Associated British Foods – CDP Report – Climate Change 2018

C0. Introduction

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

Associated British Foods is a diversified international food, ingredients and retail group with sales of £15.4bn, 133,000 employees and operations in 50 countries across Europe, southern Africa, the Americas, Asia and Australia. Our purpose is to provide safe, nutritious, affordable food and clothing that is great value for money. The group operates through five strategic business segments: Grocery, Sugar, Agriculture, Ingredients and Retail. We aim to achieve strong, sustainable leadership positions in markets that offer potential for profitable growth and deliver quality products and services that are central to people's lives.

Each business in the group enjoys a high degree of autonomy in the running of their operations, but at the heart of the way we operate is a principle of 'value together' – the benefit the group gains from each business being part of the larger organisation.

Grocery comprises consumer-facing businesses that manufacture and market a variety of well-known food brands both nationally and internationally. Some of its best-known household brands include Twinings, Ovaltine, Ryvita, Kingsmill, Silver Spoon, Tip Top, Mazola and Spice Islands. George Weston Foods in Australia enjoys a 75% penetration of Australian households.

AB Sugar - The heart of our business is making and selling sugar, but we do much more than that. As well as 'core products', made from sugar beet and sugar cane, we also make 'co-products', which can include anything one or two 'steps' away from the sugar-making process: animal feed, soil conditioners, electricity, bioethanol and seed enhancements. Our operations are in the UK, Spain, southern Africa and north China. In the EU, Azucarera is the major producer in Iberia and British Sugar is the sole processor of the UK sugar beet crop and is one of Europe's most efficient processors. Illovo Sugar is the biggest sugar processor in Africa and is one of the world's foremost low-cost producers. We also have a beet sugar business in north China. The group currently operates in ten countries and has 24 factories with the capacity to produce some 4.5 million tonnes of sugar and 600 million litres of ethanol annually. We also have the capacity to generate power sufficient to meet most of our internal needs and, in a number of locations, we export power to the national grid.

AB Agri operates at the heart of the agricultural industry. Its unique breadth and experience enable it to add value all along the food, drink and biofuel industry supply chains. AB Agri supplies products and services to farmers, feed and food manufacturers, processors and retailers. It also buys grain from farmers and supplies crop inputs through its joint venture arable operation, Frontier Agriculture.

Ingredients comprises a number of businesses that supply a range of ingredients to food and non-food manufacturers. AB Mauri has a global presence in bakers' yeast with significant market positions in The Americas, Europe and Asia, and is a technology leader in, and supplier of, bread improvers, dough conditioners and bakery mixes. ABF Ingredients comprises businesses focusing on high-value ingredients for food, feed, pharmaceutical and industrial applications.

Primark is one of the largest clothing retailers in Europe. Primark employs more than 68,000 people across eleven countries across Europe and the northeast of the USA. It offers customers value for money clothing in more than 300 stores and more than 12 million square feet of retail selling space.

We have always had a decentralised approach to doing business. Operational decisions are made locally because, in our experience, they are most successful when made by the people who have the best understanding of their markets and who have to implement them. This culture of setting strategy and priorities locally gives our businesses an advantage in being able to swiftly respond to local market, environmental and people issues. The corporate centre aims to provide a framework in which our business leaders have the freedom and decision-making authority to pursue opportunities. The centre is small and uses short lines of communication to ensure prompt, incisive and unambiguous decision-making. It seeks to ensure that business activities are appropriately monitored and supported.

Our group corporate responsibility priorities are focused on: protecting the environment; the safety of our people; the diversity of our workforce; addressing modern slavery and promoting ethical trade.

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

Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
August 1 2016	July 31 2017	No	Not Applicable

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

Argentina
Australia
Belgium
Brazil
Canada
Chile

China
Czechia
Denmark
Ecuador
Finland
France
Germany
India
Ireland
Italy
Malawi
Malaysia
Mexico
Mozambique
Netherlands
New Zealand
Pakistan
Peru
Philippines
Poland
Portugal
Saudi Arabia
Singapore
South Africa
Spain
Sri Lanka
Swaziland
Switzerland
Thailand
Turkey
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America
Uruguay
Venezuela (Bolivarian Republic of)
Viet Nam
Zambia

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

GBP

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.

Other, please specify (Entities where we have 50% + Ownership)

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

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

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

Primary reason

Not evaluated due to insufficient data on operations

Please explain

A proportion of our products, for example bread, tea, ethnic foods, animal feed, clothes, soft furnishings and bioethanol are consumed directly without any further processing. As we do not directly control our operating companies, we are currently unable to obtain the granular data needed to assess this category. We have looked at this as a whole and judged it not to be a current priority due to the complexity of our operational structure. At a divisional level, our UK Grocery Group are signatories to Courtauld Commitment 2025 to work along the entire food chain to reduce the environmental impact of food and drink; to make food and drink production and consumption more sustainable.

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

Agricultural commodity

Sugar

% of revenue dependent on this agricultural commodity

20-40%

Produced or sourced

Both

Please explain

Sugar represents the single largest emission contributor to the Group. Net GHG emissions from our AB Sugar business accounts for 76% of total ABF group emissions and 83% of the group's overall energy usage.

C1. Governance

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.

Position of individual(s)	Please explain
Board/Executive board	The Company Secretary, who is accountable at board level for matters relating to corporate responsibility, is a member of the Executive Board. Responsibility for climate change management lies with the Company Secretary, reporting into the Chief Executive Officer. The Company Secretary position is a board member and therefore has the ability to review, influence and monitor changes at a group level.
Chief Risk Officer (CRO)	The Chief Risk Officer (CRO), who is accountable at board level for matters relating to risk and opportunity management, of which climate change is included, is a member of the Executive Board. Responsibility for risk management lies with the CRO, reporting to the Audit Committee, and therefore has the ability to review, influence and monitor changes at a group level. The board as a whole is responsible for overall risk management for ABF. As climate change is integrated into groupwide risk assessments, the board has ultimate responsibility for all risk.

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding risk management policies Reviewing and guiding business plans Monitoring implementation and performance of objectives	Our decentralised business model empowers the management of our businesses to identify, evaluate and manage the risks they face, on a timely basis, to ensure compliance with relevant legislation, our business principles and group policies. The risk assessments consider materiality, risk controls and the likely impact against a range of criteria such as business objectives, health and safety, financial performance, the environment and community, regulation and reputation. The collated risks from each business are shared with the respective divisional chief executives who present their divisional risks to the group executive. The group's Director of Financial Control (equivalent title of Chief Risk Officer) receives the risk assessments on an annual basis and, with the Group Finance Director, reviews and challenges them with the divisional chief executives. These risks and their impact on business performance are reported during the year and are considered as part of the monthly management review process. A summary of risks is shared and discussed with the Group Finance Director and Chief Executive at least annually.

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Half-yearly

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.

1) Where in the organisational structure the position lies & why responsibility lies here

The chief sustainability officer is the position that has highest level management position for climate- related issues. Responsibility lies here because this position has a direct link to the board reporting into the company secretary. The diversified nature of our operations, geographical reach, assets and currencies are important factors in mitigating the risk of a material threat to the group's balance sheet and results. Effective risk management is nevertheless central to the board's role in providing strategic oversight and stewardship of the group.

2) Description of responsibilities

The chief risk officer and therefore the board is accountable for ensuring that risk is successfully managed and undertakes a robust annual assessment of the principal risks, including those that would threaten the business model, future performance, solvency or liquidity, together with the internal control procedures and resources devoted to them. The board also monitors the group's exposure to risks as part of the performance reviews conducted at each board meeting. Financial risks are specifically reviewed by the Audit Committee which also reviews the effectiveness of the group's risk mitigation processes. Climate-related issues are integrated in to this and assessed as part of the financial risk assessment process.

Our decentralised business model empowers the management of our businesses to identify, evaluate and manage the risks they face, on a timely basis, to ensure compliance with relevant legislation, our business principles and group policies. The risk assessments consider materiality, risk controls and the likely impact against a range of criteria such as business objectives, health and safety, financial performance, the environment and community, regulation and reputation. The collated risks from each business are shared with the respective divisional chief executives who present their divisional risks to the group executive.

3) Description of specific climate-related issues monitoring

Climate-related issues are integrated in to the overall group risk management and performance processes as described in point 2 above. In parallel, the Corporate Responsibility Leaders Group and Health, Safety and Environment (HSE) Leaders Group meet throughout the year to identify and discuss group-wide topic specific issues such as climate change and water stewardship. Corporate Responsibility and HSE Managers from each of the five divisions are members of the groups as well as representatives from functions such as Procurement, Risk Management and Communications. These groups are chaired by the Chief Sustainability Officer, reporting to the Company Secretary and Group Safety and Environment Manager reporting to the Group HR Director who both in turn report to the Chief Executive. For further detail and a graphic to show this, see Our CR Reporting Guidance 2017 at https://www.abf.co.uk/documents/pdfs/arcr-2017/corporate_responsibility_guidance_2017.pdf

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

Yes

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

Who is entitled to benefit from these incentives?
Corporate executive team
Types of incentives
Recognition (non-monetary)
Activity incentivized
Energy reduction project
Comment
Due to the importance of sugar to the group, we include here the example from Illovo Sugar Africa Ltd: Climate change mitigation related indicators are directed at initiatives and advancements in clean technology, energy efficiency, waste avoidance and overall greenhouse gas (GHG) emission reduction within their operations. Climate change adaptation related indicators are directed at ensuring a sustainable cane supply; both within own agricultural operations and from third party cane providers and include water and crop resilience indicators.

C2. Risks and opportunities

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

	From (years)	To (years)	Comment
Short-term	1	3	Our businesses can make swift changes to their operations, with limited impact on operating costs, to adapt to changes in weather patterns or other climate-related issues. These are short-term horizons which can be incorporated into the annual budget and business planning processes.
Medium-term	3	10	A medium-term horizon will take into account wider value chain implications of any change to the business or operating model.

	From (years)	To (years)	Comment
Long-term	10	30	We are a company which thinks long term, invests consistently in its assets and finances itself conservatively. Long-term horizons are harder to predict and therefore manage but nonetheless, our businesses consider the long-term future sustainability of their business model for example, availability of raw ingredients, availability of natural resources and changes in consumer behaviour so they are prepared to adapt and react to these changes if necessary.

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	We are a company which thinks long term, invests consistently in its assets and finances itself conservatively. Our decentralised business model empowers the management of our businesses to identify, evaluate and manage the risks they face, on a timely basis, to ensure compliance with relevant legislation, our business principles and group policies. Assessments consider materiality, risk controls and the likely impact against criteria such as business objectives, financial performance, the environment and community, regulation and reputation. Collated risks from each business are shared with the respective divisional chief executives who present their divisional risks to the group executive. The Director of Financial Control receives annual risk assessments and reviews and challenges them with the Group Finance Director and divisional chief executives. A summary of risks is shared and discussed with the Group Finance Director, Chief Executive and the board at least annually.

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

1) Scope of Process
ABF's board takes ownership for management of risk, including energy, climate, raw material & supply chain, product and customer risks & opportunities. Detailed risk/opportunity assessments are managed by individual businesses at company level all their operating sites.
Environmental risks that have a high and immediate likelihood are reported to the Group CEO via the Group HR Director, who has day to day responsibility for environmental issues, and the Group Company Secretary who has overall responsibility for the group's approach to corporate responsibility. Otherwise, environmental risks are incorporated into the group's standard risk processes.

2) Company Level. The Internal Audit function reports to the board and maintains regular liaison with individual businesses. It identifies the risks/opportunities arising from business activities and confirms the measures to deal with major risks by averting, minimising, transferring or retaining them. Risks/ opportunities are assessed on a short, medium and long-term basis meaning that risks are assessed 10+ years in the future. The frequency of assessment of identified risks/opportunities takes place at least biannually.
Each business completes its own assessment, in a format prescribed by the board, which is signed by their CEO and submitted to ABF, which highlights their main business risks and opportunities and includes environmental issues where appropriate. These assessments are reviewed by ABF's board.
3) Asset Level. Risk assessments are cascaded to asset level with each site taking responsibility for assessing their immediate environmental sensitivities and risks, usually related to effluent, water extraction, energy usage, all emissions and odours.
These assessments are reported via the named director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures.

4) Risk Relativity
Each business is responsible for completing its own risk assessment which is reported to the Group's Director of Financial Control. Key risks and internal control procedures are reviewed at group level by the board. We require all businesses to implement appropriate levels of risk management to ensure compliance with legislation, our group HSE policies and our overriding business principles considering business needs and local circumstances. The board reviews annually the material financial and non-financial risks and opportunities facing our businesses and, on a rolling cycle, reviews the effectiveness of the risk management process and resources our businesses devote to them.
Criteria for determining materiality and priorities include:
a. Risk of legal non-compliance/health and safety/physical environmental damage/reputation;
b. Pollution or nuisance/offence to neighbours;
c. Opportunity for enhanced financial return/client acquisition/revenue streams;

d. Ease of achievement.

5) Terminology

ABF has a Risk Assessment Policy and process; risks are quantified at site level, collated at business level and then raised to ABF on a 6-monthly basis. Each business ensures that adequate financial, management & physical resources are in place to manage potential environmental risks. They are required to complete an annual return on environmental performance and provide evidence that all significant aspects of such performance have been reviewed at board level. Non-financial risks are mapped on a risk impact matrix which considers stakeholder concern and assesses likely level of impact. They are classified into 'business, 'operational', 'financial' and 'project' risks. It is the responsibility of the CEO of each business to embed assessments into their business and implement necessary response strategies.

6) Substantive Impact

ABF defines substantive change in our business, operations, revenue or expenditure as change which could eventually result in a financial impact on the group e.g. affecting our group's ability to generate profit or through movements in our share price. A material change could also be one that impacts our ability to continue supplying our valuable customers. An event that may receive attention from national or international media may be considered as potentially material to the group. If a change stopped ABF from being a socially useful business or conducting our activities in a socially responsible way, that would be classified as substantive change.

ABF consists of five divisions; a substantive risk to ABF as a whole is very rare because if something impacts one division, the other four will survive and it is unlikely to move the group's share price.

However, if climate risk is not managed effectively, operating and production costs relating to the impact of carbon and of crop risk can be substantive especially in our carbon intensive operations such as Sugar. As such there is a strong focus on managing energy and carbon efficiently.

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Increased administrative burdens and costs associated with existing and new cap and trade schemes where ABF has large manufacturing facilities or operations. In addition, without a comprehensive international agreement, inconsistent climate change policies may result in inconsistent schemes and market distortions. For example, when considering investment in co-generation equipment in South Africa, Illovo reviews the policy environment which would favour new investments into climate change initiatives such as energy agreements and feed-in tariffs. How this is included in the risk management process: each business is responsible for monitoring changes to the cap and

	Relevance & inclusion	Please explain
		trade legislation and ensuring they remain compliant. Where changes to schemes take place, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Emerging regulation	Relevant, always included	Increased direct and indirect costs associated with existing and new carbon taxes impacting ABF's operations. One example of a carbon tax that affects ABF is the UK's CRC scheme. We anticipate other countries adopting similar schemes in the near future. For example, in South Africa, where we have six sites, the first carbon-tax phase will be introduced in 2019. A part of this tax is that the non-anthropogenic component of bagasse and biomass will be taxed, and therefore Illovo will be exposed to the carbon tax in South Africa even if it phases out its fossil fuel consumption. How this is included in the risk management process: each business is responsible for monitoring changes carbon tax and other climate related legislation and developing processes to ensure compliance once the legislation is confirmed. Where changes to schemes take place, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Technology	Relevant, sometimes included	Changes in technology can lead to a positive or negative impact on ABF operations. If new technology supports processes becoming more efficient then there is the opportunity to reduce costs. If implementing technology leads to more costs, then this can impact our ability to deliver sound financial results. Our businesses constantly investigate technological and infrastructural alternatives when managing climate change related risks. Illovo promotes on-going energy optimisation enhancements to reduce overall energy footprints and reduce emissions through the optimum combustion of fuels through technology. For example, Illovo has installed variable speed control to regulate irrigation pumps and drive more efficient use of energy. How this is included in the risk management process: each business is responsible for the identification of new and more efficient technologies. Where these are identified, each business undertakes cost benefit analysis which is reported up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Legal	Relevant,	As with regulatory risk, increased legal requirements can place additional costs on the business to ensure

	Relevance & inclusion	Please explain
	always included	compliance is achieved and maintained across the impacted geographies. How this is included in the risk management process: each business is responsible for monitoring ensuring compliance with all relevant regulation and legislation in the geographies in which they operate. Where non-compliance has been identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Market	Relevant, sometimes included	Market risk can impact the income ABF receives for its products. The availability of raw materials, which may be impacted by weather changes, can lead to a change in price for those materials such as sugar or cotton. Changes in the markets across our operations can impact either positively or negatively due to the supply/demand curve. In addition, market changes can include tariffs, quotas and other levies. How this is included in the risk management process: each business is responsible for monitoring shifts in local and international markets. Where shifts in market trends are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Reputation	Relevant, always included	With increased scrutiny of climate change and sustainability performance by investors such as Legal & General Investment Management who are looking the group's consolidated climate impact, NGOs and across the value chain we recognise that there is a risk that our performance is not communicated effectively or valued sufficiently thereby reducing demand for our goods and services. How this is included in the risk management process: each business is responsible for engaging with stakeholders and monitoring local media for anything that may impact reputation. Where potential risks to reputation are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures.
Acute physical	Relevant, always included	Unanticipated natural phenomena such as fires and flooding may impact availability of key agricultural raw materials such as sugar in our supply chain and on our own land. For example, cloth mills, which include the use of cotton, were impacted by flooding in Bangladesh. This risk has the potential to increase operational cost, disrupt the value chain and impact our ability to do business. There is also a connected risk to the ability of our employees to travel to work and therefore a risk to operation of our businesses. How this is included in the risk management process: each business is responsible for understanding the risks pertinent to each location in which they operate.

	Relevance & inclusion	Please explain
		Where potential risks are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Chronic physical	Relevant, always included	Changes in precipitation, temperatures and other local weather patterns may impact availability of key agricultural raw materials and commodities such as sugar and cotton crops in our supply chain or on our own land. This risk has the potential to increase operational cost, disrupt the value chain and impact our ability to do business. How this is included in the risk management process: each business is responsible for understanding the risks pertinent to each location in which they operate. Where potential risks are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Upstream	Relevant, sometimes included	Some of ABF's businesses rely on other manufacturers and suppliers to be able to produce their end product. Each of these suppliers also face the risks that impact ABF directly. Working in partnerships with our suppliers and industry bodies helps us to understand and minimise the impact of these risks. For example, Illovo monitors upstream transport emissions and works with their growers to improve resilience against climate change impacts. How this is included in the risk management process: each business is responsible for understanding the risks pertinent to each location in which they operate. Where potential risks are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.
Downstream	Relevant, sometimes included	Market pressure and other risks mentioned above impact ABF's customers as well as ABF directly. If the demand drops, then this would impact the financial stability of the business. Working in partnerships with our suppliers, industry bodies and retail customers helps us to understand and minimise the impact of these risks. For example, Illovo monitors GHG emissions in its downstream transportation of sugarcane and sugar products to its customers. How this is included in the risk management process: each business is responsible for monitoring shifts in local and international markets. Where shifts in market trends are identified, each business reports this up to Group level via the named senior manager or director to the business CEO and to the Group CEO via the Group's Head of Internal

	Relevance & inclusion	Please explain
		Audit, who is the Group's Director of Financial Control, as per the company procedures. We use our own internal prescribed risk matrix for this process.

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

The board of ABF takes ownership for management of risk. This includes energy, climate, raw material & supply chain, product and customer risks and opportunities. Environmental risks considered as having a high and immediate likelihood are reported to the Group CEO via the Group HR Director, who has day to day responsibility for environmental issues, and the Group Company Secretary who has overall responsibility for the group's approach to corporate responsibility. Otherwise, environmental risks are incorporated into the group's standard risk processes.
The Internal Audit function, which reports to the board, maintains regular liaison with individual businesses. It identifies and evaluates the risks and opportunities arising from business activities and confirms the detailed measures intended to deal with major opportunities.

1. Process for managing risk
At a company level – The Internal Audit function, which reports to the board, maintains regular liaison with individual businesses. It identifies and evaluates the risks and opportunities arising from business activities and confirms the detailed measures intended to deal with major risks by averting, minimising, transferring or retaining them.
Responsibility at business level is held by the CEO and each business has a named director and a named senior manager who are accountable for its environmental performance. In addition, each business completes its own risk management assessment in a format prescribed by the board which is signed off by their CEO and submitted to ABF, which highlights their main business risks and opportunities and includes environmental issues where appropriate.
At an asset level – Risk and opportunity assessments are cascaded to asset level with each factory taking responsibility for assessing their immediate environmental sensitivities and risks, usually related to effluent, water extraction, energy usage, all emissions and odours. These assessments are reported via the named director to the business CEO and to the Group CEO via the Group's Head of Internal Audit, who is the Group's Director of Financial Control, as per the company procedures.

2. Process for managing opportunities
At a company level – The Internal Audit function maintains regular liaison with individual businesses. It identifies and evaluates the opportunities arising from business activities and confirms the detailed measures intended to maximise these. Responsibility at business level is held by CEOs

and each business has a named director and a named senior manager who are accountable for its environmental performance including creating the business case for investing in opportunities to mitigate or adapt to environmental changes.
At an asset level – opportunity assessments are cascaded to asset level with each factory taking responsibility for assessing their immediate environmental opportunities. These assessments are reported via the named senior manager or director to the business CEO and to the Group CEO via the Group HR Director, who has day to day responsibility for environmental issues, and the Group Company Secretary who has overall responsibility for the group's approach to corporate responsibility.

3. Case studies
a) Illovo's Sezela sugar mill in South Africa is taking measures to mitigate future emissions. As the site is a downstream furfural production process, it requires supplementary electricity from Eskom, the national power provider and coal to meet energy demand. In response to this, Sezela has initiated The Sezela Coal and Energy Savings Project to reduce the sites future coal and electricity requirements during cane crushing season. This project comprises a series of smaller projects, projected to reduce Illovo's GHG footprint by 41,815 tCO2 and enable the business to reach its internal target to reduce GHG emissions from coal combustion in South Africa by 25% (2010/11 baseline).
b) George Weston Foods' main bakery site for Tip Top conducted a gas efficiency audit, subsidised by a government-run energy saver programme. The audit identified significant opportunities including gas sub-meters, balancing the bakery ovens and installing systems on each of the main ovens to recover and reuse heat from the flues. These opportunities to reduce gas consumption have been considered and the first investment has already been made in gas sub-meters.

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

Identifier
Risk 1
Where in the value chain does the risk driver occur?
Direct operations
Risk type
Physical risk
Primary climate-related risk driver

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

Type of financial impact driver

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

Company- specific description

Increased severity of extreme weather events such as cyclones and floods and changes in precipitation and temperatures may damage infrastructure and impact availability of key agricultural raw materials and commodities. For example, Illovo's Nakambala site, Zambia experienced more than 65% greater than long-term mean monthly rainfall in December 2016 and January 2071. These weather events contributed to lower harvest age of the cane and an infestation of yellow sugarcane aphid. The total crop yield was reduced as a result. These types of risk have the potential to increase operational cost, disrupt the value chain and impact our ability to do business.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium

Explanation of financial impact

Potential increase in costs arising from lack of access to raw materials of sufficient quality could impact revenues significantly depending on the severity and the location of the change in climate. Due to ABF's decentralised structure we do not have a consolidated impact figure.

Management method

Measures used to manage the risk include:
- Conducting risk assessments;
- Devising procurement strategies to spread risk;
- Analysing water risk at country level;
- Investing in water efficiency programmes at local level; and,
- Investing in programmes to help farmers respond to climate change (e.g. Twinings support the Ethical Tea Programme's initiative).

As demonstrated by these examples, multiple initiatives are run at operating company level to identify and mitigate these risks. This approach is in line with the group management philosophy of operating companies making decisions locally. We recognise that we operate in a number of severely water-stressed geographies, making water conservation a priority. We acknowledge that our operations may impact on surrounding communities and take full responsibility for our water use. Ensuring access to a reliable supply of water is a critical strategic priority for our business, both to meet our needs and to ensure surrounding communities can meet theirs. We undertake water abstraction operations in compliance with existing water-use licenses, which are issued by the relevant authorities within the countries of operation.

Comment

Managing these costs is best devolved to our businesses that are closest to their supply chains. Given the materiality of the risk, management is an ongoing requirement with costs embedded into business as usual activities. Additional costs do arise as and when the corporate centre conducts strategic and tactical analysis to support our businesses. For example, some of Illovo's operations have historically been prone to flooding. This can result in damage to infrastructure and loss in productivity. At these operations Illovo is working on re-delineating flood risk zones and implementing and improving flood protection mechanisms. Illovo's flood mitigation measures at their operations in Malawi and Mozambique have demonstrated improved resilience and yielded improved results.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver

Reputation: Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions)

Company- specific description

With increased scrutiny of climate change and sustainability performance by investors such as Legal and General Investment Management who are looking the group's consolidated climate impact, NGOs and others across the value chain we recognise there is a risk that our performance is not communicated effectively or valued sufficiently thereby reducing demand for our goods and services.

Time horizon

Current

Likelihood

Unlikely

Magnitude of impact

Low

Explanation of financial impact

The costs associated with reputational damage are likely to vary subject to the nature of the issue and the number of operating companies impacted.

Management method

This is managed via a variety of methods:
1. Compliance with the group's Environment Policy and annual reporting of environmental impact
2. Farmer assistance and support programmes and driving ethical and sustainable procurement practices through the value chain
3. Ongoing investment in measuring and reporting the group's GHG emissions ahead of regulation and in line with industry practice
4. Substantial investment is made to improve environmental risk management, with a focus on reducing emissions
5. We engage with governments and NGOs to ensure the views of our stakeholders are represented and we try to anticipate and be ahead of reporting trends for information relating to climate change. For example, George Weston Foods created a new corporate responsibility working group. The working group is tasked with assessing and prioritising corporate responsibility risks to the business, and then implementing corrective actions or programmes to mitigate those risks. In order to ensure its corporate responsibility programme met or exceeded the expectations of its most important stakeholders, the working group invited a representative from each business to complete a detailed survey to assess how well-aligned it is with its customers' corporate responsibility priorities. This information is now being used to prioritise action and to ensure George Weston Foods' businesses are managing current corporate responsibility issues appropriately and are prepared for potential emerging issues.

Comment

The costs associated with managing this risk are substantial for us as a Group, and ever increasing as we continually improve our footprints in our own operations and aspire to do so throughout our supply chains.

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

Identifier

Opportunity 1

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

Increasing the demand for the bioethanol which we manufacture generates an additional income stream for our sugar business. The UK has set itself a target of 10% of transport fuel to come from renewable sources by 2020. This is in response to comply with a legally binding EU target to source 15% of energy from renewables.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Explanation of financial impact

The Wissington sugar factory creates 55,000 tonnes (70 million litres) of bioethanol each year from the residual sugar syrup products from sugar beet processing. This opportunity is managed commercially and generates revenues from the sale of bioethanol subject to the prevailing market conditions. Due to ABF's decentralised structure this figure is not consolidated.

Strategy to realize opportunity

We are currently producing biofuels in order to meet market demand and realise this opportunity. As one of the UK's leading agri-processors with an interest in innovative new technology, British Sugar began production of bioethanol in September 2007 making it the first company to manufacture bioethanol in the UK. The Wissington factory is managed under the AB Sugar operating company with its separate Profit and Loss and organisational governance processes. Market trends for biofuels are monitored and where required production capacity will be increased.

Identifier

Opportunity 2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Participation in renewable energy programs and adoption of energy-efficiency measures

Type of financial impact driver
Other, please specify (Reduced operating costs)
Company- specific description
Carbon taxation schemes create additional financial incentives to reduce energy consumption and cut GHG emissions. In the UK, for example, the Climate Change Levy and the Carbon Reduction Commitment increase the cost of energy providing further incentive for energy efficiency and hence CO2 reduction investments. The Tax Act of South Africa makes allowance for a Section 12L tax deduction equivalent to 95c/kWh of energy saved, as determined by a Certified Measurement and Verification Professional (CMVP).
Time horizon
Short-term
Likelihood
Very likely
Magnitude of impact
Medium-low
Potential financial impact
100000
Explanation of financial impact
The estimated financial implications of the opportunity to pay less 'carbon tax' for one of ABF's operating companies is over £100,000, This is calculated based on the annual energy savings achieved in the facilities and the carbon allowance price under the UK's CRC scheme.
Strategy to realize opportunity
Rigorous analysis of energy efficiency activities in operations covered by the CRC. Only a subset of ABF operations report to the CRC (offices and retail operations) and the scheme requires reporting of emissions arising from electricity and natural gas. This year, work began on British Sugar's new head office in Peterborough, UK. The environment has been a strong focus in the building's design, particularly in energy and water efficiencies. In future years, we will be able to report on the impact of these environmental solutions such as the installation of photovoltaic roof panels, the provision of electric charging points for employee cars, recycling of rainwater and the positioning and size of the windows to reduce reliance on lighting.
Comment
This cost includes the managing and implementing the emissions reduction strategy.

Identifier
Opportunity 3
Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resilience
Primary climate-related opportunity driver
Resource substitutes/diversification
Type of financial impact driver
Increased reliability of supply chain and ability to operate under various conditions
Company- specific description
Changes to weather and precipitation patterns has the potential to impact the availability and cost of water in our supply chain and to our operations, such as flooding in Bangladesh where suppliers have mills using cloth, including cotton. By working with our agricultural supply chain as well as managing our water use and identifying effective mitigation and adaptation activities, we can potentially control costs and create competitive advantage in comparison to our competitors.
Time horizon
Long-term
Likelihood
Very likely
Magnitude of impact
Medium
Explanation of financial impact
By managing scarce resources ahead of our competitors ABF's businesses will be better placed to manage supply and access to key raw materials, and also reduce water related costs. Either of the above will enable ABF to manage operational costs and may provide a competitive advantage. Due to ABF's decentralised structure this figure is not consolidated.
Strategy to realize opportunity
Our companies have or are creating programmes of activities such as water recycling to address their particular water issues and increase water efficiency. Recent and current activities include:
- developing our understanding of global water stress through the use of a water risk management tool;
- publicly disclosing information on our water use and how we are addressing water scarcity;
- maintaining our focus on sugar production, our largest user of water, and developing more efficient ways to reduce water consumption;
- completing water footprints on all sugar processing facilities in Africa, China, the UK and Spain;
- improving how we collect data on water usage and increasing our knowledge of water throughout a product lifecycle; and,
- engaging with external stakeholders within the river catchments where we operate. For example, Illovo works with regional catchment councils in southern Africa.

Comment

In line with our approach of making decisions locally, costs associated with this opportunity are mainly borne at business level and embedded as business as usual costs. At group level, management costs are also embedded into business as usual costs. However, additional costs arise when conducting strategic/tactical analysis to support the operating companies.

Identifier
Opportunity 4
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
With increasing demand for low carbon products and taking advantage of the requirement for home grown renewable energy to support the UK economy, ABF operates a Bioethanol facility in Hull. The highly efficient new plant was officially opened in July 2013 and converts UK feed-wheat (wheat grown for animal feed) into bioethanol and animal feed.
Time horizon
Medium-term
Likelihood
Virtually certain
Magnitude of impact
High
Potential financial impact
40000000
Explanation of financial impact
This opportunity generates revenues from the sale of bioethanol. Running at full capacity of 420 million litres a year, Vivergo generated over £40 million in revenue in the previous reporting year.
Strategy to realize opportunity

Vivergo Fuels produces high quality bioethanol which it sells into the market with the objective of delivering a commercial return. Financial performance is managed through its own internal governance and reporting structures, which is then reported to its key investor stakeholders, including ABF, in line with their reporting cycles.

Comment

This cost, not disclosed, was the total investment in the facility required to generate this product.

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

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	Throughout ABF we utilise natural resources in our production processes. In some places and for some crops, such as sugar beet and cane, these are already being affected by changing weather patterns. For example, water and energy availability impacts production capabilities. For Illovo, the average downtime through non-availability of imported or co-generated electricity was 6.5%. This was driven mainly by low water levels affecting hydro-power supply. Our businesses monitor and measure the risks and opportunities facing them. This local approach allows each business to respond in the most appropriate manner for their operations. Our group consists of five divisions with Primark and AB Sugar being the largest. A substantive risk to ABF as a whole is very rare because if something impacts one business or division, the other four will survive and it will unlikely lead to a move in the share price of the group.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Throughout ABF our supply and value chain depend on our ability to purchase and then produce goods for sale. These relationships can be, and in some places are already being, impacted by climate change such as through the supply of sugar beet and cane. For example, Illovo's sugar cane suppliers experienced a significant reduction in cane production in 2016/17 due to climate variability and drought, with Malawi and Swaziland experiencing the largest impacts. Our businesses monitor and measure the risks and opportunities facing them due to climate change. This local approach allows each business to respond in the most appropriate manner for their operations. Our group consists of five divisions with Primark and AB Sugar being the largest. A substantive risk to ABF as a whole is very rare because if something impacts one business or division, the other four will survive and it will unlikely lead to a move in the share price of the group.
Adaptation and mitigation	Impacted for some suppliers, facilities, or	As part of their business planning cycle, our businesses consider material impacts from climate change. At the local level, each business considers how to minimise the impact of climate change on their processes

	Impact	Description
activities	product lines	and supply chain, either by adapting their processes or mitigating the emissions they produce. For example, during 2016 Illovo's site Sezela in South Africa initiated the Sezela Coal and Energy Savings Project with the purpose of reducing coal use by 10,000 tonnes per annum and electricity requirements by 21 GWh during its cane crushing season. The project is expected to reduce Illovo's GHG footprint by 45,000 tCO2e. A further example is when water supply is interrupted due to climate change. The frequency of severe weather events affects normal annual rainfall distribution especially affecting Illovo's operations in Mozambique, Malawi and South Africa. Mitigating initiatives include investment in the water infrastructure, pumps and pump stations as well as creating flexible milling capacity and power generation.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	As part of their business planning cycle, our businesses consider material impacts from climate change. At the local level, each business considers which R&D programmes they should focus investment in to ensure they are reducing the impact of climate change on their operating model. ABF has a major technical centre in the UK at the Allied Technical Centre. Facilities also exist at ACH Food Companies in the US, Weston Technologies and AB Mauri in Australia and the Netherlands, and AB Enzymes in Germany. These centres support the technical resources of the divisions in the search for new technology and in monitoring and maintaining high standards. This has a big impact on the group.
Operations	Impacted for some suppliers, facilities, or product lines	ABF has operations in many countries and which are facing the physical impact of climate change in different ways. In particular, more widespread droughts and torrential downpours have recently created risks to the secure supply of crops such as sugar and cotton. These, and other environmental issues, are material to our business if not managed correctly. We allow each business the autonomy to identify and respond to the most material risks they face. Our group consists of five divisions with Primark and AB Sugar being the largest. A substantive risk to ABF as a whole is very rare because if something impacts one business or division, the other four will survive and it will unlikely lead to a move in the share price of the group.

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

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or	Our businesses consider all material risks and opportunities in their financial planning and risk management processes. From physical to reputation, the associated risks and opportunities could have

	Relevance	Description
	product lines	an impact on revenues which is tracked at the business level. If climate change impacts our ability to produce or source the raw materials we use, there will be a direct influence on our ability to generate revenue. However, as our group consists of five divisions, a substantive risk to ABF as a whole is very rare because if something impacts one business or division, the other four will survive and it will unlikely lead to a move in the share price of the group.
Operating costs	Impacted	When existing approaches to production and supply costs increase due to the impact of climate change, this becomes a core issue to the sustainability of a business model. There can also be reductions in operating costs as we invest in renewable energy projects that take our sites off-grid and even supply the grid with surplus energy generated on our sites. For example, in the reporting year 90% of the energy used by Illovo was derived from renewable sources with 842 GWh of excess electricity exported to the national power networks.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	During the reporting year, our businesses invested substantially in environmental risk management of which significant amounts were spent on energy improvement, reduction and innovation. Capital funding is made available to all our businesses where returns meet or exceed clearly defined criteria. Investment into the management and adaptation towards climate change is managed at the local level. For example, capital was allocated to the installation of an additional diesel generator capacity at Illovo's Dwangwa site in Malawi to mitigate the risk associated with power supply constraints.
Acquisitions and divestments	Impacted for some suppliers, facilities, or product lines	These decisions are made at the local business level. Due to market forces, we divested in the number of UK British Sugar factories from 18 to four since 1980. The intention which has been realized was to invest in the remaining 4 factories to process the same tonnage of sugar beet and one important area of focus was to make the factories more energy efficient. In the last 5 years we have invested £250 million in these four factories; a significant proportion of this has been in energy efficiencies. Now the average energy use is 481GJ per 100 tonnes of sugar, representing a reduction of 55% over that time.
Access to capital	Impacted for some suppliers, facilities, or product lines	It is recognised that access to capital at a Group level may become more difficult as the impact of climate change is felt worldwide. This impact is low.
Assets	Impacted for some suppliers, facilities, or product lines	Our factories, estates, stores and offices are part of our asset disclosure. The impact of climate change on these ranges from the need to build or adapt sites so they can utilise different energy sources, for example, the gas pipeline was installed at British Sugar's Cantley factory in order to convert an oil fired

	Relevance	Description
		boiler to operate on natural gas. Following consultation and agreement with Norfolk County Council and National Grid, the gas line was installed from Burlingham to the Cantley site. The pipeline came online in August 2017.
Liabilities	Impacted for some suppliers, facilities, or product lines	Each business is responsible for the management of its liabilities. They report to the Audit Committee on any material liabilities that may impact the financial performance of the business and therefore factor all material risks into their financial planning cycles.

C3. Business Strategy

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

Yes

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

No, and we do not anticipate doing so in the next two years

C-FB3.1b Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

No, we do not have a low-carbon transition plan

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

ABF thinks long term, invests consistently in its assets and finances itself conservatively. Our business consists of 5 divisions; a substantive risk to ABF is very rare because if something impacts one business or division, the other four will survive and it will unlikely lead to a move in the group share price. We have a well-established framework of policies and processes to support our governance objectives underpinned by one of the group's guiding business principles of 'encouraging ethical business'. Our governance procedures specify that environmental management

including climate change represents a principal risk and uncertainty. It is ABF's policy (attached), updated in 2016, that as a minimum we increase our energy efficiency and hence reduce carbon emissions.

1. Strategy influence:

Each business has responsibility for its environmental impact and for delivering in line with the group's principles. Therefore, climate change data is collected and reported annually by the businesses and collated by ABF to understand the group's environmental performance and to help influence management decisions. Climate change risks and opportunities form a core part of daily operations and regular decision-making processes. This responsibility is embedded within the core principles of the business. Some of our businesses set their own targets and goals in line with their business strategy; for example AB Agri has an internal sustainability target of 20% reduction in GHG emissions by 2024 based on 2013 levels. Each business has its own approach to reducing emissions, whether through improving energy and resource efficiency, providing low-carbon goods and services or generating and using renewable energy. When acquiring new businesses, we perform due diligence to ensure we understand the environmental impact of the operations before we purchase them. This allows us to plan any requisite investments.

2. Substantial decisions:

As part of our business strategy we have expanded into climate change-driven new products.

Bioethanol - At British Sugar's Wissington site, the sugar biorefinery produces 55,000 tonnes (70 million litres) of bioethanol annually from the residual sugar syrup products from sugar beet processing. This bioethanol plant was opened in September 2007, which was the first plant to manufacture bioethanol in the UK.

Our Hull bioethanol plant opened in July 2013 and converts UK feed-wheat (grown for animal feed) into bioethanol and animal feed. It has the capacity to produce up to 420 million litres of bioethanol and up to 500,000 tonnes of high-protein, high-fibre animal feed products.

Anaerobic Digestion – At British Sugar's Bury St Edmunds' site has an anaerobic digester which enables the business to produce renewable energy from sugar beet pulp; which remains after sugars are extracted. The plant, consisting of three digester tanks, was designed to take approximately 97,500 tonnes of pressed sugar beet pulp per year, some fed directly during the beet harvesting campaign and some stored as bales for future use. This provides a sustainable feedstock not taking up food producing arable land. The biogas generated feeds a combined heat and power plant (CHP) generating up to 5MW of electricity with additional heat recovery from the exhaust. Electrical generation via two gas engines is approximately 38,260 MW per year exported to grid, enough to power approximately 8000 average homes for a year. The digestate is used as agricultural fertiliser returning nutrients back to the land and avoids the application of synthetic fertilisers.

In 2016 a significant business decision from AB Agri was made to launch Amur, a new anaerobic digestion business. The AD plant is designed to take 60,000 tonnes of blended food and green waste which, using anaerobic digestion, generates biomethane which is directed into the national grid gas supply.

3. Climate change's influence on strategy:
a. Legislative Change - Regional availability of energy, cost, and the influence of taxation and incentives, and energy regulation. We have had to identify cheaper and more sustainable supplies that have included developing our own CHP programmes. In the UK, legislation continues to evolve with proposals to simplify the landscape, replacing the CRC by increasing the Climate Change Levy and implementing a new reporting framework in 2019. In the EU the Energy Efficiency Directive drove a range of interventions during the reporting year.
b. Physical Climate Change - Changes in climate such as flooding and drought, impacting the supply of sugar beet or cane have also placed pressures on the supply chain. In some cases, we have had to source raw materials from new regions or change our strategy around current supply. Our operations make efficiency gains to adapt to this new environment.
c. Societal Change - Stakeholders including governments, investors, regulators, suppliers and customers require us to keep our business strategy up-to-date in line with climate change. In 2017, British Sugar was recognised for its work in energy reduction and co-product development; shortlisted for The BITC Award for Environmental Leadership for their Resource Efficiency Programme Target 2020, demonstrating environmental leadership in the UK beet sugar industry.

4. Short-term strategy that has been influenced by climate change including innovation in efficient energy generation technologies and increasing bioethanol production which displaces carbon intensive vehicle fuels. Our 25 sugar factories use CHP technology. Two factories use Combined Cycle Gas Turbine technology. As a result, approximately 80% of the energy in the fossil fuel is extracted for use in our factories and to produce electricity for export to the grid. This compares to standard power stations, which tend to extract around 40% of the energy, wasting some 60%. Using this clean technology, we generated power for our factories and exported 639 GWh of electricity to other users in 2015-2016.

5. Climate change has influenced the long-term strategy by putting a focus on generating our own renewable electricity and phasing out fossil fuels. The outcomes of this have led to considerable success over the years. This year over 56% of ABF's Scope 1 energy came from bagasse (a form of biomass; the renewable energy is generated from burning bagasse). Improving efficiency in our sugar factories allows us to use surplus steam to generate renewable electricity, more than is required for factory operations. The surplus electricity is sold to local electricity networks, displacing fossil fuel powered energy.

6. Strategic advantage: The climate change agenda is focusing ABF on reducing energy and waste costs and driving increased value to our customers. It is also creating commercial opportunities supporting the growth of several operating companies which are developing products or co-products such as bioethanol and services to help their clients respond to climate change.

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

ABF runs a decentralised approach to climate change management. This allows each business to address the most material issues they face within their local environment. While ABF has an environment policy which outlines our group wide approach to energy efficiency and the drive to lower emissions, it is not based on scenario analyses. As each business operates across different geographies, sources different raw materials such as cotton, wheat and sugar, and also has different product lines, they are best placed to decide when they will implement an approach towards climate change based on scenario-analyses. Whilst the board governs the risk of climate change and its management, the company runs a decentralised approach to day to day climate change management.

C4. Targets and performance

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
Intensity target 1
Scope
Scope 1+2 (location-based)
% emissions in Scope
100
% reduction from baseline year
3.65
Metric
Other, please specify (kgCO2e per tonne of sugar produced)
Base year
2010
Start year
2010
Normalized baseline year emissions covered by target (metric tons CO2e)
636
Target year

2020

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)

0

Target status

Underway

Please explain

Target for British Sugar only Base year refers to the financial year 2009/2010

% change anticipated in absolute Scope 1+2 emissions

% change anticipated in absolute Scope 3 emissions

0

Target reference number

Intensity target 2

Scope

Scope 1

% emissions in Scope

67

% reduction from baseline year

20

Metric

Other, please specify (tCO2e per tonne sugar produced)

Base year

2011

Start year

2011

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

0.14

Target year

2019

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)

Target status

Underway

Please explain

Target for British Sugar only Base year refers to the financial year 2010/2011

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

0

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	
To be implemented*	0	
Implementation commenced*	1	45000
Implemented*	9	2533
Not to be implemented	0	

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

Activity type
Low-carbon energy installation
Description of activity
Solar PV
Estimated annual CO2e savings (metric tonnes CO2e)
18.6
Scope
Scope 2 (location-based)
Voluntary/Mandatory
Voluntary
Estimated lifetime of the initiative
21-30 years
Comment
In autumn 2017, we installed a second set of solar panels at our AB Agri Business Centre in Peterborough. The additional panels avoid the generation of 18,600kg of CO2 per year. Across the 25-year life of the installation this will sum to more than 465 tonnes of CO2 – enough to power 36 UK homes for a year.

Activity type
Energy efficiency: Building services
Description of activity
Building controls
Estimated annual CO2e savings (metric tonnes CO2e)
1210
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Investment required (unit currency – as specified in CC0.4)
550000
Payback period
>25 years

Estimated lifetime of the initiative
Ongoing
Comment
Over the last year Allied Bakeries has invested over £550,000 on energy-saving projects across its UK sites ranging from the installation of LED lighting to upgrading boilers and air compressors. The result of these investments is an annual saving of 1.4 million kWh of electricity and 3.9 million kWh of gas.

Activity type
Other, please specify (Transportation (Fleet))
Estimated annual CO2e savings (metric tonnes CO2e)
1304
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
70924
Investment required (unit currency – as specified in CC0.4)
0
Payback period
<1 year
Estimated lifetime of the initiative
Ongoing
Comment
In the UK, Allied Bakeries operates nine bakeries making bread and other baked products as well as ten distribution depots. Over the year, the annual route reduction programme made significant progress in reducing road journeys by 1.2 million kilometres through route optimisation and partnering with other businesses within the food delivery network. Furthermore, the use of a fleet management system and daily driver briefings contributed to a significant reduction in fuel used.

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

Method	Comment

Method	Comment
Financial optimization calculations	Emission reduction activities need to meet the usual investment criteria.

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

Yes

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

Management practice reference number
Management Practice 1
Management practice
Knowledge sharing
Description of management practice
AB Sustain, a subsidiary company of ABF provides independent expert advice both nationally and internationally to growers to improve the sustainability of the agricultural operations. We also offer proven greenhouse gas modelling to reduce environmental impacts and to make financial savings. AB Sustain has received many awards from retailers and environmental groups for their work.
Primary climate change-related benefit
Emission reductions (mitigation)
Estimated CO2e savings (metric tons CO2e)

Management practice reference number
Management Practice 2
Management practice
Seed variety selection
Description of management practice
Sugar cane variety development and cultivation aimed at increasing the resilience of our operations to water stress and pest vectors.
Primary climate change-related benefit
Increasing resilience to climate change (adaptation)

Management practice reference number

Management Practice 3

Management practice

Other, please specify (Green sugar cane harvesting)

Description of management practice

In our sugar cane operations in Swaziland, Malawi and South Africa a proportion of our sugar cane is harvested without burning the cane in the field to remove unwanted leaves. Instead the cane has the leaves removed manually without burning. This is very labour intensive but reduces the in-field burning and subsequent CO2 emissions.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 4

Management practice

Other, please specify (Manual harvesting)

Description of management practice

The majority of our sugar cane is harvested manually rather than by machine thereby reducing the consumption of fossil fuels and supporting employment and social cohesion. In addition, manual harvesting results in less damage to the sugar cane root system and reduces replanting.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 5

Management practice

Low carbon energy use

Description of management practice

The owned sugar cane operations have their irrigation equipment powered by electricity generated from renewable resources.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 6

Management practice

Other, please specify (Nutrient Management)

Description of management practice

We recycle boiler ash and filter cake onto our own crops of sugar cane as organic sources of plant nutrients.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 7

Management practice

Other, please specify (Water Management)

Description of management practice

We are increasingly using treated wastewater from our sugar cane mills as irrigation water resulting in decreased river water abstraction and decreased irrigation energy requirements.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 8

Management practice

Biodiversity considerations

Description of management practice

We maintain natural vegetation surrounding our sugar cane fields which are irrigated using water pivot technology.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number

Management Practice 9

Management practice

Pest, disease and weed management practices

Description of management practice

Where feasible we try to use biological control agents to control agricultural pests to offset our use of inorganic pesticides.

Primary climate change-related benefit

Emission reductions (mitigation)

Management practice reference number
Management Practice 10
Management practice
Other, please specify (Sub-surface fertiliser application)
Description of management practice
At our Zambian operations synthetic fertiliser is applied to the sub-surface of the soil for sugar cane growing. This reduces fertiliser evaporation losses and improves fertiliser input efficiency which in turn reduces the emissions from the manufacture of fertiliser.
Primary climate change-related benefit
Emission reductions (mitigation)

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?

No

C5. Emissions methodology

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

Scope 1
Base year start
September 1 2010
Base year end
August 31 2011
Base year emissions (metric tons CO2e)
2694910

Scope 2 (location-based)
Base year start
September 1 2010
Base year end
August 31 2011
Base year emissions (metric tons CO2e)
911386

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.

Defra Voluntary 2017 Reporting Guidelines
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

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

Gross global Scope 1 emissions (metric tons CO2e)
2553649

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

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

Scope 2, market-based
We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

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

Scope 2, location-based
992389
Comment
We hold contractual instruments for our electricity supply in some countries including the UK. We do not consider the benefits of calculating market - as well as location-based Scope 2 emissions to outweigh the costs given the nature of our decentralised business means that calculating Scope 2 emissions from all our operating companies and collecting their individual supplier-specific emissions factors would be a complex task.

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

Yes

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

Source
Landlord - controlled office emissions
Relevance of Scope 1 emissions from this source
Emissions are not relevant
Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant
Relevance of market-based Scope 2 emissions from this source (if applicable)
Please select
Explain why the source is excluded
The ABF property estate contains a small number of small offices where accurate data are difficult to collect. As these sources are not material we have excluded them from our calculations. Their likely scale is not a significant part of our global emissions.

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
Explanation
We recognise that this source of emissions is material for our business. However, we are a diverse business with many operating companies and we do not centrally control their operations. Therefore, we do not have the granular data to calculate the emissions in this category.

Capital goods
Evaluation status
Relevant, not yet calculated
Explanation

The processing of sugar beet and sugar cane (which accounts for the majority of our total energy usage) requires very large plant and equipment and hence is capital intensive. We recognise that this source of emissions is material for our business. However, we are a diverse business with many operating companies and we do not centrally control their operations. Therefore, we do not have the granular data to calculate the emissions in this category.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

452806

Emissions calculation methodology

Emissions in this category were calculated from three distinct activities: (1) Upstream emissions (well to tank - WTT) of purchased fuels; (2) Upstream emissions from purchased electricity and district heating; (3) Transmission & Distribution (T and D) losses and associated WTT from purchased electricity. The source for emission factors is DEFRA (2017), using country-specific or regional average emission factors for electricity.

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

100

Explanation

All emissions calculated were from ABF's own data

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

602470

Emissions calculation methodology

We used: - standard factors from the UK's DEFRA carbon emission factors list 2017 regarding litres of diesel burnt. - standard factors from UK's DEFRA for typical lorry/truck movements of differing sizes of vehicles - standard factors from UK's DEFRA for typical shipping rates

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

100

Explanation

Our transport emissions include those resulting from any transport movement that is dedicated to move something for us (raw materials, ingredients, packaging, processing aids, waste, part processed materials or finished product) and; the means of transport is either owned or

leased by us; or we are invoiced directly by the sub-contractor for that transport movement. Our reported emissions includes the movement of goods via ships and aeroplanes.

Waste generated in operations
Evaluation status
Relevant, not yet calculated
Explanation
We have a few onsite waste disposal facilities, although most waste is processed by third parties offsite and we are working on better quantifying these to be able to report Scope 3 waste.

Business travel
Evaluation status
Relevant, not yet calculated
Explanation
Being a global business with activities in 50 countries there is a certain amount of international and national travelling, by car, train and plane, etc. We are a diverse business with many operating companies and currently we do not centrally hold the granular data to calculate the emissions in this category.

Employee commuting
Evaluation status
Not relevant, calculated

Metric tonnes CO2e
57722
Emissions calculation methodology
Emissions from employee commuting were based on an estimation of the average distance travelled per FTE per country multiplied by DEFRA 2017 emissions factors for private and public transport.
Percentage of emissions calculated using data obtained from suppliers or value chain partners
0
Explanation

With over 100,000 employees worldwide there is a considerable amount of employee commuting. As a percentage of our total emissions, emissions from commuting accounts for less than 1%.

Upstream leased assets

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

4300

Emissions calculation methodology

Emissions from upstream leased assets was estimated based on CIBSE benchmark gas and electricity consumption per FTE at these sites and multiplied by DEFRA 2017 emissions factors for gas and IEA 2017 emissions factors for electricity.

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

0

Explanation

The scale of emissions from upstream leased assets as a percentage of our total emissions is less than 1%.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Explanation

With over 14 million tonnes of products sold to our customers and many millions of items of clothing sold from our 345 Primark stores there will be significant emissions from the transportation and distribution of our products. We have not yet calculated this due to the complexity and diversity of our business entities.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Explanation

A proportion of our products, e.g. sugar, yeast, edible oils, bakery ingredients, are sold to other companies to be further processed and incorporated into their (mainly food) products. As we do not directly control our operating companies, we are unable to obtain the granular data on the destination of their products.

Use of sold products

Evaluation status

Relevant, not yet calculated

Explanation

A proportion of our products, e.g. bread, tea, ethnic foods, animal feed, clothes, soft furnishings, bioethanol, etc. is consumed directly without any further processing. As we do not directly control our operating companies, we are currently unable to obtain the granular data needed to calculate this category.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Explanation

The final food products are consumed by millions of people. The clothes and soft furnishings sold by Primark are eventually discarded by the consumers. As we do not directly control our operating companies, we are currently unable to obtain the granular data needed to calculate this category.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Any emissions from downstream leased assets are certain to be extremely small and not material when compared to our main emission sources as we do not lease out a significant amount of our assets.

Franchises

Evaluation status

Not relevant, explanation provided

Explanation

We do not have franchises.

Investments

Evaluation status

Relevant, calculated

Metric tonnes CO2e
73157
Emissions calculation methodology
Emissions for our larger joint ventures were calculated using consumption data provided by the companies themselves and using the emissions factors used for our scope 1 and 2 emissions
Percentage of emissions calculated using data obtained from suppliers or value chain partners
100
Explanation
ABF has a number of investments and joint ventures. Emissions have been quantified for our larger JVs but not quantified for our minor JVs.

Other (upstream)
Evaluation status
Not relevant, explanation provided
Explanation
We are not aware of other upstream scope 3 emissions

Other (downstream)
Evaluation status
Not relevant, explanation provided
Explanation
We are not aware of other downstream scope 3 emissions

C-FB6.6 Can you breakdown your Scope 3 emissions by relevant business activity areas?

No

C-FB6.6b Why can you not report your Scope 3 emissions by business activity area?

Primary reason
Insufficient data on operations

Please explain

We are a diverse business with many operating companies and we do not centrally control their operations. Therefore, we do not have the granular data to calculate the emissions in this category.

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

Yes

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

183197

C-FB6.8 Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

Yes

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

CO2 emissions from land use management
Emissions (metric tons CO2)
0
Methodology
Default emissions factors

CO2 removals from land use management
Emissions (metric tons CO2)
0
Methodology
Default emissions factors
Sequestration during land use change
Emissions (metric tons CO2)
0

Methodology
Default emissions factors

CO2 emissions from biofuel combustion (land machinery)
Emissions (metric tons CO2)
183197
Methodology
Default emissions factors
Please explain

Emission increase compared with last year output due production increase.

CO2 emissions from biofuel combustion (processing/manufacturing machinery)
Emissions (metric tons CO2)
0
Methodology

Default emissions factors

CO2 emissions from biofuel combustion (other)
Emissions (metric tons CO2)
0
Methodology
Default emissions factors

C-FB6.9 Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in FB0.7?

Agricultural commodities
Sugar
Do you collect or calculate GHG emissions for this commodity?
Yes
Please explain
For the sugar businesses where we are collecting data regarding agricultural activities such as sugar beet and sugar cane growing managed by ABF.

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

Sugar
Reporting emissions by
Unit of production
Emissions (metric tons CO2e)
120102
Denominator: unit of production

Other, please specify (tonnes sugar cane/beet processed on site)

Change from last reporting year

About the same

Please explain

Last year we processed more sugar cane and sugar beet on our sites, hence an increase in agricultural emissions for the sugar division. Nevertheless, using as denominator tonnes of sugar cane and sugar beet processed on site emission intensity has the same level as 2016.

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

0.000231707

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

3546038

Metric denominator

unit total revenue

Metric denominator: Unit total

15304000000

Scope 2 figure used

Location-based

% change from previous year

10

Direction of change

Decreased

Reason for change

Emission data increased with 3% compared with last year, but total revenue increased with 9% hence direction of change for this intensity figure.

C7. Emissions breakdowns

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).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	2541734	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	4195	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	7720	IPCC Fourth Assessment Report (AR4 - 100 year)

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Africa	474385
Australasia	98361
China	418412
North America	55023
Other, please specify (Rest of World)	327115
South America	37104
United Kingdom of Great Britain and Northern Ireland	1143249

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

By business division

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

Business division	Scope 1 emissions (metric ton CO2e)
Agriculture	41022
Grocery	246335
Ingredients	238300
Retail	17956
Sugar	2010036

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

Emissions disaggregated by category (advised by the GHG Protocol)

C-FB7.4b 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)
186649
Methodology
Process-based models

Please explain

Over 98% of our agricultural emissions are those from growing our own sugar cane and sugar beet crops and harvesting them including the burning of the cane crops to remove cane leaves just before they are harvested. We also include data for GHG emissions from intensive livestock farming activities are due to enteric fermentation and the production on site of crops such as peas and corn for pig feed. Methodology is a mixture between IPCC Guidelines for National Greenhouse Gas Inventories - Volume 4, British Sugar carbon footprint methodology certified by the Carbon Trust, Department for Transport RTFO Guidance, Ecoinvent Emissions Factors Database.

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Africa	120591	0	265980	0
Australasia	168792	0	237205	0
China	133234	0	196628	0
North America	57410	0	136530	0
Other, please specify (Rest of World)	115947	0	368349	0
South America	49477	0	176800	0

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United Kingdom of Great Britain and Northern Ireland	346938	0	1125532	

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

By business division

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

Business division	Scope 2, location-based emissions (metric tons CO2e)
Agriculture	33795
Grocery	259808
Ingredients	254974
Retail	160080
Sugar	283732

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?

Increased

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	We do not track renewable energy
Other emissions reduction activities	2533	Decreased	0.07	We have taken the total emissions savings from our emissions reduction initiatives and divided by the previous year's Scope 1 and 2 emissions = 2,533 / 3,452,239 x 100
Divestment		Not Applicable		
Acquisitions		Not Applicable		
Mergers		Not Applicable		
Change in output	1001149	Increased	29	Our businesses have increased production output this year, following a reduction in output in 2016 mainly due to the impact of adverse weather conditions that year. This resulted in a 29% increase in emissions: 1,001,149 / 3,452,239 x 100
Change in methodology		Not Applicable		
Change in boundary		Not Applicable		
Change in physical operating conditions		Not Applicable		

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Unidentified		Not Applicable		
Other		Not Applicable		

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 What percentage of your total operational spend in the reporting year was on energy?

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

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

	Indicate whether your organization undertakes this energy-related activity

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	11355814	9237329	20593143
Consumption of purchased or acquired electricity	Not Applicable	0	1801278	1801278
Consumption of purchased or acquired heat	Not Applicable	Not Applicable>	Not Applicable	Not Applicable
Consumption of purchased or acquired steam	Not Applicable	0	705746	705746
Consumption of purchased or acquired cooling	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Consumption of self-generated non-fuel renewable energy	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Total energy consumption	Not Applicable	11355814	11744353	23100167

C8.2b Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

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

Fuels (excluding feedstocks)
Natural Gas
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
6358217
MWh fuel consumed for the self-generation of electricity
Not Applicable
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
Not Applicable
MWh fuel consumed for self-generation of cooling
Not Applicable
MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)
Diesel
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization

44854

MWh fuel consumed for the self-generation of electricity

Not Applicable

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

Not Applicable

MWh fuel consumed for self-generation of cooling

Not Applicable

MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

63836

MWh fuel consumed for the self-generation of electricity

Not Applicable

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

Not Applicable

MWh fuel consumed for self-generation of cooling

Not Applicable

MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)

Fuel Oil Number 5

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

138578

MWh fuel consumed for the self-generation of electricity

Not Applicable

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

Not Applicable

MWh fuel consumed for self-generation of cooling

Not Applicable

MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)

Kerosene

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

526

MWh fuel consumed for the self-generation of electricity

Not Applicable

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

Not Applicable

MWh fuel consumed for self-generation of cooling

Not Applicable

MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

418

MWh fuel consumed for the self-generation of electricity

Not Applicable

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
Not Applicable
MWh fuel consumed for self-generation of cooling
Not Applicable
MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)
Bituminous Coal
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
2495570
MWh fuel consumed for the self-generation of electricity
Not Applicable
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
Not Applicable
MWh fuel consumed for self-generation of cooling
Not Applicable
MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
135330
MWh fuel consumed for the self-generation of electricity
Not Applicable
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
Not Applicable

MWh fuel consumed for self-generation of cooling
Not Applicable
MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)
Biogas
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
223370
MWh fuel consumed for the self-generation of electricity
Not Applicable
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
Not Applicable
MWh fuel consumed for self-generation of cooling
Not Applicable
MWh fuel consumed for self- cogeneration or self-trigeneration

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Fuels (excluding feedstocks)
Other, please specify (Bagasse and other biomass)
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
11132444
MWh fuel consumed for the self-generation of electricity
Not Applicable
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
Not Applicable
MWh fuel consumed for self-generation of cooling
Not Applicable

MWh fuel consumed for self- cogeneration or self-trigeneration

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

Biogas
Emission factor
0.00023
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Biogas-Biogas-kWh-net

Bituminous Coal
Emission factor
0.33902
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Fuel-Coal Industrial-kWh-gross

Diesel
Emission factor
0.25146
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Fuel-Diesel-kWh-gross

Fuel Oil Number 2
Emission factor
0.27588
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Fuel-Gas Oil-kWh-gross

Fuel Oil Number 5
Emission factor
0.26789
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Fuel-Fuel Oil-kWh-gross

Kerosene
Emission factor
0.24659
Unit
metric tons CO2e per MWh
Emission factor source
DEFRA-Fuel-Burning Oil-kWh-gross

Liquefied Petroleum Gas (LPG)
Emission factor
0.21451
Unit

metric tons CO2e per MWh

Emission factor source

DEFRA-Fuel-LPG-kWh-gross

Motor Gasoline

Emission factor

0.24049

Unit

metric tons CO2e per MWh

Emission factor source

DEFRA-Fuel-Petrol-kWh-gross

Natural Gas

Emission factor

0.18416

Unit

metric tons CO2e per MWh

Emission factor source

DEFRA-Fuel-Natural Gas-kWh-gross

Other

Emission factor

0

Unit

metric tons CO2e per MWh

Emission factor source

Site specific emission factors for different technologies and input materials.

Comment

Bagasse and Other Biomass

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

Basis for applying a low-carbon emission factor

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

Low-carbon technology type

Not Applicable

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

Not Applicable

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

Not Applicable

C10. Verification

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 1
Verification or assurance cycle in place
Annual process
Status in the current reporting year
Complete
Type of verification or assurance
Limited assurance
Attach the statement
EY assurance_2017.pdf
Page/ section reference
Page 1-2
Relevant standard
ISAE3000
Proportion of reported emissions verified (%)
100

Scope
Scope 2 location-based
Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete
Type of verification or assurance
Limited assurance
Attach the statement
EY assurance_2017.pdf
Page/ section reference
Page 1-2
Relevant standard
ISAE3000
Proportion of reported emissions verified (%)
100

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

Scope
Scope 3- at least one applicable category
Verification or assurance cycle in place
Annual process
Status in the current reporting year
Complete
Attach the statement
EY assurance_2017.pdf
Page/section reference
Page 1-2
Relevant standard
ISAE3000

C10.2 Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

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

C11. Carbon pricing

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

Yes

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

EU ETS

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
20.69

Period start date
January 1 2017

Period end date
December 31 2017

Allowances allocated
388238

Allowances purchased
395553

Verified emissions in metric tons CO2e
783791

Details of ownership
Facilities we own and operate

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

Our strategy for compliance is to:
1 - Meet compliance levels for all appropriate environmental legislation and other requirements relating to our activities
2 - Continually improve our environmental performance through a process of monitoring, measuring and reviewing our environmental impacts
3 - Maximise the efficient use of our raw materials
4 - Minimise waste generation through promotion of re-use and recycling
5 - Utilise energy more efficiently to reduce the use of fossil fuels and the production of associated greenhouse gas emissions.

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

No

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

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

C12. Engagement

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

Yes, our suppliers
Yes, our customers

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

Type of engagement
Engagement & incentivization (changing supplier behavior)
Details of engagement
Run an engagement campaign to educate suppliers about climate change
Rationale for the coverage of your engagement
AB Sugar China has started to use new channels to communicate with their growers including the launch of a bespoke mobile phone application. The communications have provided growers with advice on agronomy to help achieve strong productivity and to provide them with solutions to overcome specific challenges such as those related to weather or localised soil quality.

Impact of engagement, including measures of success

Since 2007/08, growers have doubled their beet volume to 1.2 million tonnes and have improved their average yield by 67%, in part due to this knowledge sharing and also due to AB Sugar China's investment in mechanisation and helping to implement best farming practices.

Comment

Since 2007/08, AB Sugar China has made a concerted effort to modernise growers' agricultural businesses. The business has worked extensively with growers to educate them on how to best grow their crop sustainably, through its Sustainable Agriculture Programme. AB Sugar China offers a multi-channel, targeted approach which focuses on delivering simplified content supported by comprehensive research and development to growers over various channels, including social media.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Rationale for the coverage of your engagement

Since the devastating floods in 2000 in Mozambique, Illovo's Maragra Acucar SA site has invested heavily to rehabilitate the land and support smallholder farmers. Maragra has partnered with the UK's DFID backed Climate Resilience Infrastructure Development Facility (CRIDF) to reduce flood vulnerability along the Incomati floodplain.

Impact of engagement, including measures of success

CRIDF's expertise has helped enable more holistic flood risk management and improve resilience to climate change for outgrowers and their communities.

Comment

Maragra has also worked to ensure sugar cane fields do not reduce households' food security and has helped to establish 460 hectares of land for food crops.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

Rationale for the coverage of your engagement

At the end of 2016, AB Sugar became a member of the Sustainable Agriculture Initiative (SAI) Platform. Within the SAI, AB Sugar has joined the Sugar Beet Working Group and Farm Assessment Group.

Impact of engagement, including measures of success

British Sugar and Azucarera's beet growing farmers are already benefiting from this engagement across the value chain, with practical solutions for farmers to benchmark, assess and communicate their sustainability practices.

Type of engagement
Engagement & incentivization (changing supplier behavior)
Details of engagement
Run an engagement campaign to educate suppliers about climate change
Rationale for the coverage of your engagement
Azucarera engages with their suppliers through their Agronomic Improvement Plan, Plan 2020, and in collaboration with AIMCRA, a non-profit organisation co-funded by Azucarera and its sugar beet growers.
Impact of engagement, including measures of success
Azucarera has delivered training attended by 350 beet growers to highlight the benefits of irrigation powered by solar energy and therefore replacing dependence on fossil fuels; demonstrated irrigation systems to show beet growers that it is possible to achieve savings of up to 30% of the water needed to irrigate; shared the benefits of irrigation systems that work at low pressure with speed variators at irrigation pumps and provided weekly updates via an app to all Azucarera growers on the water consumption requirements for beet.

Type of engagement
Engagement & incentivization (changing supplier behavior)
Details of engagement
Run an engagement campaign to educate suppliers about climate change
Rationale for the coverage of your engagement
Since 2013, we have reported on our partnership with agricultural experts CottonConnect and the Self-Employed Women's Association (SEWA) to create the Primark sustainable cotton programme. While Primark buys no cotton direct from producers, as part of its sustainability strategy, Primark has set out a long-term ambition to ensure all the cotton in its supply chain is sustainably and responsibly sourced. Primark is now using the cotton grown by these farmers in a number of products.
Impact of engagement, including measures of success
The programme has shown that long-term investment in female cotton farmers can deliver significant results for the women, their families, and the local communities involved. In 2016, Primark decided to scale up the initiative to train an additional 10,000 women farmers over the next six years. The farmers have seen lower fertiliser, pesticide and water usage, in year three they used 40% less fertiliser, 44% less pesticide and 10% less water when compared to the control farmers.
Comment
The programme provides Primark with valuable insights into the cotton supply chain, traceability and directly into the lives of the cotton farmers.

Type of engagement

Innovation & collaboration (changing markets)

Rationale for the coverage of your engagement

British Sugar engaged with their logistics supplier, Abbey Logistics which provides the business with bulk tanker transport from British Sugar's factories to its industrial customers. Key to the relationship is a focus on responsible resource use. As part of British Sugar's commitment to improving its vehicle efficiencies in general, it collaborated with Abbey Logistics on efficiency opportunities.

Impact of engagement, including measures of success

New vehicles were designed and built as part of an ongoing improvement and development programme which seeks to create Europe's leading tanker in terms of safety and efficiency. New trucks have been built to an exact specification to suit both Abbey's and British Sugar's requirements. They employ technology to improve efficiency and enhance the driver experience. All 17 vehicles are powered by an 11 litre, 2,150 newton metre output engine together with low rolling resistance tyres, which help reduce fuel consumption. Deliveries are also improved by having the latest high capacity blowing equipment which reduces fuel consumption significantly when unloading.

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

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

It is recognised that a large portion of GHG emissions come from the farming sector. By supporting the development of products and sharing research on farming efficiencies we support the reduction of emissions from across the value chain. In parallel, we are helping customers improve their GHG emissions performance.

Impact of engagement, including measures of success

AB Agri is developing a Data Services platform initially targeted at Poultry and Dairy. The platform supports the Total Farm Performance team in delivering the on-farm service which supports and advises poultry farmers on best practice. The platform captures on-farm data from multiple sources / sensors and, using a proprietary expert system, provides analysis and actions to the customer base. On the dairy side, more litres per cow usually reduces GHG as one has less maintenance units for each litre of milk. While these products are not specifically targeted at reducing environmental impact, improvements in production efficiency are aligned with mitigating environmental impact.

Type of engagement

Education/information sharing

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

It is recognised that a large portion of GHG emissions come from the farming sector. By supporting the development of products and sharing research on farming efficiencies we support the reduction of emissions from across the value chain. In parallel, we are helping customers improve their GHG emissions performance.

Impact of engagement, including measures of success

AB Agri has developed and introduced a new service called 'MyCompliance'. This service supports farmers with sustainability and environmental advice to ensure compliance and accurate delivery of agri-environmental stewardship agreements.

Type of engagement

Collaboration & innovation

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

To review GHG and other environmental impacts of products through Life-Cycle Analysis (LCA) is a costly and involved process. Due to resource restrictions and the importance of working in material issues, LCAs tend to be completed when customers or other bodies collaborate on the process.

Impact of engagement, including measures of success

George Weston Foods has worked in conjunction with some of their major customers to complete LifeCycle Analysis (LCA) of specific products. Carbon footprinting has been conducted by British Sugar and certified by the Carbon Trust. AB Agri has been working with European trade associations to develop the Product Environment Footprint (PEF) model using data from their sites to model the feed manufacturing sites.

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

Yes

C-FB12.2a 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

Management Practice 1

Management practice

Knowledge sharing

Description of management practice

Jordans Dorset Ryvita works with 45 accredited farmers who supply all the oats, wheat and barley we need to make the products we sell in the UK and France using the Conservation GradeTM farm management standard. All habitats are managed to make sure quality is maintained and some may need re-establishing every year. The farmers are also required to cut hedges only once every two years to protect nesting habitats, essential shelter and food sources, such as wild berries. Farmers who operate under this scheme are required to dedicate 10% of their land to wildlife preservation. This is prioritised in the following way: Pollen and Nectar Habitats (4%), wild bird food crops (2% or 1.5% if annually cultivated natural regeneration is adopted), tussocky and/or fine grass mixtures (2%), annually cultivated natural regeneration (0.5% or 0% if not appropriate and wild bird food is increased to 2%) and other habitats (2%).

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

We have directly raised awareness of these environmental practices among our network of selected farmers.

Climate change related benefit

Increasing resilience to climate change (adaptation)

Comment

The founders of Jordans Dorset Ryvita helped launch the nature-friendly Conservation GradeTM farming protocol.

Management practice reference number

Management Practice 2

Management practice

Knowledge sharing

Description of management practice

Use of SUSFARMS® sustainability methodology for evaluating agronomic practices.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Working with key growers/farmers.

Climate change related benefit

Increasing resilience to climate change (adaptation)

Comment

SUSFARMS® which originated in South Africa is a methodology which develops better farm management practices in the cane sugar industry bringing environmental, social and economic benefits.

Management practice reference number
Management Practice 3
Management practice
Knowledge sharing
Description of management practice
AB Sugar China is using a range of channels to communicate with their growers including the launch of a bespoke mobile phone application. The communications have provided growers with advice on agronomy to help achieve strong productivity and to provide them with solutions to overcome specific challenges such as those related to weather or localised soil quality.
Your role in the implementation
Financial
Knowledge sharing
Explanation of how you encourage implementation
Since 2007/08, AB Sugar China has made a concerted effort to modernise growers' agricultural businesses. The business has worked extensively with growers to educate them on how to best grow their crop sustainably, through its Sustainable Agriculture Programme. AB Sugar China offers a multi-channel, targeted approach which focuses on delivering simplified content supported by comprehensive research and development to growers over various channels, including social media.
Climate change related benefit
Increasing resilience to climate change (adaptation)
Comment
Since 2007/08, growers have doubled their beet volume to 1.2 million tonnes and have improved their average yield by 67%, in part due to this knowledge sharing and also due to AB Sugar China's investment in mechanisation and helping to implement best farming practices.

Management practice reference number
Management Practice 4
Management practice
Knowledge sharing
Description of management practice
At the end of 2016, AB Sugar became a member of the Sustainable Agriculture Initiative (SAI) Platform.
Your role in the implementation

Please select

Explanation of how you encourage implementation

Within the SAI, AB Sugar has joined the Sugar Beet Working Group and Farm Assessment Group.

Climate change related benefit

Other, please specify (Increase communication consistency)

Comment

The SAI Platform aims to increase the consistency of communication within the food and beverage supply chains about sustainability expectations.

Management practice reference number

Management Practice 5

Management practice

Knowledge sharing

Description of management practice

The South African-based World Wildlife Fund (WWF), in partnership with the Noodsberg Cane Growers Association, and support by Illovo's South Africa Noodsberg sugar factory and refinery, was instrumental in the development of a Sustainable Sugar Cane Farm Management system for growers, termed SUSFARMS®.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Illovo engages with sugarcane growers on sustainable farming practices based on the SUSFARMS® methodology.

Climate change related benefit

Emissions reductions (mitigation)

Increasing resilience to climate change (adaptation)

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

Yes

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 On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (Distributed Generation)	Support	We accepted an invitation from the then UK Energy Minister to join a small Distributed Generation Contact Group (DECG) to develop policy ideas that will stimulate the increased use of localised, low carbon generation in the economy. We have been active members of this group which has led to a commitment to develop a bespoke policy for gas fired Combined Heat and Power.	Develop a bespoke UK Government policy for new gas fired CHP.
Clean energy generation	Support	We accepted an invitation from the UK government to participate in the development of the Capacity Market with particular reference to Demand Side. This has led to a successful government auction and inclusion of small electricity generators including one of British Sugar's CHP plants.	Suggest amendments to the UK EMR process via secondary legislation under the Energy Act 2013 and development of detailed rules for the Implementation Body (National Grid).
Other, please specify (Reducing waste)	Support	ABF's UK Grocery Group is a signatory to the Courtauld Commitment 2025 which aims to reduce food waste and associated GHG emissions in the food and drinks industry. The collective ambition is to reduce the resources needed to provide food and drink by one fifth by 2025.	Waste management across industries

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

Yes

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

Trade association

ADE – Association of Decentralised Energy

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The work of the ADE includes: Advocacy: the ADE is at the forefront of influencing; energy, planning and procurement policy; Raising awareness: building understanding through communications, events, training and the production of relevant policy and market research; Promoting best practice and collaboration; Working with our members and a wide range of relevant stakeholders to help drive improvement and innovation across the sector Enhancing and maintaining the reputation of the sector: through advocacy, promotion and adoption of best practice.

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

Trade association

Combustion Engineering Association (CEA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The CEA seeks to promote the science of combustion engineering and to promote best practice.

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

An ABF representative is a member of the Executive as Past Chairman of CEA so adds influence to the Association's work towards its objectives.

Trade association

Renewable Energy Association (REA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The REA represents British renewable energy producers and promotes the use of renewable energy in the UK. The REA endeavours to achieve the right regulatory framework for renewables to deliver an increasing contribution to the UK's electricity, heat and transport needs.

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

An ABF representative is a Director on the Board of REA so adds influence to the Association's work towards its objectives.

Trade association

Low Carbon Vehicle partnership (LCVP)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The LCVP exists to accelerate a sustainable shift to lower carbon vehicles and fuels and create opportunities for UK business.

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

An ABF representative is a Director on the Board of LCVP so adds influence to the Association's work towards its objectives.

Trade association

ePURE (European Bioethanol T.A.)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

ePURE represents and supports companies that produce renewable ethanol in the EU for all end-uses, i.e. fuel, potable and industrial uses. ePURE also represents companies that have an interest in ethanol production.

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

An ABF representative is a Director on the Board of ePURE so adds influence to the Association's work towards its objectives.

Trade association

Combustion Engineering Association (CEA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The CEA seeks to promote the science of combustion engineering and to promote best practice.

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

Trade association

Food and Drink Federation (FDF)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Members are committed to FDF's 'Ambition 2025'; leading on collaborative transformations within the food and drink supply chain that enhance productivity and deliver environmental and social benefits to ensure safe, nutritious, affordable and sustainable food for all. The climate change

ambition is to achieve a 55% absolute reduction in CO2 emissions by 2025 against the 1990 baseline. FDF members are committed to the Sustainability: Ambition 2025 which launched recently as a guide for members to sustainably manage their footprint and supply chain.

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

An ABF representative attends the Climate Change and Energy Working Group so has the responsibility to engage with the Group in the direction of the overall policy of the FDF. This group has engaged with the government ahead of the proposed changes in Business Taxation and the 20 50 Decarbonisation Roadmap for example, as well as providing UK industry position input into the EU Commission in its revision of the Best Available Techniques Reference Document (BREF) covering the Food, Drink & Milk Industries. An ABF representative attends the Sustainability Group so has the responsibility to steer the Group in the direction of the overall policy of the FDF.

Trade association

The South African Sugar Association (SASA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Support research through SASRI (South African Sugar Research Institute) focused on empowering the sugar industry to respond to climate change impacts. Working with the mandated government departments, such as the Department of Energy and the National Treasury, to support industry diversification into renewable energy; both electrical co-generation from bagasse and bioethanol production from molasses. Support the avoidance of GHG emissions through the promotion of electricity from bagasse-based cogeneration and bioethanol, thereby supporting the South African government's biofuel industry strategy and mandatory blending requirements.

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

Illovo has one member on the board of SASA. Illovo and SASA are aligned in their positions on climate change legislation. Through SASA led discussion, Illovo has participated in the carbon tax process headed by the National Treasury and together have provided policy submissions.

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

Yes

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

We actively engage in a number of meetings and events aimed at understanding and influencing public policy in the area of climate change including but not limited to the examples noted below:

- ABF's Spanish sugar business, Azucarera engages with the sugar beet growers in the region through AIMCRA, the Association for Research and Improvement of Sugar Beet, a private, non-profit, interprofessional association with joint management and financing in equal proportions by beet growers and Azucarera. AIMCRA aims to make beet-growing more competitive through research, development and innovation initiatives, establishing a number of lines of action to support growers' work based on the conclusions of those initiatives. Azucarera engages with the growers to disseminate information about innovation and improved crop growing techniques.
- Illovo is a member of, and participates in, the activities of the National Business Initiative (NBI) which is the local partner for CDP, World Business Council on Sustainable Development and the UN Global Compact. Illovo attend workshops and seminars that the NBI presents and are represented on its board.
  Primark is a member of the Sustainable Apparel Coalition, made up of more than 150 global brands, retailers and manufacturers as well as government, non-profit environmental organisations, and academic institutions, that are collectively committed to improving supply chain sustainability in the apparel and footwear industries.

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?

Associated British Foods is both diversified and decentralised. We are successful because we trust the people who run our businesses. Close to their markets, they use their knowledge, skills and judgement to serve their customers and so our businesses thrive. The centre engages enthusiastically and deeply with leaders across our portfolio of businesses, but it doesn't dictate what operating companies' agendas or methods should be.

Across Associated British Foods, we take an active approach to managing and reducing our environmental impact. We have invested in environmental improvement activities. These investments have primarily been targeted at areas where we have the greatest environmental impact including the use of energy and the resultant greenhouse gas emissions.

Our Group Company Secretary acts as a focal point for communications on matters of corporate governance and corporate responsibility. This role regularly liaises with Corporate Responsibility, Public Relations and other advocacy-related roles within the businesses to ensure alignment. This is carried out on an ad-hoc basis when required and through a formal annual reporting process whereby the businesses provide information on their internal activities, work with their value chain and any public policy activities related to a range of corporate responsibility issues including climate change. Any public policy engagement conducted by the businesses must be approved at a senior level.
The businesses also review engagement activities to ensure they are aware of current and future legislation that will impact their value chains. Accordingly, policy engagement will cover energy, waste, reporting, supply chain and other activities that each business, and the group as a

whole, consider to represent a risk or an opportunity.

Engagement activities are reviewed at least annually, to ensure alignment with business strategy and the policy landscape.

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

Publication
In mainstream reports
Status
Complete
Attach the document
ABF_Annual_Report_2017.pdf
Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics

Publication
In voluntary sustainability report
Status
Complete
Attach the document
abf_cr_update_2017.pdf
Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Other metrics
Other, please specify (Engagement through the supply chain)

C13. Other land management impacts

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

Yes

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

Management practice reference number
Management Practice 1
Overall effect
Positive
Which of the following has been impacted?
Biodiversity
Soil
Yield
Other, please specify (Cost)
Description of impact
Reduced cost, improved yields with more sustainable operations and usually with benefits to local habitats and ecosystems.
Have you implemented any response(s) to these impacts?
Yes
Description of the response(s)
AB Sustain operates in more than sixty countries and manages diverse supply-chain projects offering clients an understanding of their agricultural supply-chains through utilisation of effective tools to measure and monitor continuous improvement.

Management practice reference number

Management Practice 2

Overall effect

Positive

Which of the following has been impacted?

Water

Yield

Other, please specify (Cost)

Description of impact

Less risk to crop productivity if resilient or water efficient crop varieties can be developed.

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

Yes

Description of the response(s)

Yield improvement projects for example at Illovo Nchalo and Nakambala sites and the adoption of Better Management Practices to improve cane yield.

Management practice reference number

Management Practice 3

Overall effect

Mixed

Which of the following has been impacted?

Biodiversity

Other, please specify (Cost / Improved air quality in area)

Description of impact

Additional biomass is available for combustion in the boilers resulting in increased cogeneration and consequently more renewable energy is fed into the national electricity grid.

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

Yes

Description of the response(s)

At Illovo's Swaziland site, this renewable energy is exported to the national grid.

Management practice reference number

Management Practice 4

Overall effect
Mixed
Which of the following has been impacted?
Biodiversity
Soil
Other, please specify (Significant Job Creation)
Description of impact
Manual harvesting results in conserved soil and soil quality in areas suitable for manual harvesting.
Have you implemented any response(s) to these impacts?
Yes
Description of the response(s)
Conservation of soil and soil quality in areas greater than 12% slope (Land Use Plan). Improved surface water structures (grassed waterways) on a number of Illovo's irrigated estates. Minimum tillage practices in South Africa and are in trial in Zambia and Tanzania.

Management practice reference number
Management Practice 5
Overall effect
Positive
Which of the following has been impacted?
Other, please specify (Cost)
Description of impact
Generating our own renewable energy within our mills for operating both the milling and agricultural operations, where feasible, greatly reduces our cost base.
Have you implemented any response(s) to these impacts?
Yes

Management practice reference number
Management Practice 6
Overall effect
Positive
Which of the following has been impacted?
Soil

Water
Yield
Other, please specify (Cost / Less fertiliser runoff into water)

Description of impact

This improves soil organic matter, water retention, soil structure and overall soil health

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

Yes

Description of the response(s)

Reduced nitrogen volatilisation or denitrification. Reduced demand for fertiliser. Surface water management (land use plan), green manure fallows and organic fertiliser improves soil health and decreases synthetic fertiliser runoff into surrounding water bodies.

Management practice reference number

Management Practice 7

Overall effect

Positive

Which of the following has been impacted?

Water
Other, please specify (Cost)

Description of impact

The reuse of treated wastewater decreases abstraction water energy requirements and consequently the cost of irrigation.

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

Yes

Description of the response(s)

The reuse of treated waste water from Illovo's sites decreases abstraction energy requirements and consequently the cost of irrigation.

Management practice reference number

Management Practice 8

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Description of impact

The pockets of natural vegetation within our centre-pivot fields act as refuges and ecological stepping stones for indigenous fauna while conserving indigenous flora at the same time.

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

Yes

Description of the response(s)

The pockets of natural vegetation bordering Illovo's cane fields act as refuges and ecological green corridors for indigenous flora and fauna resulting in increased biodiversity and reduced pest incidences.

Management practice reference number

Management Practice 9

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Other, please specify (Cost)

Description of impact

This practice offsets our use of inorganic pesticides and the associated greenhouse gas emissions generated during their manufacture and distribution.

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

Yes

Description of the response(s)

As part of an integrated pest management system, this practice offsets Illovo's use of inorganic pesticides and the associated GHG emissions generated during their manufacture and distribution. Reduced inorganic pesticide application rates and consequently reduced operational cost. Reduced impact of inorganic pesticides on indigenous fauna.

Management practice reference number

Management Practice 10

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Other, please specify (Cost)

Description of impact
Reduced synthetic fertiliser application and therefore reduced operational costs.
Have you implemented any response(s) to these impacts?
Yes
Description of the response(s)
Reduced nitrogen volatilisation or denitrification. Reduced demand for fertiliser.

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

Yes

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

Management practice reference number
Management Practice 1
Overall effect
Positive
Which of the following has been impacted?
Biodiversity
Yield
Other, please specify (Cost)
Description of impacts
As a result of this, over the past five years alone, we have increased the 'Yield in Field' (the amount of finished Ryvita products we can make per acre of crop grown in the farmer's field.) by around 20%. We have set ourselves the challenge of working towards having a 'Net Positive' impact on the British countryside. Through this 'Net Positive' standard we commit to have a restorative impact on all aspects of our rural British supply chain

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Management practice reference number
Management Practice 2

Overall effect
Positive
Which of the following has been impacted?
Biodiversity
Soil
Water
Description of impacts
SUSFARMS® is a farming system designed to encourage sustainable sugarcane production through the implementation of better management practices (BMPs). These BMPs are designed to reduce negative impacts on the environment, comply with legislation, maintain a high level of social responsibility and assist in ensuring financial sustainability.
Have any response to these impacts been implemented?
Yes
Description of the response(s)
More than 400 commercial farmers have committed to the implementation of SUSFARMS® and the programme has received widespread industry and government support.

C14. Signoff

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

Job title	Corresponding job category
Director of Company Secretariat	Chief Sustainability Officer (CSO)