in order to avoid the closure of plants due to the lack of water for production, a situation occured in 2017. On the other hand, the use of more climate-friendly fuels is an opportunity truly disseminated in the Company (as long as energy efficiency projects), including a business branch totally related to the production of clean energy (Biolinos).</td>
</tr>
<tr>
<td><strong>Other, please specify</strong></td>
<td>Select 0</td>
</tr>
</tbody>
</table>
(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

<table>
<thead>
<tr>
<th>Relevance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>Impacted</td>
</tr>
<tr>
<td>Operating costs</td>
<td>Impacted for some suppliers, facilities, or product lines</td>
</tr>
<tr>
<td>Capital expenditures / capital allocation</td>
<td>Impacted</td>
</tr>
<tr>
<td>Acquisitions and divestments</td>
<td>Not impacted</td>
</tr>
<tr>
<td>Access to capital</td>
<td>Impacted</td>
</tr>
<tr>
<td>Assets</td>
<td>Impacted for some suppliers, facilities, or product lines</td>
</tr>
<tr>
<td>Liabilities</td>
<td>Impacted</td>
</tr>
<tr>
<td>Other</td>
<td>Please select 0</td>
</tr>
</tbody>
</table>

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?
No, but we anticipate doing so in the next two years

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.
In development, we plan to complete it within the next 2 years

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

Climate change is a priority issue and it is integrated into JBS’s business strategy globally. It may presents risks to JBS operations since resources such as water and animal feed - significantly sensitive to climate change - are critical factors to raw material production, thus it may influence JBS business. In addition, new laws and regulations have been created due to climate change potential risks assessment, which consequences may affect the Company’s business. Therefore, it is important to point out the following:

i) JBS has an Environmental Policy aware of its responsibilities, which monitors the impacts generated by its operations in each region. JBS focuses on the entire production chain through the implementation of its business strategy in processes, which is directly influenced by this Policy because must be aligned with it, enabling mitigation of environmental impacts derived from global activities. This Policy established the commitment to pollution prevention, compliance with legal requirements and setting objectives and targets for continuous improvement in processes and optimization of natural resources. Thus, the goals and targets are clear evidences that the climate subject is taken into consideration in JBS’s business strategy, reflecting in processes that drives paths capable of achieving them, and further, indicates willingness to emerge palpable results through a set of initiatives.

ii) JBS sustainability initiatives are based on two different branches defined by JBS’s business strategy: suppliers and industrial processes. The climate change aspects considered that guide the Company are based on physics, financial, regulatory and image risks due to their considerable interference in its operation. Therefore, JBS supported and developed the following initiatives arisen from the cited aspects: good practices in agribusiness, buying cattle from legal cattle suppliers, legal compliance and eco efficiency projects.

As a real example of how climate change is integrated into JBS’s business strategy, the new plants built aim compliance with the best sustainability practices. It was elaborated with best eco efficiency practices and technologies implemented in JBS worldwide, assuring higher yields and production efficiency.

This is a substantial business decision, completely linked to promotion of mitigating actions, preventing the Company from climate change effects, such as water and energy scarcity, for example.

iii) The main aspects of climate change which have been influencing JBS’s business strategy are those related to regulatory issues and impact mitigation. The strategy comprises mechanisms that fully monitors and complies with the related legislation, and further, it allows JBS to develop programs, action plans and initiatives that ensure reduction of impacts along its supply chain.

iv) Climate change components that have influenced the short-term business strategy: In order to measure the climate change impacts due to JBS’s activities, the company performs annually its GHG Emissions Inventory since 2009, which is an instrument to measure GHG emissions from its operations in Brazil, which accounts for direct and indirect emissions. From the year 2012, JBS expanded this measurement to its worldwide operations and became a member of the GHG Protocol Brazil Program, through the publication of its GHG Emissions Inventory.

These strict GHG monitoring systems allow JBS to identify priorities, foster mitigation initiatives and thus improve processes towards eco-efficiency. Along with regulatory issues, this is how the Company strategy has been influenced by climate change.

v) Climate change components that have influenced its long-term business strategy: JBS intends to include all sectors of its supply chain worldwide in its GHG emission inventory and to promote mitigation of the supply chain emissions. Therefore, JBS aims to reduce directly and indirectly climate change impacts resulted from its global activities. Based on that, different initiatives have been developed and supported by JBS, such as the implementation of the New Field Program. This initiative promotes sustainable cattle raising in the Amazon biome and develops production models that improve management avoiding deforestation.

vi) JBS has currently a better understanding of the risks and opportunities related to climate change. Therefore, we consider ourselves more prepared to the possible climate change impacts. We have been witnessing positive results derived from New Field Program so we believe that from preventing risks, incorporating climate change components through our business strategy and
developing action plans and initiatives arises opportunities and leads us to what we believe it is constant strategic advantages. In fact, we were the first Company of our sector with a CDM project registered on UNFCCC and one of the pioneers on elaborating GHG emissions inventory in Brazil. JBS’s business strategy decision to build new plants following the sustainability best practices accordingly to eco-efficiency measures is a clear commitment to risk mitigation and to improve the opportunities related to climate change.

vii) In 2017, JBS set up emissions reduction targets related to energy efficiency projects for a large amount of production units, some of them are: fuel consumption optimization, waste reduction, wastewater treatment improvement, etc. It is a reinforcement towards the company’s Climate Change strategy guidelines and a run up for risks mitigation to seize the opportunities mapped for climate change. In order to constantly evolve on this important issue, JBS participates as an active member of EPC (Business for the Climate Platform). It is a continuous Brazilian business platform, whose goal is to mobilize, engage and involve corporate leaderships for managing and reducing GHG emissions, managing climate risks, as well as suggesting public policies and positive incentives in climate change context.

viii) One of JBS’s public commitments and most substantial business decision is the engagement in combating deforestation, which must comply with regulatory issues. The approach of mitigating deforestation is fundamental for our business success and performance, leading risk management for deforestation linked with cattle, lumber and soybean procurement practices. Therefore, practical actions have also been applied in policy and livestock sector of our cattle suppliers. JBS prepared internal guidelines and developed a system on the cattle purchase from the Amazon biome, pledging to purchase cattle exclusively from farms that are in regularity with social, environmental and land standards. This Monitoring System is audited annually, to guarantee compliance with the Company’s commitments to sustainability.

ix) In 2017 JBS invested roughly BRL806 million in environmental management improvements.

C3.1g

(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?

JBS has a robust climate-related strategy fully linked to its business strategy. A step further - using climate-related scenario analysis to improve the elements of our business strategy - is also a demand from our Sustainability Committee. For internal reasons, it was decided to wait for the final version of the Brazilian NDC in order to develop a study of climate change scenarios, and improve the elements of our business strategy considering the National commitment in climate change mitigation action. By now, there is a document named “Initial Proposal for the implementation of the Brazilian NDC”, comprising important areas for JBS business, such as cattle raising and transportation.

In relation to cattle raising, JBS already has its consolidated New Field program, which one of its main objectives is to recover degradable pastures.

Since the Brazilian NDC is complete, JBS will prepare a climate-related scenario analysis considering the main effects of climate change in its operational and suppliers areas and coordinate efforts in order to improve its business strategy elements to meet the NDC requirements, mitigating the risks of its business and contributing to the National commitments through its NDC.

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

**Target reference number**
Int 1

**Scope**
Scope 2 (location-based)

**% emissions in Scope**
100

**% reduction from baseline year**
5

**Metric**
Metric tons CO2e per metric ton of product

**Base year**
2016

**Start year**
2016

**Normalized baseline year emissions covered by target (metric tons CO2e)**
77335.92

**Target year**
2017

**Is this a science-based target?**
No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**
100

**Target status**
Expired

**Please explain**
Moypark had established a decrease on emissions intensity (MWh/tonnes of processed products) by 5% in 2017 compared to 2016, through the implementation of energy efficiency projects in all plants located in UK. The objective have been succeeded, since it was reached -8% (considering the 2016 emission factor for the same comparison basis) and -29.54% considering the 2017 emission factor.

**% change anticipated in absolute Scope 1+2 emissions**
4.2

**% change anticipated in absolute Scope 3 emissions**
0

---

**Target reference number**
Int 2

**Scope**
Scope 2 (location-based)

**% emissions in Scope**
100

**% reduction from baseline year**
2

**Metric**
Metric tons CO2e per metric ton of product

**Base year**
2016

**Start year**
2016

**Normalized baseline year emissions covered by target (metric tons CO2e)**
286994.59

**Target year**
2017

**Is this a science-based target?**
No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**
100

**Target status**
Expired

**Please explain**
Moypark had established a decrease on emissions intensity (MWh/tonnes of processed products) by 2% in 2017 compared to 2016, through the implementation of energy efficiency projects in all plants located in the country. The objective have been succeeded, since it was reached -6.54% (considering the 2016 emission factor for the same comparison basis) and -7.68% considering the 2017 emission factor.

**% change anticipated in absolute Scope 1+2 emissions**
5.51

**% change anticipated in absolute Scope 3 emissions**
0

---

**Target reference number**
Int 3

**Scope**
Scope 1

**% emissions in Scope**
1.6

**% reduction from baseline year**
14

**Metric**
Metric tons CO2e per metric ton of product

**Base year**
2016

**Start year**
2016

**Normalized baseline year emissions covered by target (metric tons CO2e)**
950822.28

**Target year**
2017

**Is this a science-based target?**
No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**
44.64

**Target status**
Expired

**Please explain**
JBS USA had established a decrease on natural gas use intensity by 14% (GJ/tonne of processed products) by 5%/year in 2017 compared to 2016, through the implementation of consumption efficiency and reduction. The objective have been not totally
succeeded, since it was reached 1.60 GJ/tonne of processed products against 1.46 GJ/tonne of processed products (set goal).

% change anticipated in absolute Scope 1+2 emissions
13.95

% change anticipated in absolute Scope 3 emissions
0

Target reference number
Int 4

Scope
Scope 2 (location-based)

% emissions in Scope
0.82

% reduction from baseline year
14.78

Metric
Metric tons CO2e per metric ton of product

Base year
2016

Start year
2016

Normalized baseline year emissions covered by target (metric tons CO2e)
1543.08

Target year
2017

Is this a science-based target?
No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)
100

Target status
Expired

Please explain
This unit (Lins/SP) had set up an intensity (per tonnes of processed cattle product) emission reduction target after accomplish energy efficiency projects in the machines room – directly linked to the operational processes. By this moment, setting its GHG emissions reduction targets did not mean any external commitment by the Company, but just an internal Climate Change issue management procedure.

% change anticipated in absolute Scope 1+2 emissions
0.46

% 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**
Other, please specify (Electricity production)

**KPI – Metric numerator**
Since it is an absolute target, there is not a metric numerator.

**KPI – Metric denominator (intensity targets only)**
Since it is an absolute target, there is not a metric numerator.

**Base year**
2015

**Start year**
2015

**Target year**
2017

**KPI in baseline year**
179697.43

**KPI in target year**
241608.35

**% achieved in reporting year**

**Target Status**
Please select

**Please explain**
Biolins production target for 2017 was 220,000.00 MWh. Bioins production reached 120.8% in 2017 of the target set in 2015.

**Part of emissions target**
Biolins production is not part of an emissions reduction target.

**Is this target part of an overarching initiative?**
RE100

---

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Number of projects</th>
<th>Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under investigation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To be implemented*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Implementation commenced*</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Implemented*</td>
<td>6</td>
<td>86530</td>
</tr>
<tr>
<td>Not to be implemented</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

<table>
<thead>
<tr>
<th>Activity type</th>
<th>Description of activity</th>
<th>Estimated annual CO2e savings (metric tonnes CO2e)</th>
<th>Scope</th>
<th>Voluntary/Mandatory</th>
<th>Annual monetary savings (unit currency – as specified in CC0.4)</th>
<th>Investment required (unit currency – as specified in CC0.4)</th>
<th>Payback period</th>
<th>Estimated lifetime of the initiative</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other, please specify (Transport - own fleet)</td>
<td>&lt;Not Applicable&gt;</td>
<td>2811</td>
<td>Scope 1</td>
<td>Voluntary</td>
<td></td>
<td></td>
<td>&lt;1 year</td>
<td>Ongoing</td>
<td>Optimized Route Project (Own Fleet) - Every truck carrying a cargo to another Brazilian State must be tapped 100%, returning loaded with products from other partner companies. For this project, there was no need for financial investment, but rather an optimization in the logistics strategy of the company, optimizing the routes.</td>
</tr>
<tr>
<td>Other, please specify (Transport - outsourced fleet)</td>
<td>&lt;Not Applicable&gt;</td>
<td>10113</td>
<td>Scope 3</td>
<td>Voluntary</td>
<td></td>
<td></td>
<td>&lt;1 year</td>
<td>Ongoing</td>
<td>Optimized Route Project Outsourced Fleet) - Every truck carrying a cargo to another Brazilian State must be tapped 100%, returning loaded with products from other partner companies. For this project, there was no need for financial investment, but rather an optimization in the logistics strategy of the company, optimizing the routes.</td>
</tr>
</tbody>
</table>
**Activity type**
Other, please specify (Waste recovery)

**Description of activity**
<Not Applicable>

**Estimated annual CO2e savings (metric tonnes CO2e)**
4606

**Scope**
Scope 1

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**
6000000

**Investment required (unit currency – as specified in CC0.4)**
0

**Payback period**
<1 year

**Estimated lifetime of the initiative**
<1 year

**Comment**
Pallet recycling project at Seara operations - In 2017, 152,662 pallets were recovered. There was a 41% increase in pallet turnover compared to 2016. The pallet recycling project does not require financial investment, only changes in management, through the reuse of pallets.

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**Activity type**
Energy efficiency: Building services

**Description of activity**
Motors and drives

**Estimated annual CO2e savings (metric tonnes CO2e)**
253.46

**Scope**
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**
1670000

**Investment required (unit currency – as specified in CC0.4)**
834000

**Payback period**
1-3 years

**Estimated lifetime of the initiative**
Ongoing

**Comment**
Lins (LIN) unit implemented an energy efficiency project - machines room automation. The implemented energy efficiency project changes the discharge pressure system in the machines room devices, which resulted in reduced energy consumption in the unit.

---

**Activity type**
Other, please specify (Wastewater treatment)

**Description of activity**
<Not Applicable>

**Estimated annual CO2e savings (metric tonnes CO2e)**
The beef plant in Brooks, located in Alberta, Canada, has expanded its effluent treatment systems, investing over US$ 2.5 million in improving recovery of grease, which is a byproduct. As a result, the plant recovered an additional 25% grease. The total investment was around USD 2.5 millions and the grease is sold as a process byproduct.

Activity type
Other, please specify (Wastewater treatment)

Description of activity
<Not Applicable>

Estimated annual CO2e savings (metric tonnes CO2e)
44000

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
24173635

Investment required (unit currency – as specified in CC0.4)
9250000

Payback period
<1 year

Estimated lifetime of the initiative
Ongoing

Comment
The beef plant in Brooks, located in Alberta, Canada, has expanded its effluent treatment systems, investing over US$ 2.5 million in improving recovery of grease, which is a byproduct. As a result, the plant recovered an additional 25% grease. The total investment was around USD 2.5 millions and the grease is sold as a process byproduct.

The beef plant in Dinmore, located in Queensland, Australia, has modernized its effluent treatment system, investing over US$ 8.7 million in a biogas capture system. This reduced GHG emissions from the effluent treatment system by more than 97% (burned using a flare or used in the boiler). The total investment was around USD 8.7 millions.
(C4.3c) What methods do you use to drive investment in emissions reduction activities?

<table>
<thead>
<tr>
<th>Method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated budget for other emissions reduction activities</td>
<td>In 2017, it was possible to gather the most accurate data from the Brazilian businesses. In 2017 JBS invested roughly BRL806.5 million in environmental management improvements.</td>
</tr>
<tr>
<td>Other</td>
<td>Other investments in emissions reduction activities have been driving in accordance to the Guidelines of Sustainability and Environment Policy of the Company.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Management practice reference number</th>
<th>MP1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management practice</td>
<td>Waste management</td>
</tr>
<tr>
<td>Description of management practice</td>
<td>Waste management for the production of fertilizers through aerobic composting.</td>
</tr>
<tr>
<td>Primary climate change-related benefit</td>
<td>Emission reductions (mitigation)</td>
</tr>
<tr>
<td>Estimated CO2e savings (metric tons CO2e)</td>
<td>83837.08</td>
</tr>
</tbody>
</table>

Please explain

In Brazil, 60% of the composition of the overall waste is organic matter that is possible to recycling through the composting process (Brazilian Ministry of Environment). JBS's day-to-day routines include solid waste management – both waste generated by its own operations as well as waste from the company’s product packaging after products have been consumed. A number of initiatives have been implemented in order to properly dispose of or treat this waste and avoid environmental impacts such as methane (CH4) emissions, which are one of the causes of global warming. More than 60% of post-industrial waste generated by JBS operations is used for composting, recycling or energy reuse. In 2017, 34% of total waste generated were sent for composting.

<table>
<thead>
<tr>
<th>Management practice reference number</th>
<th>MP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management practice</td>
<td>Reforestation</td>
</tr>
<tr>
<td>Description of management practice</td>
<td>Reforestation in Seara's own lands - new planting and regrowth conduction of eucalyptus trees.</td>
</tr>
<tr>
<td>Primary climate change-related benefit</td>
<td>Increase carbon sink (mitigation)</td>
</tr>
<tr>
<td>Estimated CO2e savings (metric tons CO2e)</td>
<td>544.86</td>
</tr>
</tbody>
</table>

Please explain

Seara conducts reforestation of own lands with eucalyptus trees: - 20 ha in Dourados / MS (new planting); - 64.75 ha in Sidrolândia / MS (regrowth conduction); - 35 ha in Dourados / MS (regrowth conduction).
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.

<table>
<thead>
<tr>
<th>Level of aggregation</th>
<th>Description of product/Group of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>With biodiesel produced by JBS Biodiesel using beef tallow, the company contributes to reducing emissions from third parties scope 1 regarding fossil fuels avoidance. In 2017, JBS produced approximately 210 million liters (184.8 thousand tonnes) of biodiesel from animal and plant oils. By producing biodiesel in 2017, it is estimated were avoided the emission of around 516,252 tCO2, that would be emitted if diesel were employed. The estimations were performed considering the amount of energy that would be generated by biodiesel (amount of biodiesel x net calorific value of biodiesel – 184,800.00 tonnes x 0.0377 TJ/ton = 6,966.96 TJ), that could result in emissions from diesel (6,966.96 TJ x 74.1 tCO2/TJ = 516,252 tCO2). The emission factor of diesel available in 2006 IPCC Guidelines for National Greenhouse Gas Inventories (74.1 tCO2/TJ) were employed. The net calorific value was obtained from Brazilian National Energy Balance (0.0377 TJ/ton).</td>
</tr>
<tr>
<td>Avoided emissions</td>
<td>1</td>
</tr>
<tr>
<td>Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions</td>
<td>Other, please specify (Brazilian GHG Protocol Program)</td>
</tr>
<tr>
<td>% revenue from low carbon product(s) in the reporting year</td>
<td>1</td>
</tr>
<tr>
<td>Comment</td>
<td>JBS Biodiesel is the largest vertically integrated global producer of biodiesel from beef tallow. It has production capacity authorized by the National Agency of Petroleum, Natural Gas and Biofuels (ANP) of more than 500 million liters per year and is the first biodiesel industry in Brazil with the carbon, sustainability and traceability seal of the International Sustainability and Carbon Certification (ISCC), allowing it to enter the European market without restrictions on the products. Beef tallow is a byproduct of cattle slaughter activity and if the residue does not have the proper treatment or disposal, it can be considered as a high potential pollutant. Beef tallow is one of the most important raw materials for biodiesel production in Brazil. Beef tallow biodiesel is a clean and high quality fuel that adds value to the beef chain and contributes to the environment by properly disposing unwanted waste.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Level of aggregation</th>
<th>Description of product/Group of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>JBS offers solid waste management solutions by its Company, JBS Environmental (JBS Ambiental), that directly enables scope 1 GHG emissions to be avoided by a third party. JBS exclusive and independent business unit that offers solid waste management solutions, with treatment and proper allocation of recyclable, non-recyclable and hazardous waste, as well as ensuring waste certification to contribute to the Company’s and its client's commitment to sustainability. The goal is to reduce waste disposal in landfills and to create value from waste processing and turning it back into raw material. Waste from plastic packaging generated in the JBS units or coming from other sources are routed to the JBS Environmental, where is made all the plastic transformation process in recycled raw material. In 2017, JBS Environmental managed 3,172 tons of paper and cardboard, 3,124 tons of plastic and 6,280 tons of metals. This will avoid through the inherent decomposition years the emissions of approximately 6,328.14 tCO2e considering that the waste recycled by JBS Environmental would be sent to a sanitary landfill (paper and cardboard emission factor = 1.995 kgCO2e/tonnes - for plastic and metals, emission factor = 0 - 2006 IPCC Guidelines - Chapter 3 Solid Waste Disposal; GWP CH4 = 25).</td>
</tr>
<tr>
<td>Avoided emissions</td>
<td>1</td>
</tr>
<tr>
<td>Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions</td>
<td>Other, please specify (Brazilian GHG Protocol Program)</td>
</tr>
<tr>
<td>% revenue from low carbon product(s) in the reporting year</td>
<td>1</td>
</tr>
<tr>
<td>Comment</td>
<td>JBS Biodiesel is the largest vertically integrated global producer of biodiesel from beef tallow. It has production capacity authorized by the National Agency of Petroleum, Natural Gas and Biofuels (ANP) of more than 500 million liters per year and is the first biodiesel industry in Brazil with the carbon, sustainability and traceability seal of the International Sustainability and Carbon Certification (ISCC), allowing it to enter the European market without restrictions on the products. Beef tallow is a byproduct of cattle slaughter activity and if the residue does not have the proper treatment or disposal, it can be considered as a high potential pollutant. Beef tallow is one of the most important raw materials for biodiesel production in Brazil. Beef tallow biodiesel is a clean and high quality fuel that adds value to the beef chain and contributes to the environment by properly disposing unwanted waste.</td>
</tr>
</tbody>
</table>
Comment
Investments were made in the recycle chain since 2015. In 2017, JBS made investments to promote the recycling chain through the reverse logistics of packaging our products. The activities are focused on developing and empowering screening cooperatives of recyclable materials, educating consumers about the proper disposal and increasing the production of recycled material. In compliance with National Policy on Solid Waste, JBS joined the National Sectorial Agreement, managed by the Business Commitment for Recycling (Cempre). In total JBS (Brazil) invested approximately more than 1.5 millions.

Level of aggregation
Product

Description of product/Group of products
The impact of livestock farming could be reduced by enhancing the efficiency of beef production. It is estimated that meat production in Brazil can be at least doubled using existing pasture areas. Because their potential is not being explored as it should, grazing areas become susceptible to degradation. As a result, it is estimated that there are 40-50 million hectares of degraded pastures in Brazil today. For Brazil to meet the beef demand expected for 2030 with its current productivity trends, it would be necessary to increase its herd by about 15% (30 million head). In this context, it is believed that only the states in the Amazon region would be able to accommodate 40% of these additional animals. Therefore, attention has been drawn to the potential conversion of native areas and to the degradation of already established areas to accommodate these additional animals. The GHG Agricultural Protocol's calculator was used to assess the balance of GHG emissions from farms taking part in the New Field Program before and after they joined the program.

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

Avoided emissions

Comment
It is necessary to evaluate actual initiatives that introduce practices based on the recovery of degraded pastures designed to enhance the efficiency of beef production in Brazil while reducing GHG emissions. This is the case, for example, of the New Field Program. This program was designed to promote sustainable meat production practices in cattle ranches in the Amazon region, improving their economic, social, and environmental performance. It thus contributes to reducing deforestation, to conserving or restoring natural resources, and to boosting the local economy. The interventions promoted by this Program are based on the integrated management of farms with progressive adoption of Good Agricultural Practices – Beef Cattle developed by Embrapa and of the Guide on Sustainable Cattle Farming Indicators (GIPS) developed by the Working Group on Sustainable Cattle Farming (GTPS). Both are focused on recovering and intensifying degraded pastures, on promoting an appropriate supply of supplementation, on improving the herd's health and reproductive management, and on enhancing the environmental suitability of farms. This set of practices made it possible to gradually improve production efficiency on the farms and, two years after good agricultural practices were adopted, their average meat production had risen by 85% and their GHG emissions had declined by 25% per hectare. Thus, GHG emissions per kilogram of carcass produced on the farms were reduced by 60%. In the coming years, it is estimated that GHG emissions from those farms will hit the mark of 2.4 tCO2e ha-1 year-1 and 7.0 t CO2e per kg of carcasses produced. This means that this strategy will make it possible to increase meat production fivefold, which will reduce GHG emissions by 50% per hectare and by almost 90% per kg of meat produced as compared to the levels seen at the beginning of the program's pilot phase in 2012. Under this scenario, the farms are projected to adopt a full-cycle production system (breeding-rearing-fattening), with 100% of their pastures recovered and well managed. The drastic reduction in emissions projected for the coming years on the farms taking part in the program is mainly a result of carbon sequestration in soils during the process of fully restoring degraded pastures, which makes up for additional emissions from the herd and from using inputs.
(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1 2017

Base year end
December 31 2017

Base year emissions (metric tons CO2e)
6051350.26

Comment
Data provided from the 2017 JBS Global GHG Inventory.

Scope 2 (location-based)

Base year start
January 1 2017

Base year end
December 31 2017

Base year emissions (metric tons CO2e)
1780144.14

Comment
Data provided from the 2017 JBS Global GHG Inventory.

Scope 2 (market-based)

Base year start
January 1 2017

Base year end
December 31 2017

Base year emissions (metric tons CO2e)
1640934.54

Comment
Data provided from the 2017 JBS Global GHG Inventory.

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.


C6. Emissions data

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

**Row 1**

Gross global Scope 1 emissions (metric tons CO2e)  
6051350.26

End-year of reporting period  
<Not Applicable>

**Comment**  
Data provided from the 2017 JBS Global GHG Inventory.

### 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**  
JBS in Brazil have reported for the first time its Scope 2 - market-based. Biolins, located in the Industrial Park of Lins (São Paulo), a thermoelectric plant, has the capacity to generate about 45 megawatts of energy per hour. About 33% of the electric energy generated supplies the Meat, Leather and New Business plants of the industrial complex in which it is installed.

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

**Row 1**

Scope 2, location-based  
1780144.14

Scope 2, market-based (if applicable)  
1640934.54

End-year of reporting period  
<Not Applicable>

**Comment**  
JBS in Brazil have reported for the first time its Scope 2 - market-based. Biolins, located in the Industrial Park of Lins (São Paulo), a thermoelectric plant, has the capacity to generate about 45 megawatts of energy per hour. About 33% of the electric energy generated supplies the Meat, Leather and New Business plants of the industrial complex in which it is installed.

### 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?

No
(C6.5) Account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions.

### Purchased goods and services

**Evaluation status**  
Relevant, not yet calculated

**Metric tonnes CO2e**  
0

**Emissions calculation methodology**  
0

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

**Explanation**  
Due to its very wide supply chain, JBS did not find so far a consensus about the best methodology to calculate it, by an efficient and feasible manner.

### Capital goods

**Evaluation status**  
Not relevant, explanation provided

**Metric tonnes CO2e**  
0

**Emissions calculation methodology**  
0

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

**Explanation**  
Capital goods required for the Company’s operations do not contribute to their exposure to risks related to climate change and are not considered critical by stakeholders, and especially those associated with the life cycle emissions cannot be significantly influenced by the Company. Furthermore, compared to the emissions associated with purchased goods (mainly animals and meat), these emissions would be negligible.

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

**Evaluation status**  
Not relevant, explanation provided

**Metric tonnes CO2e**  
0

**Emissions calculation methodology**  
0

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

**Explanation**  
The Company’s activities do not require anything special in relation to the extraction / production and transport of fuels and energy. Thus, the emissions associated with these activities would be negligible forward to the emissions associated with purchased animals and meat, which are what the Company can influence more and more attract the attention of stakeholders.
Upstream transportation and distribution

**Evaluation status**
Relevant, calculated

**Metric tonnes CO2e**
103325.65

**Emissions calculation methodology**
The methodology used to calculate this GHG emissions complies with “The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)” and IPCC Guidelines for National Greenhouse Gas Inventories, 2006. For Brazil, it was considered national emission factors, according to Brazil GHG Protocol Programme.

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

**Explanation**
Emissions from transport and distribution of products purchased or acquired by the organization.

Waste generated in operations

**Evaluation status**
Relevant, calculated

**Metric tonnes CO2e**
303587.82

**Emissions calculation methodology**

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

**Explanation**
Emissions from external treatment of residues (landfill, composting, incineration and fertigation) from the organization's operations.

Business travel

**Evaluation status**
Relevant, calculated

**Metric tonnes CO2e**
16706.05

**Emissions calculation methodology**
The methodology applied is the Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting.

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

**Explanation**
The emissions described refer to the air travels of JBS staff.

Employee commuting

**Evaluation status**
Relevant, calculated

**Metric tonnes CO2e**
28368.94

**Emissions calculation methodology**
The methodology applied complies with Brazil GHG Protocol Programme.

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

**Explanation**
Emissions from this category are partially reported (only for Brazil).
Upstream leased assets

**Evaluation status**
Not relevant, explanation provided

**Metric tonnes CO2e**
0

**Emissions calculation methodology**
0

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

**Explanation**
Upstream leased assets required for the Company's operations do not contribute to their exposure to risks related to climate change and are not considered critical by stakeholders, and especially those associated with the life cycle emissions cannot be significantly influenced by the Company. Furthermore, compared to emissions associated with purchased goods (mainly animals and meat), these emissions would be negligible.

Downstream transportation and distribution

**Evaluation status**
Relevant, calculated

**Metric tonnes CO2e**
141100.63

**Emissions calculation methodology**
The methodology used to calculate this GHG emissions complies with “The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)” and IPCC Guidelines for National Greenhouse Gas Inventories, 2006. For Brazil, it was considered national emission factors, according to Brazil GHG Protocol Programme.

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

**Explanation**
Emissions from transport and distribution of products sold by the organization.

Processing of sold products

**Evaluation status**
Not relevant, explanation provided

**Metric tonnes CO2e**
0

**Emissions calculation methodology**
0

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

**Explanation**
The vast majority of sales are now to the end consumer, not needing subsequent processing steps.
Use of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
The use of goods sold consists of the consumption of meat and processed food to meet nutritional needs. The only emissions associated would be the use of energy (or fuel) for cooking/preparation and refrigeration products and fugitive emissions related to refrigerants.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
The term treatment of end of life cycle does not properly apply to products sold, since consumers ingest these. The exception would be in cases where the products become unfit for consumption and must be discarded. However, you can make this assessment on packaging in which products are sold, as they can result in some issue if they are disposed of in landfills or incinerated.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
Compared to the owned units themselves, the leased plants are not relevant.

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
Not applicable to JBS operations.
Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
Emissions of investments are not significant in comparison with the other scope 3 emissions.

Other (upstream)

Evaluation status
Not evaluated

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
0

Other (downstream)

Evaluation status
Not evaluated

Metric tonnes CO2e
0

Emissions calculation methodology
0

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

Explanation
0

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

C-AC6.6a/C-FB6.6a/C-PF6.6a
(C-AC6.6a/C-FB6.8a/C-PF6.6a) Disclose your Scope 3 emissions for each of your relevant business activity areas.

**Activity**
Agriculture/Forestry

**Scope 3 category**
Purchased goods and services

**Emissions (metric tons CO2e)**
837.01

**Please explain**
CO2e emissions related to fertigation.

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.
4829324.29

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
Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from land use management

Emissions (metric tons CO2) 0

Methodology
Please select

Please explain
JBS undertakes reforastation in own degraded lands, new planting and regrowth conduction of eucaliptus trees. The involved areas could be considered irrelevant in relation to the total Company operations and the CO2 emissions from this land use management was not estimated so far.

CO2 removals from land use management

Emissions (metric tons CO2) 0

Methodology
Please select

Please explain
The CO2 removals from land use management are insignificant, since it is small areas and all the wood used for the stationary combustion of the Company is outsourced.

Sequestration during land use change

Emissions (metric tons CO2) 544.86

Methodology
Other, please specify (Brazilian GHG Protocol Program)

Please explain
Data provided from the 2017 JBS Global GHG inventory.

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2) 0

Methodology
Please select

Please explain
The planted forest areas could be considered irrelevant in relation to the total Company operations and the CO2 emissions from biofuel combustion (land machinery) was not estimated so far.

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2) 2950536.54

Methodology
Other, please specify (Brazilian GHG Protocol Program)

Please explain
Data provided from the 2017 JBS Global GHG inventory.

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2) 0

Methodology
Please select

Please explain
There is no other CO2 emissions from biofuel combustion beyond the processing/manufacturing machinery reported one.
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**

Cattle products

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

Please explain
The GHG emissions of production of cattle, poultry and pork products is calculated annually.

**Agricultural commodities**

Other (Poultry and pork products)

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

Please explain
The GHG emissions of production of cattle, poultry and pork products is calculated annually.
(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.

**Cattle products**

<table>
<thead>
<tr>
<th>Reporting emissions by</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions (metric tons CO2e)</td>
<td>1789798.34</td>
</tr>
<tr>
<td>Denominator: unit of production</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>Change from last reporting year</td>
<td>Lower</td>
</tr>
</tbody>
</table>

**Please explain**
The reported data comprises the Scope 1 emissions of the following business units: JBS Beef + Rigamonti + Canada Beef + USA Fed Beef + USA Regional Beef + USA Case Ready + Australia. This emissions data is 4.8% lower than one from 2016.

**Other**

<table>
<thead>
<tr>
<th>Reporting emissions by</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions (metric tons CO2e)</td>
<td>1883287.47</td>
</tr>
<tr>
<td>Denominator: unit of production</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>Change from last reporting year</td>
<td>Higher</td>
</tr>
</tbody>
</table>

**Please explain**
The reported data comprises the Scope 1 emissions of the following business units: - Poultry products (1,607,637.14 tCO2e): Seara (75%) + Moypark + Pilgrim's (USA, Puerto Rico, Mexico). This emissions data is 9.0% higher than one from 2016; - Porky products: Seara (25%) + Plumrose + JBS Pork (275,650.34 tCO2e). This emissions data is 9% higher than one from 2016. The emissions reported are a sum of poultry products and porky products.
(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
0.000048

Metric numerator (Gross global combined Scope 1 and 2 emissions)
7899276.84

Metric denominator
Other, please specify (Gross revenues)

Metric denominator: Unit total
163170000000

Scope 2 figure used
Location-based

% change from previous year
1.2

Direction of change
Decreased

Reason for change
In 2017, JBS had presented a global decrease on revenues around 4.4% from 2016. In such, the main reason for decreasing the intensity figure by roughly 1.2% is a combination of i) the decrease on revenues due to asset sales and ii) the slight decrease on Scopes 1+2 emissions of around 0.9%.

Intensity figure
0.1362

Metric numerator (Gross global combined Scope 1 and 2 emissions)
701168.35

Metric denominator
Other, please specify (thousand metric tonnes of product)

Metric denominator: Unit total
5146633.6

Scope 2 figure used
Location-based

% change from previous year
23.11

Direction of change
Increased

Reason for change
This intensity figures considers only the emissions and production of the Brazilians units of JBS Beef, JBS Leather and Seara, once it represents more than 90% of all JBS Brazil production. Since the 2017 combined Scope 1 + Scope 2 is 5.4% lower than in previous year, the decrease on metric denominator (production) – about 23% - is the main reason for the increase in 2017 intensity figure when compared to 2016 figure.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?
Yes
(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

<table>
<thead>
<tr>
<th>Greenhouse gas</th>
<th>Scope 1 emissions (metric tons of CO2e)</th>
<th>GWP Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>1796155.12</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>CH4</td>
<td>3268671.93</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>N2O</td>
<td>885552.76</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
<tr>
<td>HFCs</td>
<td>100970.43</td>
<td>IPCC Fourth Assessment Report (AR4 - 100 year)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 1 emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>621916.25</td>
</tr>
<tr>
<td>Italy</td>
<td>1750.73</td>
</tr>
<tr>
<td>Argentina</td>
<td>4198.56</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1671.88</td>
</tr>
<tr>
<td>Germany</td>
<td>4337.41</td>
</tr>
<tr>
<td>Mexico</td>
<td>239204.72</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>176328.53</td>
</tr>
<tr>
<td>Ireland</td>
<td>306.28</td>
</tr>
<tr>
<td>France</td>
<td>7702.57</td>
</tr>
<tr>
<td>Netherlands</td>
<td>689.42</td>
</tr>
<tr>
<td>United States of America</td>
<td>3819985.67</td>
</tr>
<tr>
<td>Canada</td>
<td>78915.54</td>
</tr>
<tr>
<td>Australia</td>
<td>1086410.62</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>6350.38</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1581.64</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 1 emissions (metric ton CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>621916.25</td>
</tr>
<tr>
<td>Zenda</td>
<td>10328.61</td>
</tr>
<tr>
<td>Italy</td>
<td>1750.73</td>
</tr>
<tr>
<td>Moypark</td>
<td>185026.82</td>
</tr>
<tr>
<td>JBS USA</td>
<td>5232327.83</td>
</tr>
</tbody>
</table>

### (C7.3c) Break down your total gross global Scope 1 emissions by business activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 1 emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>1886571.61</td>
</tr>
<tr>
<td>Stationary Combustion</td>
<td>1256944.12</td>
</tr>
<tr>
<td>Mobile Combustion</td>
<td>348250.07</td>
</tr>
<tr>
<td>Process Emissions</td>
<td>252955.56</td>
</tr>
<tr>
<td>Fugitive Emissions</td>
<td>100970.43</td>
</tr>
<tr>
<td>Waste and Effluent</td>
<td>2205658.43</td>
</tr>
</tbody>
</table>

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

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

Yes

### C-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)**
- 1886571.61

**Methodology**
- Other, please specify (Brazilian GHG Protocol Program)

**Please explain**
- Considered emissions from enteric fermentation and fertigation.
Activity
Processing/Manufacturing
Emissions category
Non-mechanical
Emissions (metric tons CO2e)
1256944.13
Methodology
Other, please specify (Brazilian GHG Protocol Program)
Please explain
Considered stationary combustion emissions.

Activity
Distribution
Emissions category
Non-mechanical
Emissions (metric tons CO2e)
348250.07
Methodology
Other, please specify (Brazilian GHG Protocol Program)
Please explain
Considered mobile combustion emissions.

Activity
Processing/Manufacturing
Emissions category
Non-mechanical
Emissions (metric tons CO2e)
252955.56
Methodology
Other, please specify (Brazilian GHG Protocol Program)
Please explain
Considered process emissions.

Activity
Processing/Manufacturing
Emissions category
Non-mechanical
Emissions (metric tons CO2e)
100970.43
Methodology
Other, please specify (Brazilian GHG Protocol Program)
Please explain
Considered fugitive emissions emissions.

Activity
Processing/Manufacturing
Emissions category
Non-mechanical
Emissions (metric tons CO2e)
2205658.43
Methodology
Other, please specify (Brazilian GHG Protocol Program)

Please explain
Considered manure management, wastewater treatment and treatment of solid waste emissions.

Activity
Agriculture/Forestry

Emissions category
Land use change

Emissions (metric tons CO2e)
544.86

Methodology
Region-specific emissions factors

Please explain
Seara conducts reforestation of own lands with eucaliptus trees.

C7.5

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 2, location-based (metric tons CO2e)</th>
<th>Scope 2, market-based (metric tons CO2e)</th>
<th>Purchased and consumed electricity, heat, steam or cooling (MWh)</th>
<th>Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>205169.25</td>
<td>65959.65</td>
<td>2621669.99</td>
<td>1032464.03</td>
</tr>
<tr>
<td>Italy</td>
<td>3590.68</td>
<td>3590.68</td>
<td>10468.48</td>
<td>0</td>
</tr>
<tr>
<td>Argentina</td>
<td>3337.47</td>
<td>3337.47</td>
<td>6853.12</td>
<td>0</td>
</tr>
<tr>
<td>Uruguay</td>
<td>2202.04</td>
<td>2202.04</td>
<td>3836.31</td>
<td>0</td>
</tr>
<tr>
<td>Germany</td>
<td>67.21</td>
<td>67.21</td>
<td>114.5</td>
<td>0</td>
</tr>
<tr>
<td>Mexico</td>
<td>99244.69</td>
<td>99244.69</td>
<td>187892.27</td>
<td>0</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and</td>
<td>46967.77</td>
<td>46967.77</td>
<td>148820.58</td>
<td>0</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>724.19</td>
<td>724.19</td>
<td>1499.99</td>
<td>0</td>
</tr>
<tr>
<td>France</td>
<td>4960.01</td>
<td>4960.01</td>
<td>60487.93</td>
<td>0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1173.1</td>
<td>1173.1</td>
<td>2940.48</td>
<td>0</td>
</tr>
<tr>
<td>United States of America</td>
<td>1149526.5</td>
<td>1149526.5</td>
<td>2242540.96</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>1046.51</td>
<td>1046.51</td>
<td>74751.1</td>
<td>0</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>1013.29</td>
<td>1013.29</td>
<td>5501.03</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>260399.15</td>
<td>260399.15</td>
<td>321480.43</td>
<td>0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>722.22</td>
<td>722.22</td>
<td>6069.08</td>
<td>0</td>
</tr>
</tbody>
</table>

C7.6

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

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

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 2, location-based emissions (metric tons CO2e)</th>
<th>Scope 2, market-based emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>205169.25</td>
<td>65959.65</td>
</tr>
<tr>
<td>Zenda</td>
<td>5782.86</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>3590.68</td>
<td>0</td>
</tr>
<tr>
<td>Moypark</td>
<td>53825.09</td>
<td>0</td>
</tr>
<tr>
<td>JBS USA</td>
<td>1511776.24</td>
<td>0</td>
</tr>
</tbody>
</table>

### C7.6c

### C7.6c Break down your total gross global Scope 2 emissions by business activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 2, location-based emissions (metric tons CO2e)</th>
<th>Scope 2, market-based emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of Grid Electricity</td>
<td>1778718.2</td>
<td>1639508.61</td>
</tr>
<tr>
<td>Purchase of Steam</td>
<td>1425.93</td>
<td>1425.93</td>
</tr>
</tbody>
</table>

### 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) 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.

<table>
<thead>
<tr>
<th>Change in emissions (metric tons CO2e)</th>
<th>Direction of change</th>
<th>Emissions value (percentage)</th>
<th>Please explain calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in renewable energy consumption</td>
<td>Increased</td>
<td>7.79</td>
<td>Renewable energy consumption datum includes own stationary and mobile combustion.</td>
</tr>
<tr>
<td>Other emissions reduction activities</td>
<td>Decreased</td>
<td>0.97</td>
<td>The total Scope 1 and Scope 2 emissions in 2016 was 7,899,276.83 tCO2e. In 2017, it is estimated that in total 86,530 tCO2e were avoided by JBS’s emissions reduction projects (Scopes 1, 2 and 3). On the other hand, the total emissions decrease regarding projects of Scope 1 and 2 were 76,417 tCO2e. Therefore, there was an estimated decrease of (76,417 / 7,899,276.83) = 0.97% in total emissions (avoided) in 2017, impelled by projects whose targets aimed foremost energy efficiency, switching of fossil fuel for renewable fuel, process emissions reductions, transportation and waste recovery.</td>
</tr>
<tr>
<td>Divestment</td>
<td>Decreased</td>
<td>2.18</td>
<td>It was sold, in 2017, the beef units from Argentina, Uruguay and Paraguay, further the confinement business in Canada (Lakeside Feedlot). It represents 2.18% of the total emissions of base-year 2016 (Scopes 1 + 2).</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>Increased</td>
<td>0</td>
<td>In 2017, JBS acquired Plumrose pork business (USA), which represents 0.42% of the total emissions of base-year 2016 (Scopes 1 + 2).</td>
</tr>
<tr>
<td>Mergers</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in output</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in methodology</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in boundary</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in physical operating conditions</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unidentified</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>No change</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 0% but less than or equal to 5%
(C8.2) Select which energy-related activities your organization has undertaken.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Indicate whether your organization undertakes this energy-related activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstocks)</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>No</td>
</tr>
<tr>
<td>Generation of electricity, heat, steam, or cooling</td>
<td>Yes</td>
</tr>
</tbody>
</table>

C8.2a

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Heating value</th>
<th>MWh from renewable sources</th>
<th>MWh from non-renewable sources</th>
<th>Total MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstock)</td>
<td>LHV (lower heating value)</td>
<td>6257533.48</td>
<td>37924791.74</td>
<td>44182325.22</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>&lt;Not Applicable&gt;</td>
<td>1771101.21</td>
<td>3500033.34</td>
<td>5271134.55</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>&lt;Not Applicable&gt;</td>
<td>423791.77</td>
<td>0</td>
<td>423791.77</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>Consumption of self-generated non-fuel renewable energy</td>
<td>&lt;Not Applicable&gt;</td>
<td>26452.85</td>
<td>&lt;Not Applicable&gt;</td>
<td>26452.85</td>
</tr>
<tr>
<td>Total energy consumption</td>
<td>&lt;Not Applicable&gt;</td>
<td>8478879.31</td>
<td>41424825.08</td>
<td>49903704.39</td>
</tr>
</tbody>
</table>

C8.2b

(C8.2b) Select the applications of your organization’s consumption of fuel.

<table>
<thead>
<tr>
<th>Application</th>
<th>Indicate whether your organization undertakes this fuel application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel for the generation of electricity</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of steam</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of cooling</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of fuel for co-generation or tri-generation</td>
<td>Yes</td>
</tr>
</tbody>
</table>

C8.2c

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

**Fuels (excluding feedstocks)**
- Diesel

**Heating value**
- LHV (lower heating value)

**Total fuel MWh consumed by the organization**
- 1367860.97

**MWh fuel consumed for the self-generation of electricity**
- 27673.74
MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Biodiesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
7.61

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
648.79

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

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
5199261.98

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
4873186.79

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

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
570445.9
<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>MWh Fuel Consumed for Self-Generation</th>
<th>Heating Value</th>
<th>Total Fuel MWh Consumed by the Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>0</td>
<td>LHV (lower heating value)</td>
<td>4892605.13</td>
</tr>
<tr>
<td>Motor Gasoline</td>
<td>0</td>
<td>LHV (lower heating value)</td>
<td>21842.62</td>
</tr>
<tr>
<td>Propane Gas</td>
<td>0</td>
<td>LHV (lower heating value)</td>
<td>0</td>
</tr>
</tbody>
</table>
Total fuel MWh consumed by the organization
343.87

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Bituminous Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
129862.31

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
129862.31

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Shale Oil

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
10739.77

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
10739.77

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Biogas
**Fuels (excluding feedstocks)**
Other, please specify (Sawdust)

**Heating value**
LHV (lower heating value)

**Total fuel MWh consumed by the organization**
55225.86

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
55225.86

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

MWh fuel consumed for self-cogeneration or self-trigeneration
0

---

**Fuels (excluding feedstocks)**
Other, please specify (Ethanol)

**Heating value**
LHV (lower heating value)

**Total fuel MWh consumed by the organization**
1299.64

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

MWh fuel consumed for self-cogeneration or self-trigeneration
0

---

**Fuels (excluding feedstocks)**
Other, please specify (Sugarcane bagasse)

**Heating value**
LHV (lower heating value)

**Total fuel MWh consumed by the organization**
940482.24

MWh fuel consumed for the self-generation of electricity
31192.01

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
940482.24

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

MWh fuel consumed for self-cogeneration or self-trigeneration
26452.85
<table>
<thead>
<tr>
<th>Fuels (excluding feedstocks)</th>
<th>Acetylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating value</td>
<td>LHV (lower heating value)</td>
</tr>
<tr>
<td>Total fuel MWh consumed by the organization</td>
<td>171.4</td>
</tr>
<tr>
<td>MWh fuel consumed for the self-generation of electricity</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of steam</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of cooling</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>MWh fuel consumed for self- cogeneration or self-trigeneration</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuels (excluding feedstocks)</th>
<th>Residual Fuel Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating value</td>
<td>LHV (lower heating value)</td>
</tr>
<tr>
<td>Total fuel MWh consumed by the organization</td>
<td>10942.2</td>
</tr>
<tr>
<td>MWh fuel consumed for the self-generation of electricity</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of steam</td>
<td>10942.2</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of cooling</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
<tr>
<td>MWh fuel consumed for self- cogeneration or self-trigeneration</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuels (excluding feedstocks)</th>
<th>Other, please specify (Other oil products)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating value</td>
<td>LHV (lower heating value)</td>
</tr>
<tr>
<td>Total fuel MWh consumed by the organization</td>
<td>30591424.33</td>
</tr>
<tr>
<td>MWh fuel consumed for the self-generation of electricity</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of steam</td>
<td>30591424.33</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of cooling</td>
<td>&lt;Not Applicable&gt;</td>
</tr>
</tbody>
</table>
MWh fuel consumed for self- cogeneration or self-trigeneration
0

Fuels (excluding feedstocks)
Kerosene

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
21896.35

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

C8.2d

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

Acetylene

Emission factor
3.3805

Unit
kg CO2e per metric ton

Emission factor source
GHG Emissions Inventory Tool for the Shipbuilding Industry

Comment
Emission factor used for calculation of 2017 JBS Global GHG Inventory.

Biodiesel

Emission factor
0.0085

Unit
kg CO2e per liter

Emission factor source
Calculation tool of the Brazilian GHG Protocol Program.

Comment
Emission factor used for calculation of 2017 JBS Global GHG Inventory.
Biodiesel Tallow

**Emission factor**
2.2194

**Unit**
kg CO2e per liter

**Emission factor source**
National Greenhouse Accounts (NGA) Factors - Australian Government - Dept. of Climate Change

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory.

Biogas

**Emission factor**
2.7619

**Unit**
kg CO2e per metric ton

**Emission factor source**
WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory.

Bituminous Coal

**Emission factor**
1829.46

**Unit**
kg CO2e per metric ton

**Emission factor source**
WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory.

Diesel

**Emission factor**
2.435

**Unit**
kg CO2e per liter

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the mobile combustion in Brazil the emission factor is 2.4073 kgCO2e/liter (Calculation tool of the Brazilian GHG Protocol Program). For the stationary combustion globally (except in Brazil) the emission factor is 2.6920 kgCO2e/liter (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines) and the global mobile combustion emission factor is 2.7221 kgCO2e/liter (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines).
Kerosene

**Emission factor**
3.1418

**Unit**
kg CO2e per liter

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the mobile combustion (aviation) in Brazil the emission factor is 2.5382 kgCO2e/liter (Calculation tool of the Brazilian GHG Protocol Program) and for the mobile combustion (aviation) globally (except Brazil) is 2.4909 kgCO2e/liter (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines).

Liquefied Petroleum Gas (LPG)

**Emission factor**
2.935

**Unit**
kg CO2e per metric ton

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the mobile combustion in Brazil the emission factor is 3.0072 kgCO2e/ton (Calculation tool of the Brazilian GHG Protocol Program). For the stationary combustion globally (except in Brazil) the emission factor is 2.9920 kgCO2e/ton (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines) and the global mobile combustion emission factor is 3.0608 kgCO2e/ton (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines).

Motor Gasoline

**Emission factor**
1.6419

**Unit**
kg CO2e per liter

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the mobile combustion in Brazil the emission factor is 1.6882 kgCO2e/liter (Calculation tool of the Brazilian GHG Protocol Program). For the stationary combustion globally (except in Brazil) the emission factor is 2.2801 kgCO2e/ton (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines) and the global mobile combustion emission factor is 2.3704 kgCO2e/liter (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines).
Natural Gas

**Emission factor**
2.0692 kg CO2e per m3

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the stationary combustion globally (except in Brazil) the emission factor is 1.8902 kgCO2e/liter (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines).

Propane Gas

**Emission factor**
2.6207 kg CO2e per metric ton

**Emission factor source**
GHG Emissions Inventory Tool for the Shipbuilding Industry

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion globally (including Brazil). For the stationary combustion globally (except in Brazil) the emission factor is 1.52 kgCO2e/ton.

Residual Fuel Oil

**Emission factor**
3.1182 kg CO2e per metric ton

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory.

Shale Oil

**Emission factor**
2.8024 kg CO2e per metric ton

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program

**Comment**
Emission factor used for calculation of 2017 JBS Global GHG Inventory.
Wood

**Emission factor**
35.125

**Unit**
kg CO2e per metric ton

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is related to the stationary combustion in Brazil. For the stationary combustion globally (except in Brazil) the emission factor is 30.2952 kgCO2e/ton (WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines). It comprises wood, wood waste and sawdust.

Other

**Emission factor**
22.5272

**Unit**
kg CO2e per metric ton

**Emission factor source**
Calculation tool of the Brazilian GHG Protocol Program (Brazil) and WRI GHG Emission Factors Compilation / Chapter 2 IPCC 2006 Guidelines (Global)

**Comment**
Emission factors used for calculation of 2017 JBS Global GHG Inventory. The reported data is for stationary combustion in Brazil and globally. The other used emission factors are:
- Ethanol (Brazil): 0.0056 kgCO2e/liter (stationary combustion) and 0.0094 kgCO2e/liter (mobile combustion).
- Sugarcane bagasse (Brazil): 17.3188 kgCO2e/ton (stationary combustion).
- Other oil products (Global): 2.8403 kgCO2e/liter (stationary combustion).

C8.2e

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

<table>
<thead>
<tr>
<th></th>
<th>Total Gross generation (MWh)</th>
<th>Generation that is consumed by the organization (MWh)</th>
<th>Gross generation from renewable sources (MWh)</th>
<th>Generation from renewable sources that is consumed by the organization (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>241608.35</td>
<td>112294.39</td>
<td>241608.35</td>
<td>112294.39</td>
</tr>
<tr>
<td>Heat</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steam</td>
<td>42019698.51</td>
<td>42019698.51</td>
<td>6237993.98</td>
<td>6237993.98</td>
</tr>
<tr>
<td>Cooling</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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
Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type
Biomass (including biogas)

MWh consumed associated with low-carbon electricity, heat, steam or cooling
31192.01

Emission factor (in units of metric tons CO2e per MWh)
0.00596

Comment
Biolins, a sugarcane bagasse powerplant, provides renewable electricity energy for JBS's industrial complex located in Lins - SP. Biolins provided a “Declaration of the amount of renewable electrical energy” provided to the referred industrial sites.
(C9.1) Provide any additional climate-related metrics relevant to your business.

**Description**
Waste

**Metric value**
1874533.2

**Metric numerator**
Metric value is in metric tonnes.

**Metric denominator (intensity metric only)**
0

**% change from previous year**
10

**Direction of change**
Decreased

**Please explain**
0

---

**Description**
Energy use

**Metric value**
179558105.58

**Metric numerator**
Metric value in GJ.

**Metric denominator (intensity metric only)**
0

**% change from previous year**
20

**Direction of change**
Decreased

**Please explain**
0

---

**C10. Verification**

**C10.1**

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

<table>
<thead>
<tr>
<th>Scope</th>
<th>Verification/assurance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td>No third-party verification or assurance</td>
</tr>
<tr>
<td>Scope 2 (location-based or market-based)</td>
<td>No third-party verification or assurance</td>
</tr>
<tr>
<td>Scope 3</td>
<td>No third-party verification or assurance</td>
</tr>
</tbody>
</table>

**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** | 10.55 |
| **Period start date** | January 1 2013 |
| **Period end date** | December 31 2020 |
| **Allowances allocated** | 6529 |
| **Allowances purchased** | 13000 |
| **Verified emissions in metric tons CO2e** | 99653 |
| **Details of ownership** | Facilities we own and operate |
| **Comment** | EU ETS Scheme applies to one facility only of Moypark in UK (Dungannon Factory). The total cost in 2017 was 69,550 euros. The verified emissions correspond to the period 2013-2017. |

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

The more countries face national or multinational agreements on climate change mitigation issues, more companies located in those countries must comply with them, mainly through emission trading schemes.

In 2017 the only JBS business unit that was actively participating in an emissions trading scheme was Moypark, located in UK (France, Holland and the Republic of Ireland fall below the EU ETS threshold. In the UK, Moypark adhere to a voluntary carbon emissions reduction scheme, “Climate Change Agreements”. Moypark complies with that agreement.

Moypark are required to participate in EU ETS through emissions reduction projects and buying the necessary allowances.

The agreement states that if the UK is to cut its greenhouse gas emissions by 80% by 2050, energy efficiency will have to increase across all sectors to the extent that energy use per capita is between a fifth and a half lower than it is today.

In order for complying with its obligations, Moypark develops emissions reduction projects such as fuel switching, process improvements and technology upgrades.

Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes
(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

<table>
<thead>
<tr>
<th>Credit origination or credit purchase</th>
<th>Credit origination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project type</td>
<td>Methane avoidance</td>
</tr>
<tr>
<td><strong>Project identification</strong></td>
<td></td>
</tr>
<tr>
<td>Project 2610 : Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Vilhena Unit</td>
<td><a href="http://cdm.unfccc.int/Projects/DB/TUEV-SUED1243507454.91/view">http://cdm.unfccc.int/Projects/DB/TUEV-SUED1243507454.91/view</a></td>
</tr>
<tr>
<td><strong>Verified to which standard</strong></td>
<td>CDM (Clean Development Mechanism)</td>
</tr>
<tr>
<td>Number of credits (metric tonnes CO2e)</td>
<td>29912</td>
</tr>
<tr>
<td>Number of credits (metric tonnes CO2e): Risk adjusted volume</td>
<td>29912</td>
</tr>
<tr>
<td>Credits cancelled</td>
<td>No</td>
</tr>
<tr>
<td><strong>Purpose, e.g. compliance</strong></td>
<td>Voluntary Offsetting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit origination or credit purchase</th>
<th>Credit origination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project type</td>
<td>Methane avoidance</td>
</tr>
<tr>
<td><strong>Project identification</strong></td>
<td></td>
</tr>
<tr>
<td>Project 2609 : Project JBS S/A – Slaughterhouse Wastewater Aerobic Treatment – Barra do Garças Unit</td>
<td><a href="http://cdm.unfccc.int/Projects/DB/TUEV-SUED1243498760.08/view">http://cdm.unfccc.int/Projects/DB/TUEV-SUED1243498760.08/view</a></td>
</tr>
<tr>
<td><strong>Verified to which standard</strong></td>
<td>CDM (Clean Development Mechanism)</td>
</tr>
<tr>
<td>Number of credits (metric tonnes CO2e)</td>
<td>43154</td>
</tr>
<tr>
<td>Number of credits (metric tonnes CO2e): Risk adjusted volume</td>
<td>43154</td>
</tr>
<tr>
<td>Credits cancelled</td>
<td>No</td>
</tr>
<tr>
<td><strong>Purpose, e.g. compliance</strong></td>
<td>Voluntary Offsetting</td>
</tr>
</tbody>
</table>

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

Yes

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

**Objective for implementing an internal carbon price**
Navigate GHG regulations

**GHG Scope**
Scope 1

**Application**
JBS USA set an experimental internal price on carbon in 2017 as an initial exercise of foreseeing anticipated additional costs as result of additional investments that will bear to comply with new regulations and the price of carbon, which may need to pay as a result of its level of carbon emissions.

**Actual price(s) used (Currency /metric ton)**
40

**Variance of price(s) used**
+/- USD 15/tonne.

**Type of internal carbon price**
Shadow price

**Impact & implication**
Considering the 2017 Scope 1 GHG emissions of USA units of roughly 3,826,336 tonnes of CO2e, it means roughly 153 million dollars (40 USD/tonne) in 2017. This is the worst case scenario, since it involves every emissions sources and it is not considering the emissions reductions projects developed by the American units. It is expected that not every emissions sources be comprised in the future regulations.

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**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

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

**Type of engagement**
Compliance & onboarding

**Details of engagement**
Included climate change in supplier selection / management mechanism

**% of suppliers by number**
100

**% total procurement spend (direct and indirect)**
100

**% Scope 3 emissions as reported in C6.5**
100

**Rationale for the coverage of your engagement**
The Social and Environmental Monitoring of Cattle, Poultry and Pork Suppliers in Brazil is a consolidated suppliers monitoring system which JBS develops in order to mitigate risks in its supply chain. 100% of these suppliers are covered by this monitoring system.

**Impact of engagement, including measures of success**
The main measure of success is the compliance level achieved by JBS due to a public commitment assumed by the Company in relation to the system for social and environmental monitoring of cattle suppliers implemented in the Amazon region. If one supplier falls within any of the list of embargoed cattle producers and/or whether deforestation is identified in conservation areas, the trade is cancelled, thus preventing the acquisition of raw materials from deforestation. Every year the Company is audited by a third party and publishes the results about its endeavor against deforestation. According to the 2014, 2015 and 2016 independent audit results, the compliance level was 99.75%, 99.97% and 99.97% respectively. The New Field Project, which aims to promote sustainable livestock farming in the Amazonia biome, is the main driver for the reached success.

**Comment**
The monitoring of social and environmental issues of its suppliers is a commitment assumed by JBS fully incorporated in its corporate management and also associated with its corporate risk assessment, monitored by the Company's senior executives.

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

**Type of engagement**
Education/information sharing

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

**Size of engagement**
100

**% Scope 3 emissions as reported in C6.5**
0

**Please explain the rationale for selecting this group of customers and scope of engagement**
Despite it's not feasible to calculate JBS products consumption emissions, the Company runs some engagements and commitments campaigns in order to inform its main customers about its climate change performance and strategy. Considering as an information basis its main customers, JBS gets success in informing them about the related information and obtaining the duly engagement.

**Impact of engagement, including measures of success**
JBS engagements and commitments campaigns to inform its main customers about its climate change performance and strategy are disseminated through its Sustainability Report (in Portuguese and English), CDP Supply Chain, Brazilian Program GHG Protocol, press releases and participation in diverse thematic events as speacher by its Sustainability professionals.
JBS sustainability strategy is focused on its supply chain prioritizing initiatives that promotes sustainable best practices on its cattle suppliers and avoiding deforestation from its value chain, according to its priorities issues of its business strategy.

JBS recognizes that in order to achieve meaningful progress in sustainability, we must partner up with other stakeholders and organizations who share our values and commitment to a sustainable future. As such, JBS participates and holds leadership roles in a number of multi-stakeholder partnerships dedicated to responsibly addressing sustainability to advance continuous improvement throughout the supply chain. A few of our active partnerships are listed below.

JBS is a founding member of the Committee and the Executive Council of the Global Roundtable for Sustainable Beef in US - and currently board member of the Brazilian Roundtable on Sustainable Livestock.

The Global Roundtable for Sustainable Beef (GRSB) is a global, multi-stakeholder initiative developed to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration.

These methods of engagement held by the Company promote frequent dialogue with its suppliers, non-governmental organizations and the government itself. It also develop Good Practices in order to assist the producers, aiding them cultivate transparency towards its cattle suppliers and to promote the strengthening of value chain.

One of JBS’s main public commitments is the engagement in combating Brazil deforestation. Therefore, practical actions have also been applied in policy and in livestock sector of our cattle supply. Through the “Legal Supplier” Program, JBS has built a network of environmental consulting to assist the Company's cattle suppliers to comply with the Rural Environmental Registry of their properties.

In addition, the “Easy Map” Program consists in a tool which enables JBS’s cattle suppliers the opportunity to elaborate their georeferenced map of the properties for free at any of the units located in the Amazon.

Besides, JBS has developed a system for social and environmental monitoring of cattle suppliers and maintains the New Field Program. Its aim is to promote sustainable cattle raising in the Amazon biome, developing production models that improve management, increase productivity, increment quality in the product delivered to the market, reduce emissions of greenhouse gases in the production system (mainly avoiding deforestation) and comply with environmental legislation. Livestock farmers received help to refurbish degraded pasture, institute integrated management practices for pastureland and increase the number of cattle the property could handle. The results were that not only farm incomes rose, but also the properties automatically started to implement a more environmentally responsible production model. The application of best practices techniques allowed the number of head per hectare to rise from 1 to 3, increasing efficiency without the need to create additional farmland, therefore less is the need to deforest new land. Beneficiated farms already are beyond than five times more productive than average. In order to encourage farmer’s participation JBS committed to purchase animals from this first phase of the program and is currently developing a specific bonus protocol for livestock farmers. The idea is to create an award for farmers who can ensure that animals sold through the Company offer both quality and sustainability, providing to end consumers sustainable products that stand out.

According to the 2014, 2015, 2016 and 2017 independent audit results, the compliance level was 99.75%, 99.97%, 99.97% and 99.97% respectively. The 2018 audit results will be available on the JBS’s official website (http://www.jbs.com.br) in second half of 2018.

Regarding its customers, JBS has been engaged with various, such as KFC, McDonald’s and Walmart, regarding sustainability best practices.

Poultry and pork suppliers undergo a social and environmental assessment, which additionally is considered a strategy of prioritizing engagement by rating suppliers ranks in 3 colors: Green “labeling” means that the suppliers were approved, Yellow denotes that it is necessary to go through a committee for approval and red means suppliers are reproved. Any project for suppliers expansion for new registration also undergo this assessment. Approved Poultry and Pork suppliers have to comply with environmental legislation and to have its operating license approved by the environmental agency. In addition, all farms are visited and receive technical guidance from various topics, including environmental issues.

Concluding, the measurement of success occurs through acceptance and recognition of our customers, increasing of revenues, acknowledgments and prizes won by JBS due to its value chain sustainable programs.
(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) 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**
Land use change

**Description of management practice**
JBS and the Brazilian NGO Instituto Centro de Vida (ICV) promotes sustainable cattle raising in the Amazon biome (New Field Program), through the reduction of emissions of greenhouse gases in the production system (mainly avoided deforestation) and comply with environmental legislation.

**Your role in the implementation**
Procurement

**Explanation of how you encourage implementation**
JBS is a partner in this initiative, which aims to increase adoption of best livestock production practices on farms in the Legal Amazon. Created and coordinated by the Center for Life Institute (ICV), the New Field Program provides guidance on social, environmental and production issues for livestock breeders in the Alta Floresta region, the largest livestock-breeding centre in the state of Mato Grosso. The JBS role is to develop bonus protocols for purchase of cattle in the project area that comply with the criteria of quality and the basic requirements of Good Agricultural Practices. The idea is to create an award for farmers who can ensure that animals sold through the Company offer both quality and sustainability, giving to end consumers sustainable products that stand out. In addition, the Company support the dissemination of results of Good Agricultural Practices through corporate videos, brochures, field days in conjunction with the ICV team and training of technical and ranchers regarding good practice.

**Climate change related benefit**
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)

**Comment**
Livestock farmers received help to refurbish degraded pasture, institute integrated management practices for pasture land and increase the number of cattle the property could handle. The results were that not only farm incomes rose, but the properties automatically started to implement a more environmentally responsible production model. The application of best practices techniques allowed the number of head per hectare to rise from 1 to 3, increasing efficiency without the need to create additional farmland, therefore less the need to deforest new land. Beneficiated farms already are more than five times more productive than the state average.

(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
Funding research organizations
Other

C12.3a

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

<table>
<thead>
<tr>
<th>Focus of legislation</th>
<th>Corporate position</th>
<th>Details of engagement</th>
<th>Proposed legislative solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy efficiency</td>
<td>Support with major exceptions</td>
<td>Consultation responses directly and through lobby bodies CBI (Confederation of British Industry) and BPC (British Polling Council).</td>
<td>JBS, through its subsidiary in Europe Moypark, actively engages directly with policy makers. The environmental issues and awareness is very effective in Europe, which demands Company tighten its actions in relation to the risks and opportunities of its business. For this energy efficiency issue, Moypark is supporting an UK Energy tax reform.</td>
</tr>
<tr>
<td>Cap and trade</td>
<td>Support with minor exceptions</td>
<td>EU ETS Consultation response.</td>
<td>EU ETS reform. Provide an industry perspective on the consultation document.</td>
</tr>
<tr>
<td>Cap and trade</td>
<td>Oppose</td>
<td>Climate Change Agreement (CCA) consultation response.</td>
<td>CCA review. Provide an industry perspective on the consultation document.</td>
</tr>
</tbody>
</table>

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

Is your position on climate change consistent with theirs? Consistent

Please explain the trade association's position
These associations support science based decisions that advance the continuous improvement of our industry.

How have you, or are you attempting to, influence the position?
JBS is actively involved in leadership roles in these trade associations.

Trade association
British Poultry Council lobbying for economically effective Sector Energy & Emissions Policy & Targets

Is your position on climate change consistent with theirs? Consistent

Please explain the trade association's position
BPC are currently working of a draft public statement on their position on Climate Change.

How have you, or are you attempting to, influence the position?
Responded to BPC discussion document on the effective cost of carbon measures government could deploy to stimulate improvements within the Climate Change Agreement scheme.

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

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

JBS is part of the Board of The Global Roundtable for Sustainable Beef (GRSB), a global, multi-stakeholder initiative developed to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration. The GRSB envisions a world in which all aspects of the beef value chain are environmentally sound, socially responsible and economically viable.

The Canadian Roundtable for Sustainable Beef (CRSB) launched the much-anticipated Certified Sustainable Beef Framework today at their 2017 Annual Meeting. The first of its kind in the world, the Certified Sustainable Beef Framework was developed as one of the key areas of work the CRSB undertakes to support the advancement of sustainability in the Canadian beef industry. The Certified Sustainable Beef Framework was developed by the diverse membership community of the CRSB. It is a voluntary program that enables producers and processors to demonstrate the sustainability of their operations while at the same time supporting the retail and food service industry in their sustainable beef sourcing efforts.

In the same way, JBS is also part of the Board of The Brazilian Roundtable on Sustainable Livestock (BRSL) which its main goal is to discuss and formulate, in a transparent manner, principles, standards and common practices to be adopted by the sector, which contribute to the development of a sustainable cattle ranching, socially just, environmentally friend and economically viable.

With the policy of not acquiring cattle and soy from farms listed among the IBAMA (Brazilian Institute of the Environment) areas of illegal deforestation, JBS works through ABIEC - Brazilian Beef Exporters Association and the sector of grains (ABIOVE - Brazilian Oilseed Processors Association) to improve the public list of illegal deforestation areas. Because of these efforts, in 2012 the GT-IBAMA (IBAMA Working Group) was created, in order to propose solutions to operational improvements relating to the public list of areas embargoed by IBAMA. This joint work in partnership with the productive sector and technicians from IBAMA has led to continuous improvement of the IBAMA list as a query tool for companies that establishes environmental criteria for their suppliers.

Moreover, the Company is often involved in events, participates in seminars and multi-stakeholders meetings where JBS is requested to provide information on the policies and procedures related to social responsibility and corporate sustainability, including climate change.

In 2015, JBS became an active member of EPC ("Empresas pelo Clima" - Business for the Climate Platform), a continuous Brazilian business platform, whose goal is to mobilize, engage and involve corporate leaderships for managing and reducing GHG emissions, managing climate risks, suggesting public policies and positive incentives in the context of climate change. EPC is seeking proper financial and economical mechanisms for mitigation and adaption on climate change.

Since 2012, JBS became a member of the Brazilian GHG Protocol Program, through the publication of its Greenhouse Gases Emissions Inventory in the Public Registry of Emissions Platform. The Company also participates in other initiatives for reporting information regarding GHG emissions and the management strategy and related climate change, such as the CDP - Driving Sustainable Economies and the Carbon Efficient Index (ICO2) of B3 (Brazilian stock exchange) and the Climate Change Protocol of São Paulo State Government. Besides, JBS has participated in the Scope 3 Technical Working Group of the Brazilian GHG Protocol Program, for further discussion and development of auxiliary tool for calculating emissions from transportation. The company also contributed to the Working Group of the Agriculture GHG Protocol, which developed a tool with a new metric for calculating carbon emissions by the agribusiness sector, seeking to adapt to the Brazilian reality the indicators used worldwide (countries of temperate climate), currently in agricultural measurement.

Every JBS’s voluntary commitments, projects and partnerships with these institutions (funding, co-working, institutional support) against deforestation decrease on greenhouse gases emissions toward sustainability and potentially influence public policies on climate change to meet the need established by the Brazilian Government on its National Policy on Climate Change (2008). The National Plan on Climate Change is established through two plans: the Prevention and Control Action Plans of deforestation in the biomes, and the Department of Mitigation and Adaptation.

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?

The direct and indirect activities which JBS undertake is strictly related to the Company’s climate change strategy, i.e., participation on activities related to the mapped risks and opportunities previously identified by the Sustainability Direction, which reports it to the Sustainability Committee Board.

To ensure that all JBS’s engagements are consistent with the overall climate change strategy, the Sustainability Committee Board is responsible for dealing with and connecting all subjects related to the topic of sustainability and climate change in the Company’s business in a global perspective, such as: identification, evaluation and treatment of critical issues that result in risks and business impact; monitoring and implementation of policies, strategies and specific actions and evaluation of proposals for investments in sustainability.

The Sustainability and climate change strategy of JBS is focused on both the supply chain (cattle purchase programs and actions on the poultry chain and swine chain) and processing products (internal environmental improvements and eco-efficiency).

Regarding the supply chain and based on the best practices in agribusiness, the main strategies adopted by Sustainability Committee Board is to promote the Sustainable Farming Program in Brazil are related to decreased pressure on new pastures and thus contributing to reduce deforestation, and consequently to reduce CO2 emissions. Following this strategy, since 2010, we have been supporting EMBRAPA (Brazilian Corporation of Agricultural Research) for developing a Technical Cooperation Agreement to inform and support farmers in implementing best practices in agribusiness and sustainable use of natural resources involved in production. Also, the New Field Project aims to promote sustainable cattle raising in the Amazon biome, developing production models that improve management, increase productivity, increment quality in the product delivered to the market, reduce emissions of greenhouse gases in the production system (mainly avoided deforestation) and comply with environmental legislation. Every supplier must present the approved License of Operation, which guarantee the compliance of the facilities with the demands of the environmental bodies. Moreover, in relation to the system for social and environmental monitoring of cattle suppliers implemented in the Amazon region, a public commitment assumed by JBS whether one supplier falls within any of the list of embargoed cattle producers and/or whether deforestation is identified in conservation areas, the trade is cancelled, thus preventing the acquisition of raw materials from deforestation. Every year the Company is audited by a third party and publishes the results about its endeavor against deforestation. According to the 2014, 2015 and 2016 independent audit results, the compliance level was 99.75%, 99.97% and 99.97% respectively.

Thus, JBS has a policy of only buying soy products from companies that are signatories of the Soy Moratorium. an initiative launched by ABIOVE (Brazilian Association of Vegetable Oil Industries) and ANEC (National Association of Cereal Exporters), operationalized by the GTS (Soy Working Group), entity formed by rural producers and national and international NGOs. By this agreement, participants commit to not purchase soy produced in land deforested after 2006, including direct and indirect soy suppliers.

This is a result of the company’s public commitment to not purchase raw materials from farms that have deforested native forests in the Amazon Biome that are located within Indigenous Lands and Environmental Conservation Areas or have used work practices that are degrading or analogue to slavery.

JBS also requires the poultry and pork suppliers to present its environmental licensing and have instructed them to perform composting of the organic waste produced by the farms. Moreover, the pork suppliers are also encouraged to put in place a wastewater treatment. Both initiatives encourage the suppliers to reduce their GHG emissions.

Besides that, according to the JBS Sustainability policy, JBS’s commitment to sustainability is evidenced by the manner in which the relationships are established with willing partners who seek to make a positive impact throughout its value chain.

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).

<table>
<thead>
<tr>
<th>Publication</th>
<th>In mainstream reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>Complete</td>
</tr>
<tr>
<td>Attach the document</td>
<td>JBS RA PT 180427b Final.pdf</td>
</tr>
</tbody>
</table>
**Publication**
In mainstream reports

**Status**
Complete

**Attach the document**
JBS-USA-2017-SUSTAINABILITY-REPORT.pdf

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**Publication**
In voluntary communications

**Status**
Underway – previous year attached

**Attach the document**
Índice Carbono Eficiente - ICO2 - Composição da carteira.pdf

---

**Publication**
In other regulatory filings

**Status**
Complete

**Attach the document**
Formulário de Referência 2017.pdf

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**Publication**
In voluntary communications

**Status**
Complete

**Attach the document**
protocolo-1o-e-2o-ciclos-final.pdf

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**Publication**
In voluntary communications

**Status**
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
Management practice reference number
MP1

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Other, please specify (Cost)

Description of impact
Waste management for the production of fertilizers through aerobic composting generates positive impacts in cost, soil quality, biodiversity, water and climate change. The activity avoids the disposal in landfill and provides revenue through the fertilizer sale. Moreover, the fertilizer improves the soil quality and biodiversity. Other impact: GHG emissions reduction.

Have you implemented any response(s) to these impacts?
No

Description of the response(s)
Since there are only positive impacts, there is no need for implementation of any response regarding the detailed impacts.

Management practice reference number
MP2

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil

Description of impact
The reforestation of degraded lands means an improvement in the quality of the soil, allowing the development of crop and livestock integration and improving the biodiversity around the reforestation area.

Have you implemented any response(s) to these impacts?
No

Description of the response(s)
Since there are only positive impacts, there is no need for implementation of any response regarding the detailed impacts.

(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
Management practice reference number
MP1

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield
Other, please specify (Cost)

Description of impacts
The New Field Program aims to increase the farm profitability, improving soil quality, reducing the impact on biodiversity and water usage. Other Impact: GHG emissions reduction.

Have any response to these impacts been implemented?
No

Description of the response(s)
Since there are only positive impacts, there is no need for implementation of any response regarding the detailed impacts.

Management practice reference number
MP2

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield
Other, please specify (Cost)

Description of impacts
The social and environmental monitoring system aims to reduce deforestation in Amazon Biome, reducing consequently carbon emission. Other Impact: GHG emissions reductions and positive social impact (avoidance of slave/child labour).

Have any response to these impacts been implemented?
No

Description of the response(s)
Since there are only positive impacts, there is no need for implementation of any response regarding the detailed impacts.

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.

0

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

<table>
<thead>
<tr>
<th>Job title</th>
<th>Corresponding job category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Director</td>
<td>Chief Sustainability Officer (CSO)</td>
</tr>
</tbody>
</table>

SC. Supply chain module

SC0.0

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

JBS S.A. is the world’s second largest food Company and a global leader in several of its businesses. JBS SA is a food Company with 65 years of tradition and global leader in animal protein processing.

The Company has a diverse brand and product portfolio with options ranging from fresh and frozen meat to added value, ready-to-eat, prepared and processed products. In 2017, the company’s businesses were divided into the following units: JBS South America (Seara, JBS Beef, JBS Leather, JBS New Business) and JBS North America (JBS USA Beef: JBS Australia + JBS Canada, Pilgrim’s Pride: Pilgrim’s Moypark).

It sells these products under brands well-known for their excellence and innovation, and which are leaders in their respective markets, including Friboi, Seara, Swift, Primo, Pilgrim’s Pride, Moy Park, Just Bare, and others. The structure involves processing units of cattle, pigs, sheep, poultry, leather, and confinement of cattle and sheep.

JBS has production units and commercial offices in over 20 countries throughout the world (Brazil, United States, Australia, Canada, Ireland, France, UK, Italy, Argentina, Uruguay, Mexico, etc.), operating in the segments of beef, pork, lamb and chicken, production and marketing of leather, pet products, hygiene and cleanliness, cans, collagen, biodiesel, transportation and vegetables.

The Company also focuses on the highest possible food safety and quality standards and has adopted best sustainability practices throughout its value chain, operating a global and diverse food production and distribution platform, with production units and commercial offices in over 20 countries and approximately 230,000 team members - from factories to sales offices. We serve over 350,000 customers in more than 150 countries, managing a customer portfolio that includes various types of retailers, from major regional chains to small-scale retailers, as well as wholesale clubs and food service companies (restaurants, hotels, food service distributors and supplementary processing companies).

The Company’s commitment to innovation also reflects its management approach to related businesses such as leather, biodiesel, collagen, personal hygiene and cleaning products, natural casings, solid waste management solutions, metal packaging and transportation, as well as the sustainability practices adopted throughout the value chain. One example is the constant cattle supplier monitoring using satellite imagery, georeferenced maps of supplier farms and official data from government agencies. The purpose is to identify and block the supplying farms that presents any non-compliance with the socio-environmental criterias of JBS.

Also incorporated into its business management is the pursuit for modernization, quality of products and raw materials, as well as the establishment of better relationships with partners, customers, employees and society, the satisfaction of its shareholders and the commitment to social and environmental responsibility issues.

With an annual net revenue of BRL 163,2 billion, equivalent to US$51.5 billion, JBS is positioned as the largest animal protein Company in the world, with a strong presence in the most competitive production regions on earth.

More information can be found in the official JBS site (https://jbs.com.br/en/) and in the JBS 2017 Annual and Sustainability Report (http://jbss.invest.pdf)."

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

<table>
<thead>
<tr>
<th>Row</th>
<th>Annual Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>163170000000</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>ISIN country code (2 letters)</th>
<th>ISIN numeric identifier and single check digit (10 numbers overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR</td>
<td>JBSSACNOR8</td>
</tr>
</tbody>
</table>

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**
Arcos Dourados

**Scope of emissions**
Scope 1

**Emissions in metric tonnes of CO2e**
2889.1

**Uncertainty (±%)**
10

**Major sources of emissions**
Seara represents 69% of Arcos Dourados’s Scope 1 allocated emissions from JBS, whose major sources are waste and wastewater treatment (38%, being 81% wastewater treatment) and fugitive emissions (35%). JBS Carnes represents 31% of Arcos’s Dourados Scope 1 allocated emissions from JBS. The major sources are waste and wastewater treatment (78% - being 99% from wastewater treatment), agricultural activities (8% - being 97% enteric fermentation) and stationary combustion (8% - being 61% emissions from boilers).

**Verified**
No

**Allocation method**
Allocation based on mass of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) that supply to Arcos Dourados. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational
limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Arcos Dourados, for both business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio:
$t\text{CO}_2\text{e}/\text{produced ton}$. Based on this calculation, the GHG allocated emissions for Scope 1 were respectively: Seara (1,983.73 tCO2e) and JBS Carnes (905.36 tCO2e). The increase in emissions (tCO2e) of 77.64% in absolute Scope 1 GHG emissions, compared to 2016, is due to the increase on tonnes of sold products to Arcos Dourados (both Seara - 25% and JBS Carnes - 99%).

**Requesting member**
Arcos Dourados

**Scope of emissions**
Scope 2

**Emissions in metric tonnes of CO2e**
1290.18

**Uncertainty (±%)**
10

**Major sources of emissions**
Seara represents 83.11% of Arcos Dourados’s Scope 2 allocated emissions while for JBS Carnes this amount corresponds to 16.89%. Seara’s and JBS Carnes’s source of emissions in Scope 2 are in vast majority from electricity purchased and consumed (only 0.1% of steam for the first and 2% for the second one).

**Verified**
No

**Allocation method**
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) that supply to Arcos Dourados. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Arcos Dourados, for both business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio:
$t\text{CO}_2\text{e}/\text{produced ton}$. Based on this calculation, the GHG allocated emissions for Scope 2 were respectively: Seara (1,072.25 tCO2e) and JBS Carnes (217.93 tCO2e). The increase in emissions (tCO2e) of 84% in allocated Scope 2 GHG emissions, compared to 2016, is due to the i) the increase on tonnes of sold products to Arcos Dourados and ii) increase on Scope 2 emissions of Seara (roughly 20%).

**Requesting member**
Arcos Dourados

**Scope of emissions**
Scope 3

**Emissions in metric tonnes of CO2e**
2330.41

**Uncertainty (±%)**
15

**Major sources of emissions**
For Seara, its major scope 3 emission sources are transport and distribution downstream (36%), transport and distribution upstream (30%) and waste generated in operations (25% - of these 65% composting and 34% sanitary landfill). It represents 92% of the allocated emissions in Scope 3. Thus, JBS Carnes contributes with 8%, being waste generated in operations the main source (92% - of these 75% from composting and 23% sanitary landfill); and finally employee commuting (6%).

**Verified**
No

**Allocation method**
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) that supplies to Arcos Dourados. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Arcos Dourados, for both business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were respectively: Seara (2,148.37 tCO2e) and JBS Carnes (182.04 tCO2e). The increase in emissions (tCO2e) of 41% in absolute Scope 3 GHG emissions, compared to 2016, is mainly due to the increase on tonnes of sold products to Arcos Dourados in 2017.

Requesting member
Target Corporation

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
1711.05

Uncertainty (±%) 10

Major sources of emissions
In 2017, Pilgrim's USA released 990,991.04 tonnes of CO2e in atmosphere, which main sources were: waste and effluent treatment (52% - of these 99% were due to manure management) and stationary combustion (35% - of these close to 100% were due to boilers).

Verified
No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from Pilgrim's USA, that supplies to Target. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Target, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were 1,711.05 tCO2e.

Requesting member
Target Corporation

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
978.53

Uncertainty (±%) 10

Major sources of emissions
In 2017, Pilgrim's USA released 566,737.34 tonnes of CO2e in atmosphere, related to the purchase of grid electricity.
Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from Pilgrim’s USA, that supplies to Target. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Target, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were 978.53 tCO2e.

Requesting member
Target Corporation

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
170.21

Uncertainty (±%)
15

Major sources of emissions
In 2017, Pilgrim’s USA released 98,578.52 tonnes of CO2e in atmosphere. Waste generated in the operations GHG emissions (landfill) represented 54% of total emissions and transport and distribution (downstream) represented 46% of total emissions.

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from Pilgrim’s USA, that supplies to Target. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Target, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were 978.53 tCO2e.

Requesting member
Tesco

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
15806.56

Uncertainty (±%)
10

Major sources of emissions
In 2017, Moypark released 185,026.82 tonnes of CO2e in atmosphere, which main sources were: waste and effluent (40% - manure management), stationary combustion (38% - of these 99% were due to boilers) and mobile combustion (22% - ground
Verifying No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, "IPCC Guidelines for National Greenhouse Gas Inventories" (2006) and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (Revised Edition). It was considered the allocated GHG emissions from Moypark, that supplies to Tesco. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three "scopes" (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Tesco, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were 15,806.56 tCO2e.

Requesting member
Tesco

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
4598.19

Uncertainty (±%)
10

Major sources of emissions
In 2017, Moypark released 53,825.09 tonnes of CO2e in atmosphere, related to the purchase of grid electricity.

Verifying No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, "IPCC Guidelines for National Greenhouse Gas Inventories" (2006) and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (Revised Edition). It was considered the allocated GHG emissions from Moypark, that supplies to Tesco. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three "scopes" (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Tesco, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were 978.53 tCO2e.

Requesting member
Tesco

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
964.8

Uncertainty (±%)
15

Major sources of emissions
In 2017, Moypark released 11,293.71 tonnes of CO2e in atmosphere. Waste generated in the operations GHG emissions (incineration - hazardous and non hazardous waste) represented 98% of total emissions and business travel (air travel)
represented 2% of total emissions.

Verified
No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, "IPCC Guidelines for National Greenhouse Gas Inventories" (2006) and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (Revised Edition). It was considered the allocated GHG emissions from Moypark, that supplies to Tesco. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three "scopes" (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Tesco, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were 964.80 tCO2e.

Requesting member
McDonald's Corporation

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
45883.12

Uncertainty (±%)
10

Major sources of emissions
Seara represents 5% of McDonald's Corporate Scope 1 allocated emissions from JBS, whose major sources are waste and wastewater treatment (38% - being 81% wastewater treatment) and fugitive emissions (35%). JBS Carnes represents 2% of McDonald's Corporate's Scope 1 allocated emissions from JBS, the major sources are waste treatment (78% - being 99% from wastewater treatment) and agricultural activities (8% - being 97% enteric fermentation) and stationary combustion (8% - being 61% emissions from boilers). Australia represents 52% of McDonald's Corporate's Scope 1 allocated emissions from JBS, the major sources are agricultural activities (72% - being almost 100% enteric fermentation), waste and wastewater treatment (17% - being 94% from manure management and 6% from wastewater treatment) and stationary combustion (10% - being 48% emissions from boilers and 52% from other sources). Mexico represents 1% of McDonald's Corporate's Scope 1 allocated emissions from JBS, the major sources are stationary combustion (57% - being 62% from heating of animals and 36% emissions from boilers), waste and wastewater treatment (31% - being 98% from manure management) and mobile combustion (11%). Europe represents 41% of McDonald's Corporate's Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (40% - being 100% from manure management), stationary combustion (38% - being 100% emissions from boilers) and mobile combustion (22%).

Verified
No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, "IPCC Guidelines for National Greenhouse Gas Inventories" (2006) and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) and business divisions from Australia, Mexico (Pilgrim's) and Europe (Moypark) that supply to McDonald's Corporate. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three "scopes" (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to McDonald's Corporate, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were respectively: Seara (2,067.50 tCO2e), JBS Carnes (905.36 tCO2e), Australia (23,696.35 tCO2e), Mexico (547.80 tCO2e) and Europe (18,666.10 tCO2e).
Requesting member
McDonald's Corporation

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
12672.22

Uncertainty (±%)
10

Major sources of emissions
Seara represents 8.82% of McDonald’s Corporate’s Scope 2 allocated emissions while for JBS Carnes this amount corresponds to 1.72%. For Australia, 44.82%, for Mexico, 1.79% and for Europe, 42.85%. Seara’s and JBS Carnes’s source of emissions in Scope 2 are in vast majority from electricity purchased and consumed (only 0.1% of steam for the first and 2% for the second one). Australia’s, Mexico’s and Europe’s source of emissions in Scope 2 are from electricity purchased.

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) and business divisions from Australia, Mexico (Pilgrim’s) and Europe (Moypark) that supply to McDonald’s Corporate. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to McDonald’s Corporate, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were respectively: Seara (1,117.52 tCO2e), JBS Carnes (217.93 tCO2e), Australia (5,679.72 tCO2e), Mexico (226.99 tCO2e) and Europe (5,430.05 tCO2e).

Requesting member
McDonald’s Corporation

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
3744.88

Uncertainty (±%)
15

Major sources of emissions
For Seara, its major scope 3 emission sources are transport and distribution downstream (36%), transportation and distribution upstream (30%) and waste generated in operations (25% - of these 65% composting and 34% sanitary landfill). It represents 60% of the allocated emissions in Scope 3. Thus, JBS Carnes contributes with 5%, being waste generated in operations the main source (92% - of these 75% from composting and 23% sanitary landfill); and finally employee commuting (6%). Australia contributes with 4%, waste generated is the source (16% from composting and 84% sanitary landfill), Mexico contributes with 1%, being waste generated in operations the main source (98% - almost 100% from sanitary landfill) and Europe contributes with 30%, waste generated is the source (100% from incineration).

Verified
No

Allocation method
Allocation based on mass of products purchased
Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) and business divisions from Australia, Mexico (Pilgrim’s) and Europe (Moypark) that supply to McDonald’s’s Corporate. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to McDonald’s Corporate, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were respectively: Seara (2,239.09 tCO2e), JBS Carnes (182.04 tCO2e), Australia (152.09 tCO2e), Mexico (32.31 tCO2e) and Europe (1,139.35 tCO2e).

Requesting member
Restaurant Brands International

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
29311.41

Uncertainty (±%)
10

Major sources of emissions
Seara represents 2% of RBI’s Scope 1 allocated emissions from JBS, whose major sources are waste and wastewater treatment (38% - being 81% wastewater treatment) and fugitive emissions (35%). JBS Carnes represents 3% of RBI’s Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (78% - being 99% from wastewater treatment), agricultural activities (8% - being 97% enteric fermentation) and stationary combustion (8% - being 61% emissions from boilers). Pilgrim’s USA represents 24% of RBI’s Scope 1 allocated emissions from JBS, whose major sources are waste and wastewater treatment (52% - being almost 100% from wastewater treatment), stationary combustion (35% - being almost 100% emissions from boilers) and process emissions (11%). Australia represents 58% of RBI’s Scope 1 allocated emissions from JBS, the major sources are agricultural activities (72% - being almost 100% enteric fermentation), waste and wastewater treatment (17% - being 94% from manure management and 6% from wastewater treatment) and stationary combustion (10% - being 48% emissions from boilers and 52% from other sources). Mexico represents 11% of RBI’s Scope 1 allocated emissions from JBS, the major sources are stationary combustion (57% - being 62% from heating of animals and 36% emissions from boilers), waste and wastewater treatment (31% - being 98% from manure management) and mobile combustion (11%). Europe represents 0.5% of RBI’s Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (40% - being 100% from manure management), stationary combustion (38% - being 100% emissions from boilers) and mobile combustion (22%). Canada represents 1% of RBI’s Scope 1 allocated emissions from JBS, the major sources are stationary combustion (62% - being almost 100% emissions from boilers), waste treatment (22% - being 100% from wastewater treatment), agricultural activities (8% - being 100% from fertigation) and process emissions (7%). Puerto Rico represents 0.4% of RBI’s Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (33% - being 100% from manure management), fugitive emissions (29%), mobile combustion (22%), stationary combustion (15% - being 92% emissions from boilers and 8% from generator) and process emissions (7%).

Verified
No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes) and business divisions from Australia, Mexico (Pilgrim’s) and business divisions from Australia, Mexico (Pilgrim’s), Europe (Moypark), Canada (JBS Food Canada) and Puerto Rico (Pilgrim’s) that supply to RBI. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that
supplies products to RBI, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were respectively: Seara (694.10 tCO2e), JBS Carnes (785.79 tCO2e), Pilgrim’s USA (7,056.65 tCO2e), Australia (17,049.78 tCO2e), Mexico (3,185.31 tCO2e), Europe (146.35 tCO2e), Canada (286.87 tCO2e) and Puerto Rico (106.56 tCO2e).

Requesting member
Restaurant Brands International

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
10069.84

Uncertainty (±%)
10

Major sources of emissions
Seara represents 4% of RBI’s Scope 2 allocated emissions while for JBS Carnes this amount corresponds to 2%. For Pilgrim’s USA this amount corresponds to 40%. For Australia, 41%, for Mexico, 13%, for Europe, 0.4%, for Canada, 0.1% and for Puerto Rico, 0.2%. Seara’s and JBS Carnes’s source of emissions in Scope 2 are in vast majority from electricity purchased and consumed (only 0.1% of steam for the first and 2% for the second one). Pilgrim’s USA’s, Australia’s, Mexico’s and Europe’s, Canada’s and Puerto Rico’s source of emissions in Scope 2 are from electricity purchased.

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes), 1 business division specific to USA (Pilgrim’s) and business divisions from Australia, Mexico (Pilgrim’s), Europe (Moypark), Canada (JBS Food Canada) and Puerto Rico (Pilgrim’s) that supply to RBI. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to RBI, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were respectively: Seara (375.17 tCO2e), JBS Carnes (189.15 tCO2e), Pilgrim’s USA (4,035.62 tCO2e), Australia (4,086.62 tCO2e), Mexico (1,319.89 tCO2e), Europe (42.57 tCO2e), Canada (3.80 tCO2e) and Puerto Rico (17.00 tCO2e).

Requesting member
Restaurant Brands International

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
1948

Uncertainty (±%)
15

Major sources of emissions
For Seara, its major scope 3 emission sources are transport and distribution downstream (36%), transportation and distribution upstream (30%) and waste generated in operations (25% - of these 65% composting and 34% sanitary landfill). It represents 39% of the allocated emissions in Scope 3. Thus, JBS Carnes contributes with 8%, being waste generated in operations the main source (92% - of these 75% from composting and 23% sanitary landfill); and finally employee commuting (6%). Pilgrim’s USA contributes with 36%, being waste generated in operations the main source (54% - of these 100% from landfill) and transport and distribution downstream (46%). Australia contributes with 6%, waste generated in operation is the source (16% from composting and 84% sanitary landfill), Mexico contributes with 10%, being waste generated in operations the main source (98% - almost 100% from sanitary landfill), Europe contributes with 0.5%, waste generated in operations is the source (100% from incineration), Canada
contributes with 36%, being waste generated in operations the main source (92% - of these 100% from landfill) and business travel (8%) and Puerto Rico contributes with 1%, waste generated in operations is the source (100% from sanitary landfill).

Verified
No

Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, "IPCC Guidelines for National Greenhouse Gas Inventories" (2006) and the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to Brazil (Seara and JBS Carnes), 1 business division specific to USA (Pilgrim's) and business divisions from Australia, Mexico (Pilgrim's), Europe (Moypark), Canada (JBS Food Canada) and Puerto Rico (Pilgrim's) that supply to RBI. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three "scopes" (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to RBI, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were respectively: Seara (751.70 tCO2e), JBS Carnes (158.00 tCO2e), Pilgrim's USA (701.96 tCO2e), Australia (109.43 tCO2e), Mexico (187.89 tCO2e), Europe (8.93 tCO2e), Canada (3.24 tCO2e) and Puerto Rico (26.84 tCO2e).

Requesting member
Wal-Mart Stores, Inc.

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
40063.3

Uncertainty (±%)
10

Major sources of emissions
JBS Carnes represents 0.3% of Walmart North America's Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (78% - being 99% from wastewater treatment) and agricultural activities (8% - being 97% enteric fermentation) and stationary combustion (8% - being 61% emissions from boilers). JBS USA Beef represents 10% of Walmart North America's Scope 1 allocated emissions from JBS, whose major sources are stationary combustion (65% - being 100% emissions from boilers), process emissions (22%), waste and wastewater treatment (7% - being 100% from wastewater treatment) and mobile combustion (6%). Pilgrim's USA represents 77% of Walmart North America's Scope 1 allocated emissions from JBS, whose major sources are waste and wastewater treatment (52% - being almost 100% from wastewater treatment), stationary combustion (35% - being almost 100% emissions from boilers) and process emissions (11%). JBS USA Pork represents 0.5% of Walmart North America's Scope 1 allocated emissions from JBS, the major sources are stationary combustion (73% - being almost 100% emissions from boilers), process emissions (23%) and waste and wastewater treatment (4% - being 100% from wastewater treatment). JBS USA Case Ready represents 6% of Walmart North America's Scope 1 allocated emissions from JBS, the major sources are stationary combustion (57% - being 100% emissions from boilers) and process emissions (43%). Plumrose USA represents 6% of Walmart North America’s Scope 1 allocated emissions from JBS, the major source is stationary combustion (100% from boilers). Canada represents 0.2% of RBI's Scope 1 allocated emissions from JBS, the major sources are stationary combustion (62% - being almost 100% emissions from boilers), waste and wastewater treatment (22% - being 100% from wastewater treatment), agricultural activities (8% - being 100% from fertigation) and process emissions (7%). Puerto Rico represents 5% of Walmart North America's Scope 1 allocated emissions from JBS, the major sources are waste and wastewater treatment (33% - being 100% from manure management), fugitive emissions (29%), mobile combustion (22%), stationary combustion (15% - being 92% emissions from boilers and 8% from generator) and process emissions (7%).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 1 business division of JBS specific to Brazil (JBS Carnes), 5 business divisions specific to USA (JBS USA Beef, JBS USA Pork, JBS USA Case Ready, Plumrose USA and Pilgrim’s USA) and business divisions from Canada (JBS Food Canada) and Puerto Rico (Pilgrim’s) that supply to Walmart North America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart North America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were respectively: JBS Carnes (100.29 tCO2e), JBS USA Beef (4,099.43 tCO2e), JBS USA Pork (192.24 tCO2e), JBS USA Case Ready (259.09 tCO2e), Plumrose USA (2,323.97 tCO2e), Pilgrim’s USA (30,878.48 tCO2e), Canada (55.69 tCO2e) and Puerto Rico (2,154.12 tCO2e).

Requesting member
Wal-Mart Stores, Inc.

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
30072.77

Uncertainty (±%)
10

Major sources of emissions
JBS Carnes represents 0.1% of Walmart North America Scope 2 allocated emissions. For Pilgrim’s USA this amount corresponds to 59%, for JBS USA Beef this amount corresponds to 1%, for JBS USA Pork this amount corresponds to 6%, for JBS USA Case Ready this amount corresponds to 6% and for Plumrose USA this amount corresponds to 23%. For Canada, 0.002% and for Puerto Rico, 10%. JBS Carnes’s source of emissions in Scope 2 are in vast majority from electricity purchased and consumed (only 2% of steam). Pilgrim’s USA’s, JBS USA Beef’s, JBS USA Pork’s, JBS USA Case Ready’s, Plumrose USA’s, Canada’s and Puerto Rico’s source of emissions in Scope 2 are from electricity purchased.

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 1 business division of JBS specific to Brazil (JBS Carnes), 5 business divisions specific to USA (JBS USA Beef, JBS USA Pork, JBS USA Case Ready, Plumrose USA and Pilgrim’s USA) and business divisions from Canada (JBS Food Canada) and Puerto Rico (Pilgrim’s) that supply to Walmart North America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart North America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were respectively: JBS Carnes (24.14 tCO2e), JBS USA Beef (3,007.76 tCO2e), JBS USA Pork (216.95 tCO2e), JBS USA Case Ready (1,837.01 tCO2e), Plumrose USA (6,983.38 tCO2e), Pilgrim’s USA (17,659.08 tCO2e), Canada (0.74 tCO2e) and Puerto Rico (343.72 tCO2e).

Requesting member
Wal-Mart Stores, Inc.

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
5024.92
Uncertainty (±%)
15

Major sources of emissions
JBS Carnes contributes with 0.1%, being waste generated in operations the main source (92% - of these 75% from composting and 23% sanitary landfill); and finally employee commuting (6%). Pilgrim’s USA contributes with 61%, being waste generated in operations the main source (54% - of these 100% from landfill) and transport and distribution downstream (46%). JBS USA Beef contributes with 13%, waste generated in operations is the source (100% from landfill). JBS USA Pork contributes with 1% waste generated in operations is the source (26% from composting and 74% from landfill), JBS USA Case Ready contributes with 13%, waste generated in operations is the source (100% from landfill) and Plumrose USA contributes with 13%, waste generated in operations is the source (100 % from landfill). Canada contributes with 0.002%, being waste generated in operations the main source (92% - of these 100% from landfill) and business travel (8%) and Puerto Rico contributes with 13%, waste generated in operations is the source (100% from sanitary landfill).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 1 business division of JBS specific to Brazil (JBS Carnes), 5 business divisions specific to USA (JBS USA Beef, JBS USA Pork, JBS USA Case Ready, Plumrose USA and Pilgrim’s USA) and business divisions from Canada (JBS Food Canada) and Puerto Rico (Pilgrim’s) that supply to Walmart North America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart North America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were respectively: JBS Carnes (20.17 tCO2e), JBS USA Beef (665.82 tCO2e), JBS USA Pork (3.45 tCO2e), JBS USA Case Ready (69.31 tCO2e), Plumrose USA (651.28 tCO2e), Pilgrim’s USA (3,071.63 tCO2e), Canada (0.63 tCO2e) and Puerto Rico (542.64 tCO2e).

Requesting member
Wal Mart de Mexico

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
7476.98

Uncertainty (±%)
10

Major sources of emissions
JBS USA Beef represents 55% of Walmart Mexico and Central America’s Scope 1 allocated emissions from JBS, whose major sources are stationary combustion (65% - being 100% emissions from boilers), process emissions (22%), waste and wastewater treatment (7% - being 100% from wastewater treatment) and mobile combustion (6%). JBS USA Pork represents 3% of Walmart Mexico and Central America’s Scope 1 allocated emissions from JBS, the major sources are stationary combustion (73% - being almost 100% emissions from boilers), process emissions (23%) and waste and wastewater treatment (4% - being 100% from wastewater treatment). Mexico represents 43% of Walmart Mexico and Central America’s Scope 1 allocated emissions from JBS, the major sources are stationary combustion (57% - being 62% from heating of animals and 36% emissions from boilers), waste and wastewater treatment (31% - being 98% from manure management) and mobile combustion (11%).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to USA (JBS USA Beef and JBS USA Pork) and business division from Mexico (Pilgrim’s) that supply to Walmart Mexico and Central America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart Mexico and Central America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were respectively: JBS USA Beef (4,099.43 tCO2e), JBS USA Pork (192.24 tCO2e) and Mexico (3,185.31 tCO2e).

### Requesting member
Walmart de Mexico

### Scope of emissions
Scope 2

### Emissions in metric tonnes of CO2e
4544.6

### Uncertainty (±%)
10

### Major sources of emissions
JBS USA Beef represents 66% of Walmart Mexico and Central America Scope 2 allocated emissions, for JBS USA Pork this amount corresponds to 5% and for Mexico, 29%. JBS Carnes’s source of emissions in Scope 2 are in vast majority from electricity purchased and consumed (only 2% of steam). JBS USA Beef’s, JBS USA Pork’s and Mexico’s source of emissions in Scope 2 are from electricity purchased.

### Verified
No

### Allocation method
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to USA (JBS USA Beef and JBS USA Pork) and business division from Mexico (Pilgrim’s) that supply to Walmart Mexico and Central America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart Mexico and Central America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were respectively: JBS USA Beef (3,007.76 tCO2e), JBS USA Pork (216.95 tCO2e) and Mexico (1,319.89 tCO2e).

### Major sources of emissions
JBS USA Beef contributes with 78%, waste generated in operations is the source (100% from landfill), JBS USA Pork contributes
with 0.4%, waste generated in operations is the source (26% from composting and 74% from landfill) and Mexico contributes with 22%, waste generated in operations the main source (98% - almost 100% from sanitary landfill).

Verified
No

**Allocation method**
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from 2 business divisions of JBS specific to USA (JBS USA Beef and JBS USA Pork) and business division from Mexico (Pilgrim’s) that supply to Walmart Mexico and Central America. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into Operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Walmart Mexico and Central America, for all business divisions, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were respectively: JBS USA Beef (665.82 tCO2e), JBS USA Pork (3.45 tCO2e) and Mexico (187.89 tCO2e).

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**Requesting member**
Johnson & Johnson

**Scope of emissions**
Scope 1

**Emissions in metric tonnes of CO2e**
105.93

**Uncertainty (±%)**
10

**Major sources of emissions**
In 2017, JBS Higiene & Limpeza released 373.88 tonnes of CO2e in atmosphere, which main sources were: fugitive emissions (78%) and mobile combustion (22%).

Verified
No

**Allocation method**
Allocation based on mass of products purchased

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

The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Higiene & Limpeza that supplies to Johnson & Johnson. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Johnson & Johnson, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were 105.93 tCO2e.

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**Requesting member**
Johnson & Johnson

**Scope of emissions**
Scope 2

**Emissions in metric tonnes of CO2e**
385
Uncertainty (±%)
10

Major sources of emissions
In 2017, JBS Higiene & Limpeza released 1,358.89 tonnes of CO2e in atmosphere, related to the purchase of grid electricity.

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Higiene & Limpeza that supplies to Johnson & Johnson. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Johnson & Johnson, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were 385.00 tCO2e.

Requesting member
Johnson & Johnson

Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
218.42

Uncertainty (±%)
15

Major sources of emissions
In 2017, JBS Higiene & Limpeza released 770.92 tonnes of CO2e in atmosphere. Waste generated in the operations GHG emissions represented 100% of total emissions (of these - 95% composing and 5% sanitary landfill).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS's GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Higiene & Limpeza that supplies to Johnson & Johnson. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Johnson & Johnson, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were 218.42 tCO2e.

Requesting member
Colgate Palmolive Company

Scope of emissions
Scope 1

Emissions in metric tonnes of CO2e
40.5

Uncertainty (±%) 10

Major sources of emissions
In 2017, JBS Carnes released 231,139.90 tonnes of CO2e in atmosphere, which main sources were: waste and wastewater treatment (78% - being 99% from wastewater treatment), agricultural activities (8% - being 97% enteric fermentation) and stationary combustion (8% - being 61% emissions from boilers).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Carnes that supplies to Colgate-Palmolive Company. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Colgate-Palmolive Company, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 1 were 40.50 tCO2e.

Requesting member
Johnson & Johnson

Scope of emissions
Scope 2

Emissions in metric tonnes of CO2e
9.75

Uncertainty (±%) 10

Major sources of emissions
In 2017, JBS Carnes released 54,553.38 tonnes of CO2e in atmosphere, related to the purchase of grid electricity and 1,084.49 tonnes of CO2e related to the purchase of steam.

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Carnes that supplies to Colgate-Palmolive Company. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Colgate-Palmolive Company, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 2 were 9.75 tCO2e.

Requesting member
Johnson & Johnson
Scope of emissions
Scope 3

Emissions in metric tonnes of CO2e
8.14

Uncertainty (±%)
15

Major sources of emissions
In 2017, JBS Carnes released 46,474.91 tonnes of CO2e in atmosphere. Waste generated in the operations GHG emissions represented 8% emissions being waste generated in operations the main source (92% - of these 75% from composting and 23% sanitary landfill); and finally employee commuting (6%).

Verified
No

Allocation method
Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emissions were calculated based on 2017 JBS’s GHG emissions inventory, using the approach of reporting operational control and based on Brazil GHG Protocol Programme, “IPCC Guidelines for National Greenhouse Gas Inventories” (2006) and the “Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard” (Revised Edition). It was considered the allocated GHG emissions from JBS Carnes that supplies to Colgate-Palmolive Company. In order to discriminate sources of direct and indirect emissions, promote transparency and be useful to different types of organizations, types of policies related to climate change and business objectives, the Brazilian GHG Protocol defines three “scopes” (Scope 1, Scope 2 and Scope 3). Each scope can be subdivided into categories. Thus, the sources themselves are grouped into operational limits. Since it was not possible to split the GHG emissions specifically to facilities that supplies products to Colgate-Palmolive Company, the GHG emissions allocated to the Company were calculated considering the following ratio: tCO2e/produced ton. Based on this calculation, the GHG allocated emissions for Scope 3 were 8.14 tCO2e.

SC1.2

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

- JBS 2017 Annual and Sustainability Report (Portuguese version) – section: “Mudanças Climáticas” – page 188. This report is also available in: http://jbss.infoinvest.com.br/ptb/4587/JBS%20RA%20PT%20180427b%20Final.pdf

- JBS 2017 Annual and Sustainability Report (English version) – section: “Climate Change” – page 188. This report is also available in: http://jbss.infoinvest.com.br/enu/4070/JBS%20RAS%202016%20EN%20170502%20Final.pdf


- GHG Protocol Brazilian Program. 2017 GHG Inventory Emissions reported in May 31st. It is not publically available by this questionnaire deadline. 2016 GHG Inventory Emissions is available in http://registropublicodeemissoes.com.br/participantes/475 (in Portuguese).

<table>
<thead>
<tr>
<th>Allocation challenges</th>
<th>Please explain what would help you overcome these challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversification of product lines makes accurately accounting for each product/product line cost ineffective</td>
<td>Due to diversity of product lines, it would be necessary additional financial and human resources for management and allocation of GHG emission data for every product.</td>
</tr>
<tr>
<td>Customer base is too large and diverse to accurately track emissions to the customer level</td>
<td>Due to the diversity of customers, it would be necessary additional financial and human resources for management and allocation of GHG emission data by customer.</td>
</tr>
<tr>
<td>Other, please specify (Cycle of Brazilian livestock production)</td>
<td>It is difficult to measure and report emissions from the supply chain (indirect suppliers) due to the Brazilian cattle’s value chain complexity. It would be necessary to engage the entire supply chain in developing their GHG inventories, using calculation methodologies applied and specific to the situation in each country.</td>
</tr>
</tbody>
</table>

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.

JBS Brazil and the Center for Sustainability Studies (FGVces) at the São Paulo School of Business Management developed a project which goal was to measure and understand the actual environmental impacts of certain animal protein products and their value chains, incorporating Life Cycle Thinking (LCT), using the Life Cycle Assessment (LCA) technique with a specific Climate Change approach. This assessment presented that for product 1 the emissions from “use” phase corresponded to 21.8% of total emissions, and product 2 emissions from similar phase corresponded to 5.9% of total emissions. More information available in: http://gvces.com.br/lcm-2017-gestao-do-ciclo-de-vida-de-produtos-no-centro-da-discussao-empresarial?locale=pt-br.

In this way, JBS Brazil intends to do the same study for other products of its portfolio in the coming years.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

<table>
<thead>
<tr>
<th>Requesting member</th>
<th>Arcos Dourados</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group type of project</td>
<td>New product or service</td>
</tr>
<tr>
<td>Type of project</td>
<td>New product or service that reduces customers operational emissions</td>
</tr>
<tr>
<td>Emissions targeted</td>
<td>Actions to reduce customers’ operational emissions (customer scope 1 &amp; 2)</td>
</tr>
<tr>
<td>Estimated timeframe for carbon reductions to be realized</td>
<td>3-5 years</td>
</tr>
<tr>
<td>Estimated lifetime CO2e savings</td>
<td></td>
</tr>
<tr>
<td>Estimated payback</td>
<td>1-3 years</td>
</tr>
</tbody>
</table>
Details of proposal
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

Requesting member
Tesco

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions to reduce customers’ operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

Requesting member
Target Corporation

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions to reduce customers’ operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

Requesting member
Arcos Dourados

Group type of project
Other, please specify (Sustainable supply chain)

Type of project
Other, please specify (Livestock supply chain)

Emissions targeted
Actions that would reduce both our own and our customers’ emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings
Estimated payback
1-3 years

Details of proposal
Regarding the Livestock Supply Chain, JBS aim to promote the development of sustainable raw material valorization projects, such as livestock products that promote forest-crop-livestock integration. Impelling the improvement of pasture in order to increase livestock by area, thus allowing carbon sequestration and reducing the use of pasture areas.

Requesting member
Arcos Dourados

Group type of project
New product or service

Type of project
New product or service that has a lower upstream emissions footprint

Emissions targeted
Actions that would reduce both our own and our customers’ emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
Other, please specify (more than 5 years)

Details of proposal
Development of projects along with pork farmers for the installation of biodigesters in the farms, allowing the conversion of methane into CO2, as well as the reduction of the use of electric energy, since this methane can be used for generation of electrical energy through the installation of a specific generator.

Requesting member
Arcos Dourados

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions that would reduce both our own and our customers’ emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

Requesting member
Tesco

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions that would reduce both our own and our customers’ emissions
Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

Requesting member
Target Corporation

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions that would reduce both our own and our customers’ emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

Requesting member
Restaurant Brands International

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions to reduce customers’ operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

Requesting member
Wal-Mart Stores, Inc.

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions
**Emissions targeted**
Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

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**Requesting member**
Wal Mart de Mexico

**Group type of project**
New product or service

**Type of project**
New product or service that reduces customers operational emissions

**Emissions targeted**
Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

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**Requesting member**
Johnson & Johnson

**Group type of project**
New product or service

**Type of project**
New product or service that reduces customers operational emissions

**Emissions targeted**
Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

---

**Requesting member**
Colgate Palmolive Company

**Group type of project**
New product or service
**Type of project**
New product or service that reduces customers' operational emissions

**Emissions targeted**
Actions to reduce customers' operational emissions (customer scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Support in the implementation of projects to improve the logistics of products delivery, focusing on optimizing routes and days and the volume of delivery.

**Requesting member**
Restaurant Brands International

**Group type of project**
Other, please specify (Sustainable Supply Chain)

**Type of project**
Other, please specify (Livestock Supply Chain)

**Emissions targeted**
Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Regarding the Livestock Supply Chain, JBS aim to promote the development of sustainable raw material valorization projects, such as livestock products that promote forest-crop-livestock integration. Impelling the improvement of pasture in order to increase livestock by area, thus allowing carbon sequestration and reducing the use of pasture areas.

**Requesting member**
Wal-Mart Stores, Inc.

**Group type of project**
Other, please specify (Sustainable Supply Chain)

**Type of project**
Other, please specify (Livestock Supply Chain)

**Emissions targeted**
Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

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1-3 years

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**Requesting member**
CDP
Wal Mart de Mexico

**Group type of project**
Other, please specify (Sustainable Supply Chain)

**Type of project**
Other, please specify (Livestock Supply Chain)

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Regarding the Livestock Supply Chain, JBS aim to promote the development of sustainable raw material valorization projects, such as livestock products that promote forest-crop-livestock integration. Impelling the improvement of pasture in order to increase livestock by area, thus allowing carbon sequestration and reducing the use of pasture areas.

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**Requesting member**
Restaurant Brands International

**Group type of project**
New product or service

**Type of project**
New product or service that has a lower upstream emissions footprint

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
Other, please specify (More than 5 years)

**Details of proposal**
Development of projects along with pork farmers for the installation of biodigesters in the farms, allowing the conversion of methane into CO2, as well as the reduction of the use of electric energy, since this methane can be used for generation of electrical energy through the installation of a specific generator.

---

**Requesting member**
Wal-Mart Stores, Inc.

**Group type of project**
New product or service

**Type of project**
New product or service that has a lower upstream emissions footprint

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
Other, please specify (More than 5 years)

**Details of proposal**
Development of projects along with pork farmers for the installation of biodigesters in the farms, allowing the conversion of methane into CO2, as well as the reduction of the use of electric energy, since this methane can be used for generation of electrical energy through the installation of a specific generator.

**Requesting member**
Wal Mart de Mexico

**Group type of project**
New product or service

**Type of project**
New product or service that has a lower upstream emissions footprint

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
Other, please specify (More than 5 years.)

**Details of proposal**
Development of projects along with pork farmers for the installation of biodigesters in the farms, allowing the conversion of methane into CO2, as well as the reduction of the use of electric energy, since this methane can be used for generation of electrical energy through the installation of a specific generator.

---

**Requesting member**
Restaurant Brands International

**Group type of project**
New product or service

**Type of project**
New product or service that reduces customers operational emissions

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**
1-3 years

**Details of proposal**
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

---

**Requesting member**
Wal-Mart Stores, Inc.

**Group type of project**
New product or service

**Type of project**
New product or service that reduces customers operational emissions

**Emissions targeted**
Actions that would reduce both our own and our customers’ emissions

**Estimated timeframe for carbon reductions to be realized**
3-5 years

**Estimated lifetime CO2e savings**
Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

Requesting member
Wal Mart de Mexico

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

Requesting member
Johnson & Johnson

Group type of project
New product or service

Type of project
New product or service that reduces customers operational emissions

Emissions targeted
Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized
3-5 years

Estimated lifetime CO2e savings

Estimated payback
1-3 years

Details of proposal
Proposal of project that aims to separate the packaging of the products supplied for the Company for recycling it, thus reducing emission of scope 3 (landfill).

SC2.2

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

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

**Requesting member**
Arcos Dourados

**Initiative ID**
2017-ID1

**Group type of project**
Other, please specify (Sustainable supply chain)

**Type of project**
Other, please specify (Sustainable livestock program)

**Description of the reduction initiative**
Another reduction initiative is supplying of sustainable beef from Alta Floresta (MT) due to the Sustainable Livestock program. The first sustainable hamburger was made in Brazil in partnership with McDonald's, meeting a range of social and environmental criteria. JBS is the exclusive partner and supplier for the McDonald's Sustainable Hamburger program. This initiative produces hamburgers that not only meet the McDonald's quality requirements, but also comply with a range of social and environmental criteria. One of the requirements are that cattle suppliers cannot be involved in deforestation or invasion of indigenous lands or conservation areas; they must also avoid using any type of forced labor, so, in this case, the emission gain is also related to reduced deforestation. The production of the sustainable hamburger must also comply with three additional criteria: cattle monitoring from birth, compliance with the Sustainable Livestock Breeding Guidelines (GIPS), from the Brazilian Roundtable for Sustainable Livestock (GTPS), and independent verification of the project’s entire management system. Through this program it was possible to create the sustainable hamburger, and a protocol was formalized for this. Besides, as a result, the productivity gains reduce the cattle time in field, so it also reduces the methane released into the atmosphere over its life. The life field can go down from the current 36 months to 18 months. In that case, not only the methane can be reduced but also other GHG. Also, better management of the pasture can still reduce the CO2 in the atmosphere. The pasture itself can capture CO2 and fix the carbon and nitrogen into the soil.

**Emissions reduction for the reporting year in metric tons of CO2e**

Did you identify this opportunity as part of the CDP supply chain Action Exchange?
No

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

**Requesting member**
Arcos Dourados

**Initiative ID**
2017-ID2

**Group type of project**
Other, please specify (Sustainable supply chain)

**Type of project**
Other, please specify (Sustainable Sourcing)

**Description of the reduction initiative**
JBS is participating on the elaboration of McDonald's Global Sustainable Sourcing Guide. This Guide presents the sustainable practices required by the Company to supply products and among the required items, there is a chapter specific to Climate Change.

**Emissions reduction for the reporting year in metric tons of CO2e**

Did you identify this opportunity as part of the CDP supply chain Action Exchange?
No

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

SC3.1
SC3.1 Do you want to enroll in the 2018-2019 CDP Action Exchange initiative?
No

SC3.2

(SC3.2) Is your company a participating supplier in CDP’s 2017-2018 Action Exchange initiative?
No

SC4.1

(SC4.1) Are you providing product level data for your organization’s goods or services, if so, what functionality will you be using?
No, I am not providing data

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?
No

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

<table>
<thead>
<tr>
<th>I am submitting my response</th>
<th>Public or Non-Public Submission</th>
<th>I am submitting to</th>
<th>Are you ready to submit the additional Supply Chain Questions?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Investors</td>
<td>Yes, submit Supply Chain Questions now</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customers</td>
<td></td>
</tr>
</tbody>
</table>

Please confirm below
I have read and accept the applicable Terms