



Climate Change 2017 Information Request J Sainsbury Plc

Module: Introduction

Page: Introduction

CC0.1

Introduction

Please give a general description and introduction to your organization.

J Sainsbury plc was founded in 1869 and today operates over 1350 stores including more than 800 convenience stores. We are a grocer at heart with growing businesses in general merchandise, clothing, convenience, financial services and online. In 2016 we acquired the Home Retail Group, welcoming 30,000 new colleagues and over 800 additional stores into our estate.

The Sainsbury's brand is built upon a heritage of providing customers with healthy, safe, fresh and tasty food. Quality and fair prices go hand-in-hand with a responsible approach to business. Sainsbury's stores have a particular emphasis on fresh food and we strive to continuously innovate and improve products in line with our customer needs. We now have 26 million customer transactions a week and have a market share of 16.3 per cent. Our large stores offer around 30,000 products and we offer complementary non-food products and services in many of our stores. Additionally, our grocery online business grew by nearly eight per cent year-on-year. The addition of Argos into the Group has made us one of the UK's largest food, general merchandise, clothing and financial services retailers. Argos has added 60,000 products to our offer, and alone had 1 billion online visitors and 29 million store visits in 2016.

Everyone at Sainsbury's works to a set of overriding guiding principles and values. These values are at the heart of our new strategy, announced in November 2014, ensuring we run our business in an honest, ethical and sustainable way. We aim to be leaders in the UK for environmental innovation and are investing over £1 billion to achieve a 30% absolute reduction in carbon emissions by 2020. This year, we reduced our absolute kWh electricity consumption by 11% across the J Sainsbury plc Group. We are pushing the boundaries of new technology to reduce our carbon emissions. We continue to test new environmentally innovative yet commercially viable initiatives. In 2015 we launched a £10 million initiative in our Sainsbury's stores to help our customers reduce waste, called "Waste less, Save More". In 2017, we have expanded the scheme to more than 140 Discovery Communities in Britain who are challenged to find ways to reduce food waste.

We introduced our Sustainability Plan in 2011 to strengthen and further integrate corporate responsibility into our business. Within the original 20 commitments, we have specific aims; to reduce our operational carbon emissions by 30% absolute and 65% relative and to reduce our own brand packaging by half, all by 2020. These commitments not only reflect our aspiration to make a positive contribution, but also address a number of business risks, such as meeting the needs of our customers through our sourcing requirements, reducing business costs through cutting resource usage, such as energy and commodities and meeting legislative and stakeholder expectations.

In a fast changing world, ethical, environmental and social issues are becoming increasingly complex and this is why we always work closely with colleagues, customers, suppliers, government, researchers, community groups, NGOs and industry experts to develop forward-thinking programmes that work alongside our core values. Our aim is to provide shoppers with affordable, quality products that are sustainably and ethically sourced. We remain convinced that a long-lasting business has to be a value driven one and we have continued to adhere to this with another full year of activity in the corporate responsibility sphere. In 2016 we were one of only 16 UK companies to be included on the CDP 'A-list'.

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does

not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Sat 12 Mar 2016 - Sat 11 Mar 2017

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

GBP (£)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a**Please identify the position of the individual or name of the committee with this responsibility**

John Rogers, CEO of Sainsbury's Argos and J Sainsbury plc operating board member, has direct responsibility for climate change. He chairs the Respect for our Environment (RFOE) Steering Group.

This group sets our overall environmental and climate change strategy and meets every 8-12 weeks to discuss progress and issues that may be arising. The RFOE has representatives throughout the business including property, logistics, retail and our goods for resale sourcing and packaging teams. The role for all of our committees in 2017 is to support the delivery of our Sustainability Plan by embedding our revised commitments into the way we operate.

We have five values that underpin our business, one of which is Respect for our Environment. Each value has an internal steering group, chaired by an operating board director. These directors also sit on our Corporate Responsibility and Sustainability (CR&S) Steering Group. This group was formed in 2001 and is chaired by Mike Coupe, our Chief Executive. Mike Coupe is also a member of our plc board level Corporate Responsibility and Sustainability Committee. This Committee was formed in 2007 and is chaired by Jean Tomlin, one of our non-executive directors. Mary Harris (non-executive director) is also a member, and David Tyler (company chairman) attends each meeting. Progress towards our Sustainability Plan targets are discussed at these formal meetings. Twice yearly Our Respect for our Environment (RFOE) Steering Group provides updates on our progress to the Corporate Responsibility and Sustainability Steering Group, and the Corporate Responsibility and Sustainability Committee. For more information please refer to pages 66-67 of our 2017 Annual Report.

CC1.2**Do you provide incentives for the management of climate change issues, including the attainment of targets?**

Yes

CC1.2a**Please provide further details on the incentives provided for the management of climate change issues**

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Director on board	Monetary reward	Emissions reduction target	Our Chief Executive Officer for Sainsbury's Argos, John Rogers, chairs the 'Respect for our Environment' (RFOE) Steering Group, and receives a financial bonus resulting from the performance of the Property Division. Targets for performance of the Property Division include our 2020 carbon reduction targets.
All employees	Monetary reward	Emissions reduction target	Once they have completed a 3 month period of employment, the majority of our 190,000 colleagues benefit from a Staff Discount of 10% in our stores. At certain periods of the year and at important milestones this discount increases to 15% or 20% in order that benefits can be spread as widely as possible. We anticipate that upon achieving our corporate carbon emissions target such an increase will be applied so that all of our colleagues can share in the achievement.
Board/Executive board	Monetary reward	Energy reduction target	Our incentivized performance indicators consider delivery against our corporate values, one of which is environmental performance. The Deferred Share Award (DSA) targets are set at the beginning of each financial year, covering financial performance, return to shareholders, relative performance against peers and delivery of our business strategy. 'Our values make us different', along with the 4 other elements of our strategy, are all broadly considered in determining the Deferred Share Award provided to department

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
			directors and more senior positions in the Company at the end of the financial year. Ultimately, the DSA recognizes and rewards for delivery of short-term strategic and financial objectives which contribute towards the long-term sustainable growth of the Company. Performance is measured over one year, after which award is made as conditional shares deferred for two financial years.
Business unit managers	Monetary reward	Energy reduction target	We have a number of incentivised performance indicators, one of which is the Deferred Share Award (DSA). Targets for the DSA are set at the beginning of each financial year, covering financial performance, return to shareholders, relative performance against peers and delivery of our business strategy. 'Our values make us different', along with the 4 other elements of our strategy, which are all broadly considered in determining the DSA provided to department directors and more senior positions in the Company at the end of the financial year. Ultimately, the DSA recognizes and rewards for delivery of short-term strategic and financial objectives which contribute towards the long-term sustainable growth of the Company. Performance is measured over one year, after which award is made as conditional shares deferred for two financial years.
Other: Store Managers	Monetary reward	Energy reduction target	In early 2014 we embedded a target into store budgets, enabling greater visibility and reward for reducing energy consumption. An app has also been developed to enable Store Managers access to real time energy demand in their stores and respond to exceptions. There is a financial incentive for store managers to deliver energy reduction and this is a bonus rewarded action for stores. We support our managers with store activity packs that give practical advice and tools to colleagues on ways to reduce electricity use. A second phase was rolled out in 2016/17 to reinforce these messages. Internally we also benchmark and encourage progress through the circulation of store league tables. Energy use reports are provided to stores on a weekly and four-weekly basis.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	Predominately UK based- but extended to countries Sainsbury's source from in some instances	> 6 years	The risk management process is designed to identify key risks and to provide assurance that these risks are fully understood and managed. The Board has overall responsibility for risk management, the system of internal controls and for reviewing their effectiveness. The effectiveness of the process is reviewed twice a year by the Audit Committee. The Board carries out an annual review of the significant risks facing the business. The scope of the process covers, amongst others, strategic, business operations and external risks; "Environment and Sustainability" is listed as a principal risk and uncertainty within our Annual Report, with the need to mitigate Sainsbury's' impact on the environment a paramount objective. Mitigation is delivered by the Environment Action Team and governed by the Corporate Responsibility and Sustainability Steering Group. Within this scope, regulation, reputation, financial, sourcing, customer needs and expectations are considered.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

Company level:

Sainsbury's has an ongoing process for identifying and managing risks faced by the group, including climate change related risks. The risk-evaluation process, which follows the Turnbull guidance, is reviewed annually by the Audit Committee, which reports to the Board. It identifies key risks to achieving business objectives and ensures the controls are in place for management at each level of the group. The likelihood and impact of each risk is evaluated and actions to mitigate risks are identified and monitored.

The management team is then responsible for ensuring that internal controls provide reasonable assurance that the risks in their areas are appropriately identified, evaluated and managed. Delivery timelines and progress of actions are monitored to ensure success.

The next stage is assurance from specialist committees that legal, health and safety, social, ethical and environmental risks are managed. The Operating Board maintains a corporate risk register which is reviewed twice yearly by the Audit Committee and formally discussed by the Board. This gives the Board the opportunity to review the level of risk that the business is prepared to accept.

Asset level:

Sainsbury's has an ongoing process for identifying and managing the significant Environment and Sustainability risks faced at an asset level, including climate change related risks. The risk management process is embedded at the Operating Board level and through the review of the risk registers of each of the operating divisions of the business. At an asset level, the operating management teams are responsible for managing the risks to their business objectives and for implementation of control measures. At this point, specific asset-level climate change risks are considered, such as flood risk to buildings, energy supply security, key materials and products sourcing availability or potential reputational impacts.

CC2.1c**How do you prioritize the risks and opportunities identified?**

The risk management process is designed to identify key risks and to provide assurance that these risks are fully understood and managed. "Environment and Sustainability" is listed as a principal risk and uncertainty within the annual report, with the need to mitigate Sainsbury's impact on the environment a primary objective. The prioritisation of these risks is based on a balance of risk and reward determined through careful assessment of both the potential likelihood and impact as well as risk appetite. Consideration is given to both reputational as well as financial impact, recognising the significant commercial value attributable to the J Sainsbury plc brand. Each principal risk and uncertainty is considered in the context of how they relate to the achievement of the Group's strategic objectives.

CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process****i. How the business strategy has been influenced**

Sainsbury's recognizes the importance of all aspects of climate change and the impacts on business. We therefore created our Sustainability Plan in 2011. The plan sets out our five corporate values (including Respect for our environment) and within these several commitments that we intend to achieve.

Our environmental commitments are woven into our business strategy and decision-making processes, providing a practical basis for major business decisions as well as day-to-day activities.

The commitments we have made have driven the ambitious corporate greenhouse gas reduction targets we have set ourselves for both the short and long-term. We aim to reduce absolute emissions by 30% and relative emissions by 65% by 2020, and have a long-term target of 80% in absolute emissions reduction by 2050. One of the most substantial decisions we have made this year is to develop a science-based target for our total group absolute emissions, and we hope to have this in place by next year.

ii. Example of how the business strategy has been influenced

The increased regulation of carbon emissions has led us to set an internal carbon price to drive further investment in low-carbon opportunities. We have invested £30 million to deliver Project Graphite, our rollout of low-carbon projects across our Sainsbury's stores, in 2016/17 – a crucial part of our long-term ambition to reduce emissions from stores and depots as formalised in our carbon reduction targets. Climate change regulation and the increasing cost of carbon have been crucial drivers for this investment decision.

iii. What aspects of climate change have influenced the strategy

Both physical and non-physical aspects of climate change have influenced our strategy, including security of our supply chains, flood risks for our UK operations, increased regulation of greenhouse gas emissions, energy supply risks, opportunities for renewable energy and changing customer preferences.

iv. Impacts on the Short-term Strategy

We have short-term (<5 years) projects in place to capitalize on opportunities and reduce risks. These include managing our logistics fleet more effectively, replacing legacy equipment and forming strategic partnerships and research programmes.

On the operational side, Project Graphite is a rolling upgrade programme for store legacy equipment, improvement of building controls and rollout of renewable generating technology. We have a long-standing partnership with the Imperial College Grantham Institute for Climate Change to research and deliver innovative and practical solutions to mitigate the future impacts of climate change and help us reduce our carbon footprint. Additionally, we have partnered with Reading University to study the embedded carbon of construction as part of a 3 year engineering funded study to 2017.

We engage with our supply chains through research and development grants. We have invested £9 million across 28 Research & Development projects through our Farmer and Grower Development Groups. Additionally, we collaborate with overseas farmers to develop our own fairly traded products and support them in dealing with agricultural challenges, including climate change.

Finally, we help our customers reduce their waste through our 'Waste less, Save more' initiative. We are funding £1 million for the rollout of waste-saving initiatives across more than 140 'Discovery Communities' in the UK in

2017.

v.Impacts on the Long-term Strategy

As part of our long-term strategy (>5 years), we have developed our Sustainability Plan in which we have set several long-term commitments that we aim to achieve, and that influence our business decisions. We are currently developing science-based targets that will drive our carbon reduction activities to 2050 and hope to have these in place next year.

For our operations, we have a long-term target of an absolute carbon reduction of 80% by 2050 in place. We are achieving this by replacing HFC refrigerants with natural transfer media, continuing to roll out the Stores Renewable Energy ('Graphite') Programme and implementing energy efficiency initiatives both in-store and within our fleet. As an example, this year we became the first company in the world to trial a refrigerated delivery truck cooled by a liquid nitrogen powered engine. If successful, this would eliminate all emissions associated with refrigeration during transport.

We manage all areas of water vulnerability in our business through robust water stewardship, installing rainwater harvesting systems at several stores to reduce our dependency on local water supplies. Additionally, we are committed to reducing waste and put it to positive use in our business. This commitment includes processes to ensure that none of our day to day operational waste goes to landfill through staff engagement and charity donations.

We work with our value chain to address the impact of our products and are working to set independent sustainability standards for all our key raw materials. Our Farmer & Grower Development Groups allow us to engage directly with our suppliers and improve their efficiency and resilience to environmental change.

We aim to reduce our own-brand packaging by 50% compared to 2005, working with our suppliers to reduce & optimize packaging, and we will make sure that we use recycled materials where possible. As of 2017, we have managed to reduce packaging by over 33%.

vi.How the Paris Agreement has influenced the business strategy

The Paris Agreement and the subsequent push for corporations to develop targets in line with climate scenarios has been an important driver for us to investigate science-based targets. At the moment, we are working to set a science-based target for our group absolute carbon emissions and hope to have this in place by next year.

vii.How this is gaining you strategic advantage over your competitors

We believe that integrating sustainability into our core business strategy gives us a strategic advantage over our competitors in the following ways:

- It meets our stakeholder expectations, and demonstrates our commitment to tackling climate change
- It helps identify business opportunities that help our customers reduce their own carbon emissions, from installing low carbon products to buying energy efficient goods in the stores
- By consistently performing highly in disclosing emissions and reporting our sustainability efforts we signal our commitment to our stakeholders and are able to differentiate ourselves from our competitors
- It reduces operational costs by cutting resource usage, and makes us more resilient to fluctuating energy prices
- It gives us visibility of risks in our supply chain to provide resilience in the long-term

viii.Do you use forward-looking scenario analyses, including a 2°C scenario?

We use scenario analyses in setting a science-based target for our total group carbon emissions.

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

We take into account the cost of carbon when planning budgets and building business cases for gas and electricity reduction initiatives across the business. The price we use is based on the cost of allowances that must be purchased under the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme in the UK (£17.20/tCO₂ in 2016/17) and applies to both scope 1 and 2 emissions. The price currently applies to our UK business only, as this forms the great majority of our operations, and is updated annually.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
 Trade associations
 Funding research organizations

CC2.3a

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

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support with major exceptions	Direct - Sainsbury's engaged with issues of carbon reporting and tax directly with the Minister and through government consultations via trade associations.	We support a stable and transparent carbon tax policy that gives business the certainty and confidence to invest in carbon reduction technologies. However, we do also support simplification of the carbon tax & reporting landscape. We continue to support simplified carbon reporting procedures for CRC, mandatory GHG reporting and ESOS in the UK, allowing companies to account more accurately for their low-carbon and renewable investments whilst also reducing their administrative burdens.
Clean energy generation	Support	Direct – store visits and presentations on our investment in renewables to government officials reviewing the Renewable Heat Incentive (RHI). We also raise awareness of our solar panels and offer store visits for the Minister and backbench MPs.	Sainsbury's supports the Feed In Tariffs (including the Government's Solar Strategy) and the RHI. We have continued to engage extensively to ensure our investments in solar PV, biomass boilers and geothermal technology are sustainable.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Confederation of British Industry (CBI)	Consistent	CBI has long been campaigning for greater consistency and certainty in energy legislation to ensure support for growth of green industry.	Paul Crewe, Head of Sustainability, Energy and Engineering, and David Penfold represent Sainsbury's through the Climate Change and Energy Working Group. We also have regular meetings with the policy leads to understand the CBI's position and show our continued support.
British Retail Consortium (BRC)- energy working group	Consistent	BRC has been campaigning for greater consistency and certainty in energy legislation to ensure that retailers are able to invest in	David Penfold, Sainsbury's Senior Energy Manager, sits on the BRC Energy group and the Environment group – both of which feed into the

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		green technology and report carbon in a simple manner.	overall BRC position on climate change issues. We also regularly feed in to BRC consultation responses, as well as flagging issues for them to raise on behalf of members.
Retail Energy Forum	Consistent	The Retail Energy Forum is an informal group of energy specialists from major retailers with an independent chair. The aim of the group is to understand and advocate future legislation and share best practice.	David Penfold, Senior Energy Manager & Matteo Deidda, Energy Manager, sit on this group and meet quarterly. The forum is becoming closer to the BRC to ensure that a consistent message is communicated to Government.
British Refrigeration Association (BRA)	Consistent	The BRA is part of the Federation of Environmental Trade Associations (FETA) and they have been advocating to DEFRA on the F-Gas Legislation. The aim of the End User Group is to ensure representation of companies who will be impacted by this legislation.	John Skelton, Senior Engineering Delivery Manager is Chairman of the BRA End User Group and has attended a number of meetings with DEFRA on behalf of the BRA and Sainsbury's, to influence accordingly.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3f

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

The "Respect for our Environment" value is monitored by an internal steering group chaired by John Rogers, CEO of Sainsbury's Argos and Board member of J Sainsbury's plc. This group sets our overall climate change strategy and meets every 8-12 weeks to discuss progress and any issues that may be arising. The group includes a member of our Public Affairs and Corporate Affairs team (who lead on our external engagement) to ensure our engagement is consistent with the climate change strategy.

The Chair of the Respect for our Environment steering group also sits on our Corporate Responsibility and Sustainability (CR&S) Steering Group, chaired by our Chief Executive, Mike Coupe. The CR&S Steering Group is also attended by heads of Public Affairs, Corporate Affairs and Corporate Responsibility and Society, to ensure all of our engagement activities are aligned. This robust governance structure ensures that our external engagement and communications are aligned with our corporate position on climate change.

Mike Coupe also sits on our Corporate Responsibility and Sustainability Committee, which is attended by our non-executive directors Jean Tomlin (chair) and Mary Harris. Our Company Chairman (David Tyler) also attends each meeting.

Further Information

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target

Intensity target

Renewable energy consumption and/or production target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1+2 (market-based)	100%	30%	2006	1554492	2020	No, but we anticipate setting one in the next 2 years	We are targeting the full operational emissions for the organisation, including electricity, natural gas, diesel and refrigerant gases used in operational buildings and fleets. This target is set for the whole J Sainsbury plc group. We are currently developing science-based targets and hope to have these in place next year. This science-based target will supersede our current absolute target.
Abs2	Scope 1+2 (market-based)	100%	80%	2006	1554492	2050	No, but we anticipate setting one in the next 2 years	We are targeting the full operational emissions for the organisation, including electricity, natural gas, diesel and refrigerant gases used in operational buildings and fleets. This target is set for the whole J Sainsbury plc group. We are currently

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
								developing science-based targets and hope to have these in place next year. This science-based target will supersede our current absolute target.
Abs3	Scope 1+2 (market-based)	100%	50%	2006	1554492	2030	No, but we anticipate setting one in the next 2 years	We are targeting the full operational emissions for the organisation, including electricity, natural gas, diesel and refrigerant gases used in operational buildings and fleets. This target is set for the whole J Sainsbury plc group. We are currently developing science-based targets and hope to have these in place next year. This science-based target will supersede our current absolute target.
Abs4	Scope 1	11%	50%	2006	174039	2030	No, and we do not anticipate setting one in the next 2 years	Sainsbury's will work to reduce Logistics fleet emissions by 50% by 2030. The target includes diesel, LPG and LNG used by the Sainsbury's logistics fleet. We do not anticipate setting a science-based target for this part of our operations specifically.
Abs5	Scope 1	0.45%	2%	2016	5437	2017	No, and we do not anticipate setting	Sainsbury's will work to reduce natural gas emissions from

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
							one in the next 2 years	Sainsbury's distribution depot operations by 2% year on year. We have calculated the % of total emissions in scope by dividing 2015/16 emissions covered by the target by total group Scope 1 & 2 market-based tCO2e in 2015/16. We do not anticipate setting a science-based target for this part of our operations specifically.
Abs6	Scope 2 (market-based)	4.83%	2%	2016	58387	2017	No, and we do not anticipate setting one in the next 2 years	Sainsbury's will work to reduce electricity emissions from Sainsbury's distribution depot operations by 2% year on year in. We have calculated the % of total emissions in scope by dividing 2015/16 emissions covered by the target by total group Scope 1 & 2 market-based tCO2e in 2015/16. We do not anticipate setting a science-based target for this part of our operations specifically.

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int 1	Scope 1+2 (market-based)	100%	65%	Other: metric tonnes CO2e per sq ft sales area	2006	89.77	2020	No, but we anticipate setting one in the next 2 years	We have an intensity target in place as part of our Sustainability Plan. We have committed to reducing our carbon emissions by 65 per cent relative to our sales floor area by 2020, from a 2005/06 baseline. This target covers both our Sainsbury's and Argos/Habitat operations. We have updated our baseline year emissions intensity following our acquisition of the Home Retail Group. We are currently developing science-based targets and hope to have these in place next year. This science-based target will supersede our current intensity target.
Int 2	Scope 1	100%	35%	Other: metric tonnes CO2e per 1000 cases	2006	0.20	2020	No, and we do not anticipate setting one in	For our Sainsbury's logistics division, we have set a target to reduce

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
				assembled				the next 2 years	carbon emissions from fuel by 35% by 2020 relative to the number of cases assembled, from a 2005/06 baseline year. Within logistics we use a relative measure of kgCO2 per 1000 cases assembled for delivery to stores. In this instance the case is the delivery unit for each SKU going to store. E.g. 24 cans of baked beans in a case, 5kg of brie in a box for sale on the deli counter. We do not anticipate setting a science-based target for this part of our operations specifically.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	48	No change	0	We have assumed floor areas to be stable at 2016/17 level. Under a 65% reduction target, this would

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
					mean that emissions would be reduced by 742,585 tCO ₂ e in 2020 relative to 2005/06 levels. (742,585/1,554,492)*100 = 48% change in absolute emissions relative to 2005/06.
Int2	Decrease	1	No change	0	We have assumed number of cases assembled to be stable at 2016/17 level. Under a 35% reduction target, this would mean that emissions would be reduced by 16,635 tCO ₂ e in 2020 relative to 2005/06 levels. (16,635/1,554,492)*100 = 1% change in absolute emissions relative to 2005/06.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
RE1	Electricity consumption	2006	1914726	0%	2020	20%	As an organisation our target setting has prioritised carbon reduction primarily through increased energy efficiency. We have a target to provide 20% of our power from renewable power purchase agreements (PPAs) by 2020 and on-site renewables generation and we are currently on course to achieve this. We are engaging with RE100 to set targets for 100% renewable electricity consumption.

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Abs1	79%	71.75%	Despite significantly expanding our number of stores and floor area since 2005/06, our baseline year, we have reduced our emissions by nearly 22% in absolute terms. We are currently on track to complete this target by 2020 and are developing science-based targets to supersede our longterm targets.
Abs2	25%	26.9%	Despite significantly expanding our number of stores and floor area since 2005/06, our baseline year, we have reduced our emissions by nearly 22% in absolute terms. We are currently on track to complete this target. We are developing science-based targets to supersede our long-term targets.
Abs3	46%	43.05%	Despite significantly expanding our number of stores and floor area since 2005/06, our baseline year, we have reduced our emissions by nearly 22% in absolute terms. We are currently on track to complete this target. We are developing science-based targets to supersede our long-term targets.
Abs4	46%	9.15%	Despite significantly expanding our operations since 2005/06, our baseline year, we have reduced our emissions by nearly 10% in absolute terms. We are currently on track to complete this target by 2030.
Abs5	100%	0%	We have a rolling 2% year on year target to reduce energy consumption from our logistics property. Our gas consumption has gone up year on year, so we have not achieved our target this year, although we have reduced total logistics emissions year on year.
Abs6	100%	100%	We have a rolling 2% year on year target to reduce energy consumption from our logistics property. We reduced our emissions from electricity by 13% year on year.
Int1	79%	72.94%	We have significantly reduced our relative emissions since our baseline year, 2005/06. As of 2016/17, we have reduced our relative emissions by 47% compared to 2005/06. We are currently on track to complete this target by 2020 and are developing science-based targets to supersede our longterm targets.
Int2	79%	89.76%	We have significantly reduced our logistics fleet's relative emissions since our baseline year, 2005/06. As of 2016/17, we have reduced our relative emissions by 31% compared to 2005/06, and we are on track to complete this target by 2020.
RE1	79%	94.70%	J Sainsbury plc is on track to achieve this target. For the Sainsbury's part of our business, we currently have over 20% renewable electricity consumption. We are on track to achieve this target by 2020 for the group as a whole.

CC3.2

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

Yes

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	We offer customers with electric vehicles the opportunity to charge their cars free of charge at more than 158 charging points at 50 stores. Our electrical vehicle strategy is currently under review. It is anticipated that we will be rolling out significant increases in the number of vehicle charging points in our estate in the near future.	Avoided emissions	Other: Avoided emissions	0%	Less than or equal to 10%	We offer customers with electric vehicles the opportunity to charge their cars free of charge, with the number of charging points increasing in 2016/17 to 158 at 50 stores. We have assumed the average electric car uses approximately 0.3 kWh per mile. Taking the total amount of kWh consumed at recharging points (362,056), we get 1,206,853 miles driven. We have used the emission factor 0.3001 kgCO ₂ e/mile (source: Defra) for an average car with unknown fuel, and multiplied this with the miles driven by cars charged at Sainsbury's to obtain 363 tCO ₂ e per year of avoided emissions.
Group of products	Sainsbury's sells energy efficient light bulb products giving our customers the choice to reduce their own carbon emissions. In total over the 2016/17 reporting year Sainsbury's sold approximately 700,000 LED lightbulbs.	Low carbon product	Climate Bonds Taxonomy	0%	Less than or equal to 10%	Sainsbury's sells more than 60 types of LED lightbulbs. If our customers did not have the option for these energy efficient light bulbs, they would have chosen an average incandescent bulb instead. We

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
						have used the definitions used in the Climate Bonds Taxonomy to identify these products as low carbon.

CC3.3

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

Yes

CC3.3a

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

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	5	8910
Implementation commenced*	6	966
Implemented*	232	63549
Not to be implemented	0	0

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Fugitive emissions reductions	We have a programme to replace HFC refrigerants in stores	24764	Scope 1	Voluntary	0	9000000	<1 year	11-15 years	As we do not obtain energy or other cost

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	with more environmentally friendly natural types such as CO2 that has been running for several years. 17 stores were converted in 2016/17. Contributes to achieving targets Abs1, 2, 3 & Int1.								savings, there is no payback period.
Behavioral change	We have expanded our 'Greenest Grocer' engagement programme in 2016/17 to all 1,300 stores by energy best practice workshops for store managers, weekly energy reports and giving positive reinforcement by highlighting the top performing stores. A wide range of traditional internal channels have been used including posters, table talkers, a short video	4000	Scope 1 Scope 2 (location-based) Scope 2 (market-based)	Voluntary	2000	350000	<1 year	Ongoing	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	animation, meeting cascades, newsletter articles, an article in the company's Journal magazine, a page on the colleague mysainsburys website, events, features and a letter from the CEO. Contributes to achieving targets Abs1, 2, 3 & Int1.								
Low carbon energy installation	Investment in renewable and low-carbon energy technology at stores and depots including solar PV, ground source heat pumps, biomass boilers and combined heat and power. Contributes to achieving targets Abs1, 2, 3 4 & Int1.	1000	Scope 1 Scope 2 (location-based) Scope 2 (market-based)	Voluntary	280000	1300000	1-3 years	>30 years	We have estimated carbon savings from new installations only.
Energy efficiency: Building services	Energy efficiency programmes including LED sales floor conversions, lighting controls and	11852	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	7900000	30000000	1-3 years	>30 years	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	associated energy efficiency measures across 208 sites. Additional Contributes to achieving targets Abs1, 2, 3 & Int1.		t-based)						
Low carbon energy purchase	Sainsbury's has purchased renewable energy through PPAs and biomethane in 2016/17. We have avoided more than 146,878 tCO2e this year, but as some of these avoided emissions result from purchasing structures in place before the reporting year, we have reported only the avoided emissions from new energy in 2016/17. Contributes to achieving targets Abs1, 2, 3, Int1 and RE1.	21933	Scope 1 Scope 2 (market-based)	Voluntary	0	0	<1 year	Ongoing	We have calculated the tCO2e savings by calculating the emissions if the electricity and gas had come from fossil fuels. We have used grid emission factors from Defra (2016) for the UK. As we are changing the source of energy, there is no capital investment and we do not obtain energy or other cost savings,

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
									so there is no payback period. There are no incremental revenue costs either.

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	The investment in energy efficiency is driven by the Graphite programme. The 2016/17 budget prioritised the installation of LED lighting, with further efficiency measures being installed following site surveys. In 2016/17 a budget of nearly £30m was expended across 171 stores. Estimated annual carbon dioxide equivalent savings are over 10,000 tonnes.
Dedicated budget for other emissions reduction activities	The Graphite programme invests heavily in the installation of low and zero carbon energy infrastructure in our estate. The 2016/17 programme has seen over £1 million invested in ground source heat pumps. We have procured low carbon gas (biomethane) from the operators of an anaerobic digestion plant sufficient to meet the consumption requirements of these systems. Estimated annual carbon dioxide equivalent savings are 11,000 tonnes for the installations added in the 2016/17 reporting year. In addition to the Graphite programme, we have a programme installing natural refrigerant systems that saw 17 stores equipped with systems that operate using CO2 as a low GWP refrigerant in 2016/17, with capital investment of £9 million.
Employee engagement	Our intranet site provides the focal point of engaging store colleagues to manage and action energy and carbon reduction in their buildings. This is particularly targeted at those in management positions such as commercial and store managers. Colleagues can download checklists that enable stores to identify potential areas for energy improvement within their individual store. This is also the place where they can obtain their energy consumption and waste profiling graphs. We have undergone a programme where we have educated facilities management on energy management in stores. This includes engaging facilities management from capital investment programmes, informing them of the tools store colleagues have to manage energy and providing tailor made checklists on things they need to look out for in their role. We have saved nearly £2 million per year through this programme.
Compliance with regulatory requirements/standards	With the introduction of incentives such as Feed in Tariffs and Renewable Heat Incentive we review our investments to ensure we are maximising the potential income derived from regulations. We have invested significantly in low-carbon initiatives also as a result of UK legislation such as the CRC Energy Efficiency Scheme, which places a cost on each tonne of carbon from direct electricity and gas consumption in the UK.
Other	We are developing future reduction scenarios by building a partnership with Imperial College to develop our ambitious 'future stores' plans. Together we

Method	Comment
	are researching and creating practical ways to reduce our carbon footprint by developing low carbon technology solutions to the issues. The partnership is achieving tangible results and aims to provide both partners with a commercial legacy: we will own the intellectual property rights of any products or research we have developed jointly. Other initiatives include a 'Living Grid' partnership with OpenEnergy to develop Smart Grid technology, which will help to reduce our energy demand and possibly take stores off the National Grid completely. These measures would reduce our reliance on a strained UK power network over the next decade and result in anticipated carbon dioxide equivalent savings for the whole of the UK of 88,764 tonnes CO2e by 2020.
Internal price on carbon	We use the price set on allowances under the CRC Energy Efficiency Scheme in the UK as an internal carbon price that is taken into account when making investment decisions. It helps us to make business cases for low carbon energy and energy efficiency measures such as our ongoing Project Graphite programme.

Further Information

Page: CC4. Communication

CC4.1

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	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Appendix 1. 2017 Annual Report Pgs. 97, 34-37, 66-67	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 1 - Annual Report 2017.pdf	We report on our GHG emissions alongside our financial performance. We also include an update on our progress against our value 'Respect for the Environment' and detail the governance structure of our Corporate Responsibility and Sustainability Committee.
In voluntary communications	Complete	Appendix 2. Quarterly CR	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared	

Publication	Status	Page/Section reference	Attach the document	Comment
		updates (Q1) 2016/17	Documents/Attachments/CC4.1/Appendix 2 - CRS update Q1 16-17.pdf	
In voluntary communications	Complete	Appendix 3. Quarterly CR updates (Q2) 2016/17	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 3 - CRS update Q2 16-17.pdf	
In voluntary communications	Complete	Appendix 4. Quarterly CR updates (Q3) 2016/17	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 4 - CRS update Q3 16-17.pdf	
In voluntary communications	Complete	Appendix 5. Quarterly CR updates (Q4) 2016/17	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 5 - CRS update Q4 16-17.PDF	
In voluntary communications	Complete	Appendix 6. Respect for our Environment – Commitments and KPIs	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 6 - RFOE Commitments and KPIs.pdf	
In voluntary communications	Underway - previous year attached	Appendix 7. Sustainability Plan Summary Update 2016 – posted to corporate website	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC4.1/Appendix 7 - Sustainability Plan 2016.pdf	As our Sustainability Plan is published digitally on an interactive website, we have attached screenshots from our 2016 Plan here.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Fuel/energy taxes and regulations	Energy legislation in the UK has seen several changes in the beginning of 2016, with the announcement of the removal of the CRC (Carbon Reduction Commitment) from 2019 onwards. In its place, the government has indicated that the Climate Change Levy (CCL) may be increased, though the mechanism & scale of this is currently uncertain. Both the CRC and CCL are and will be risks for Sainsbury's, as they impose a carbon price on energy consumption. This affects Sainsbury's operating costs both now and in coming years.	Increased operational cost	Up to 1 year	Direct	Virtually certain	Low-medium	The CRC will cost Sainsbury's more than £14 million in 2017. The cost per tonne of carbon will be increased each year up to 2019, from £17.20 in 2017 to £17.70 in 2018. If energy use remains stable, CRC allowance costs will increase by approximately £400,000 in one year. This financial impact is expected to continue with the removal of the CRC & introduction of an increased CCL price post 2019.	This risk has been embedded into our future plans, with mitigation through energy efficiency and renewable energy programmes forming a key part of Sainsbury's ongoing energy strategy. Energy is a controllable cost within Sainsbury's and significant effort has been made to ensure that our stores operate efficiently. Our Graphite Energy Efficiency Programme looks at stores at a local level, identifying the most sustainable energy savings suitable for each one. We have now completed the tenth year of this program and	The budget for the Graphite programme is approximately £30 million/year, across energy efficiency and infrastructure projects. Of this £30 million, we spend approximately £25 million per year on pure energy reduction in order to control the potential impact of rising energy prices and carbon taxes. It is estimated we will spend a further £25-30 million p.a. on energy efficiency projects until 2020. The Greenest Grocer programme is a key part of this effort, and has a budget of approximately

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								upgraded more than 150 locations to LED lighting in the last year. We have also engaged staff to reduce energy use in our Greenest Grocer programme. Small actions, such as for example closing fridge doors, have saved energy and simultaneously made stores more pleasant for customers. During 2016/17, we saved around 4,000 tCO ₂ e, equivalent to almost £70,000 in CRC allowances.	£350,000 per year.

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Climate change is expected to affect precipitation extremes in the UK over the 21st century, increasing the frequency and intensity of flood events. A recent report commissioned by the Committee on Climate Change (Climate Change Risk Assessment 2017) reported a potential increase of 60% in Expected Annual Damages from floods by 2080, under a 2°C warming scenario with no population growth. In the short term, a significant increase in flood risk is expected to occur within the next 10 years. Our stores are	Inability to do businesses	1 to 3 years	Direct	Very likely	Medium	The cost of a flood event will depend on the store and the magnitude of the flooding experienced. Cleaning, restocking, refurbishing and loss of business costs will be dependent on severity of the incident, ranging from approximately £1 million, up to £3 million per supermarket store for a serious event.	To actively manage this risk the Board carries out an annual review of the significant risks facing the business and the Operating Board maintains an overall corporate risk register that identifies the potential impact and likelihood of risks, with divisional operating management teams holding responsibility for managing risks to their business objectives. We continually review and improve our procedures for managing flood events during and after flood events and have used GIS mapping	It is difficult to determine the cost of this risk because it is mostly incorporated within our general planning and location assessment costs. However, typical costs associated with GIS flood risk assessments range from £4,500 to £25,000 dependent on site complexity. The cost of flood barriers is between £250,000 to £1,000,000 depending on the size of the site.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>located across the UK and in several cases are located in areas that are at risk of flooding. Flooding affects our stores directly but also indirectly by hindering access for our customers and suppliers.</p>							<p>software to identify stores that are in areas at most risk of flooding. For these stores, we have formalised management response procedures in place that are activated during flood events in order to maintain a fast response time for a smooth recovery process. We have also installed flood barriers at several stores. One of these is our Superstore in Sherborne, which we identified as being at risk of flooding from a nearby stream. During refurbishment, removable flood barriers were installed</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								so that negative impacts from flood events can be minimised.	
Induced changes in natural resources	Sainsbury's primarily sells groceries, consumables and other foods, with our own branded products sourced from the UK and more than 70 countries around the world. A significant physical climate change risk to the business relates to the market volatility and supply of commodities as a result of induced changes in natural resources. The IPCC estimates that all aspects of food security are potentially affected by climate change, including food	Increased operational cost	1 to 3 years	Indirect (Supply chain)	More likely than not	High	Based on current conditions, USDA's Economic Research Service's Consumer Price Index for all food is projected to increase from 2016 to 2017 by 1% to 2%. The USDA notes that this may increase if large disruptive weather events occur in key food producing regions. A ~2% increase would have a substantial impact on our supply chain costs.	Sainsbury's is actively managing this risk by developing the Sustainability Plan, which incorporates targets such as sourcing our key raw materials and commodities sustainably to an independent standard and ensuring sustainable management of our supply chain. For example, through our Fair Development Fund, we have supported a value chain partnership to support smaller coffee farmers in Uganda to implement more	Our Sustainability Plan is a £1 billion plan made up of a number of programmes that will ensure we remain at the forefront of sustainability. One of the programmes within the Sustainability Plan is the Fair Development Fund. We have set up the Fair Development Fund in partnership with Comic Relief, which aims to support workers and farmers in developing countries to build a more sustainable future

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	access, utilisation, and price stability. Climate change could have an impact on the availability, quality and long-term security of supply of many of our key products.							sustainable farming practices and increase their yields, with the aim of allowing farmers to sell higher volumes at a better price. Through projects such as this we are working with our suppliers to stabilise our supply base and manage the risk of price fluctuations resulting from climate change.	for themselves and their communities, thus stabilising our supply base. The second phase was launched in April 2013 with £3 million committed to the fund for the following four years.

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Consumers are becoming increasingly aware of environmental and climate change issues. A recent	Reduced demand for goods/services	Up to 1 year	Direct	More likely than not	High	The exact impact of reputational brand damage is difficult to quantify.	Sainsbury's manages this risk through the implementation and communication of our Sustainability	Sainsbury's Sustainability, Energy and Engineering teams, who are responsible for

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>survey by the Carbon Trust (2016) found 56% of UK consumers saying they would be more positive about a brand if they were shown to be reducing the carbon footprint of their products</p> <p>If Sainsbury's is not seen to be responding positively to climate change, our reputation would undoubtedly be damaged. Brand and trust are key components to customer loyalty; damage to Sainsbury's brand may cause customers to choose alternative</p>						<p>A fall in sales volumes as a result of reputational brand value could be significant. The value of Sainsbury's Brand is estimated to be in the region of £4-5 billion. If Sainsbury's do not continue to act on climate change (a drop in brand value of just 1% could result in a £40-50 million loss of brand value)</p>	<p>lity Plan. We disclose our sustainability performance in frequent updates on our website and within our annual reports. To support our Sustainability Plan we have appointed dedicated Sustainability, Energy and Engineering teams to centrally manage the implementation of our sustainability plan. Apart from direct action on our own footprint, Sainsbury's is also active in sponsorship, NGOs and academics to engage with stakeholders and understand consumer</p>	<p>managing this risk and ensuring Sainsbury's uphold its reputation, equate to internal costs of between £750,000 and £1.2 million a year. Costs of sponsorship, ventures with Business in the Community, University of Reading and Imperial College are estimated to be in the region of £300,000 a year.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	supermarkets and shops, which would impact on our financial performance.							behaviours For example, we are developing future reduction scenarios by building a partnership with Imperial College London to develop our ambitious 'future stores' plans. Together we are researching and creating practical ways to reduce our carbon footprint by developing low carbon technology solutions to the issues. To make sure our customers are aware of our activities, we engage with suppliers, customers and staff members, and publicise as much of these interaction	

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								as possible to ensure maximum exposure. We publish all sustainability results in quarterly and annual filings, as well as in the CDP Climate Change, where we have consistently been among the best performers in our sector.	
Other drivers	With more renewable energy coming live on the grid, and with coal-fueled power plants slowly being phased out, the supply of energy in the UK becomes more variable. This could imbalance the grid and cause equipment failure or even blackouts	Reduction/disruption in production capacity	1 to 3 years	Direct	Likely	High	Blackouts are costly as we could not operate our stores and our products could be lost. Additionally, equipment could be damaged. Increasing energy costs would impact our entire estate and increase the cost of doing	We are working with OpenEnergy to install Dynamic Demand technology on our HVAC equipment. This turns our HVAC into smart devices that can respond to fluctuations in electricity supply and demand to keep power supplies stable. This reduces	The cost of engaging with Living Grid is around £200,000 per annum. The benefits of working with the Living Grid are between £15,000 and £20,000 per month from energy costs saved. The cost of project Graphite is around £30m per

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>, which we would also be at risk of. Reduced generation capacity may increase our energy costs. In the UK, renewable energy generation was 24.3 percent of the gross electricity consumption in 2016. As time progresses, the share of renewables will further increase and potentially, instability as well. We would be at risk of damaged equipment and loss of power, which would result in capital costs and loss of business. Cost increases would lead to higher</p>						<p>business . We estimate the total financial implications to be between £50m to £125m.</p>	<p>our energy costs and carbon emissions . Additionally, our energy efficiency programme project Graphite enables us to lower our grid electricity consumption and reduce our exposure to higher energy costs. As of 2016/17, we have upgraded 171 stores in our estate. We are also improving our current building management software to create a hierarchy of essential equipment , so that in case of emergency we can switch off of non-essential equipment first and minimize</p>	<p>year to rollout energy efficiency projects across our estate.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	business costs.							financial losses.	

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Renewable energy regulation	There are a number of schemes in the UK that promote the installation of renewable technology. Installing renewable energy measures benefits Sainsbury's in two ways. Firstly we save money	Reduced operational costs	Up to 1 year	Direct	More likely than not	Medium	The income from the Renewable Heat Incentive (RHI) scheme is currently approximately £5 million per year and we do not expect this to significantly change in the next 1-3 years.	To actively manage this opportunity, Sainsbury's has a comprehensive roll out programme to introduce renewable technology at our stores and depots. To date this includes more than 100 Ground Source Heat	The capital expenditure costs associated with these Ground Source Heat Pump installations in 2016/17 is in the region of £1-2 million, with average payback periods less than 5 years.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>by reducing the need for fossil fuels. Secondly, we receive financial benefits from the government from the energy and hot water generated by renewables. For example, the UK government's Renewable Heat Incentive scheme, first introduced in November 2011, is a payment for generating heat from renewable sources. There have been many updates to the RHI scheme and the government recently introduced a new tariff for ground source</p>							<p>Pumps and biomass boilers across our estate. As an example, we installed a GSHP at our store in Sutton during 2016/17, which has a payback period of less than 5 years and will result in an estimated £50,000 in income from the RHI per annum.</p>	

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	heat pumps, which will enable us to continue to invest in this technology in the future.								

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation pattern	The IPCC (AR5 WGI, 2013) expects that under a changing climate, periods of drought could become longer and more frequent in the UK. This could lead to increased strain on water supplies and may drive up water prices in the future. However, by anticipating these changes ahead of competitors and implementing water	Reduced operational costs	1 to 3 years	Direct	More likely than not	Low-medium	Ofwat estimates that England and Wales will see annual water price increases of 3.5% up to 2020. By investing in water efficiency measures across our estate we estimate we can save between £150,000 and £170,000 per annum.	Sainsbury's has had a water savings programme that aims to achieve target reductions in place for a number of years. In 2016/17 we achieved 31% absolute water reduction against 2005/06. In 2016/17 we achieved 1 billion litres saved against a 2005/06 baseline. We aim to maintain	Installing rainwater harvesting systems cost on average £40,000 - £70,000. The payback for installing rainwater harvesting systems varies with system size and location, with payback between 6 and 11 years.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	efficiency and harvesting measures, Sainsbury's has an opportunity to make savings in operational costs and simultaneously gain a competitive advantage.							this towards 2020. Some of the measures being installed across our estate include rainwater harvesting, low flow taps and waterless urinals. Rainwater harvesting installations are now a standard specification for new stores, and we have installed 103 systems installed up to date.	

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behavior	Sainsbury's sees a huge opportunity in helping customers make better,	New products/business services	1 to 3 years	Direct	More likely than not	Medium-high	Sales of ethical and sustainably sourced products have increased year	We actively manage this opportunity by communicating regularly to our	It is difficult to estimate the financial costs of managing this opportunity as this

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>more sustainable choices. Consumers are becoming increasingly aware of climate change and reducing their own carbon emissions, leading to an increased demand for low-carbon and sustainably-sourced products.</p> <p>Sainsbury's has a role to play in offering consumers the ability to change their behaviour and offer a range of energy efficient and lower carbon products, as well as sustainably sourced products that</p>						<p>on year in the UK since 2000. Sainsbury's is currently the world's largest retailer of Fairtrade products and we will continue to grow the sales of fairly traded products in line with our business. We sold over £280 million worth of Fairtrade products in the UK in 2015/16. UK sales of Fairtrade products grew by 2% in 2016. If a similar rate of growth continues, this could mean that sales of Fairtrade could be over £300m by 2020.</p>	<p>customers and listening to the type of products they like to see on our shelves. We are committed to selling products that are fairly traded and this is integral to our strategic plans. For example, we sell over 200 MSC (Marine Stewardship Council) certified seafood products, with the aim to sell 100% of our seafood products from MSC certified sources in 2020. We were recognised by MSC for being the Best Sustainable Seafood Supermarket in the world in 2017. Additionally, we expect LED lightbulbs to form more than</p>	<p>is included within our normal operational spend. We estimate the cost of stocking one product versus another to be minimal at less than £10,000 a year.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	improve resilience in the supply chain. The range of sustainable products Sainsbury's stocks is increasing year on year and so presents a great opportunity to continue to react to the increased demand and generate sales.							40% of our total lightbulb sales by the end of 2017.	

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO ₂ e)
Scope 1	Sun 27 Mar 2005 - Sat 25 Mar 2006	638257
Scope 2 (location-based)	Sun 27 Mar 2005 - Sat 25 Mar 2006	916235
Scope 2 (market-based)	Sun 27 Mar 2005 - Sat 25 Mar 2006	916235

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Other: Issued as separate spreadsheet			

Further Information

We have completed the CDP worksheet for question CC7.4 detailing the emissions factors used in our submission.

Attachments

[https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/CDP-Worksheet-for-question-CC7.4-2017 v1.0.xlsx](https://www.cdp.net/sites/2017/14/23214/Climate%20Change%202017/Shared%20Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/CDP-Worksheet-for-question-CC7.4-2017%20v1.0.xlsx)

Page: CC8. Emissions Data - (12 Mar 2016 - 11 Mar 2017)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

647883

CC8.3

Please describe your approach to reporting Scope 2 emissions

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

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
705346	572020	Renewable energy generated and consumed across our estate has been reported at zero carbon emissions. 18% of UK electricity is covered by a PPA, which meets all of the required quality criteria; therefore 18% of UK electricity consumption has been reported at zero carbon emissions. Remaining UK electricity has been reported using supplier-specific emission factors. Non-UK electricity has been reported using local grid average emission factors.

CC8.4

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

No

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	Less than or equal to 2%	Data Gaps	Data for a small portion of diesel were not available in 2016/17. Consumption for these supplies has been estimated through an average consumption figure Data for a small number of gas supplies were not available throughout the full duration of 2016/17; therefore consumption has been estimated from last year's data.
Scope 2 (location-based)	Less than or equal to 2%	Data Gaps	Data for a small number of electricity supplies were not available in 2016/17, therefore consumption has been estimated.
Scope 2 (market-based)	Less than or equal to 2%	Extrapolation	The majority of Sainsbury's electricity (>97%) is sourced through one corporate energy supplier. For administration purposes, emissions for the remaining de minimis supplies have been calculated using the same emission factor methodology.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Appendix 8 - Carbon Trust Standard Certification Letter - J Sainsbury Plc - 2017.06.zip	Whole document	Verification as part of Carbon Trust standard certification	100

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Market-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Appendix 8 - Carbon Trust Standard Certification Letter - J Sainsbury Plc - 2017.06.zip	Whole document	Verification as part of Carbon Trust standard certification	100

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/14/23214/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Appendix 8 - Carbon Trust Standard Certification Letter - J Sainsbury Plc - 2017.06.zip	Whole document	Verification as part of Carbon Trust standard certification	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
No additional data verified	

CC8.9

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

Yes

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO₂

35

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (12 Mar 2016 - 11 Mar 2017)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
United Kingdom	647700
Ireland	183

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Central locations	3470
Logistics	230153
Stores and Supermarkets	371399
Online deliveries	42677
International offices	183

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (12 Mar 2016 - 11 Mar 2017)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes 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	702177	568852	1704105	1704105
Ireland	2704	2704	6360	0
Bangladesh	62	62	106	0
China	117	117	173	0
Hong Kong	223	223	281	0
India	62	62	76	0

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Central locations	4565	4520
Logistics	15073	14924
Stores and Supermarkets	682539	549407
International offices	3169	3169

Further Information

Page: CC11. Energy

CC11.1

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

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

1851435

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	612942
Diesel/Gas oil	1051005
Liquefied Natural Gas (LNG)	16849
Biogas	0
Liquefied petroleum gas (LPG)	10437
Wood or wood waste	160202

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), supported by energy attribute certificates	309862	0	We have PPAs for a portion of our electricity supply.
Contract with suppliers or utilities, supported by energy attribute certificates	1394244	0.408	We source the majority of our electricity in the UK from the same supplier, who has provided a supplier-specific emission factor. Due to their generation mix, the factor is lower than the normal UK electricity grid emission factor.
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company	18968	0	We have onsite renewable energy generation through solar and wind power.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
1736109	1711101	26356	19216	18968	Sainsbury's generates renewable energy from solar panels and wind turbines. 248 MWh of wind energy generated was exported to the grid. All solar energy generated, 18,118 MWh in total, is consumed by Sainsbury's. The renewable energy generated by Sainsbury's was accounted for with an emission factor of 0 in the reported Scope 2 emissions (location and market-based). Additionally, 7,140 MWh of electricity was generated through CHP installations, of which 6,039 MWh was consumed by Sainsbury's. This has been included in the "total electricity produced" figure.

Further Information

Part of our natural gas consumption is from biomethane (89,019 MWh); we have included this with our grid-supplied natural gas under 'Natural Gas' in 11.3.

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	5.62	Decrease	We have included emissions reduced through our expansion of purchased renewable energy and energy efficiency projects completed across our estate, a very successful employee engagement programme and the replacement of refrigerants for CO2. The total reduction in emissions from these activities in 2016/17 is 63,549 tonnes of CO2e. Divided by the total market-based emissions from last year, 1,130,829 tonnes of CO2e, this gives a value of 5.62% decrease in emissions.
Divestment			
Acquisitions	13.63	Increase	We have included the additional emissions from the new parts of our business following the acquisition of Home Retail Group. In 2016/17, these emissions accounted for an additional 154,086 tonnes of CO2e. Divided by the total market-based emissions from last year, 1,130,829 tonnes of CO2e, this gives a value of 13.63% increase.
Mergers			
Change in output	0.04	Increase	We opened several new sites in 2016/17. The emissions total from these new sites is 456 tCO2e. Divided by the total market-based emissions from last year, 1,130,829 tonnes of CO2e, this gives a value of 0.04% increase.
Change in methodology	0.95	Decrease	The emission factors we use are updated on an annual basis. In 2016/17, the impact of these changes resulted in a reduction in emissions of 10,778 tonnes of CO2e. Divided by the total market-based emissions from last year, 1,130,829 tonnes of CO2e, this gives a value of 0.95% decrease.
Change in boundary			
Change in physical operating conditions			
Unidentified	0.78	Decrease	We are not able to attribute all changes in emissions. These are likely to be the result of weather fluctuations and small variations in output. We have calculated this by subtracting the emissions changes that we can account for, 80,215 tonnes of CO2e, from the total change in emissions, 89,074 tonnes of CO2e. This gives an unidentified decrease of 8,860 tonnes of CO2e. Divided by the total market-based emissions from last year, 1,130,829 tonnes of CO2, this gives a value of 0.71% decrease.

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00004190	metric tonnes CO2e	29112000000	Market-based	4.29	Decrease	We have acquired the Home Retail Group in the summer of 2016. As a result, both our absolute emissions and revenue have increased year on year. Nonetheless, due to our emissions reductions activities, such as reducing energy consumption, employee engagement programmes and the expansion of renewable generating capacity, our relative emissions of tCO2e per £ revenue have decreased.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator : Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
10.28	metric tonnes CO2e	full time equivalent (FTE) employee	118700	Market-based	1.57	Decrease	We have acquired the Home Retail Group in the summer of

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator : Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
							2016. As a result, both our absolute emissions and FTE have increased year on year. Nonetheless, due to our emissions reductions activities, such as reducing energy consumption, employee engagement programmes, refrigerant replacement and the expansion of renewable generating capacity, our relative emissions of tCO2e per FTE have decreased.
47.21	metric tonnes CO2e	Other: '000 square foot sales area	25842	Market-based	3.15	Decrease	We have acquired the Home Retail Group in the summer of 2016. As a result, both our absolute emissions and sales floor area have increased year on year. Nonetheless, due to our emissions reductions activities, such as reducing energy consumption, employee engagement programmes, refrigerant replacement

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator : Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
							and the expansion of renewable generating capacity, our relative emissions of tCO ₂ e per '000 square feet sales floor area have decreased.
1.02	metric tonnes CO ₂ e	Other: '000s of cases assembled	1192144	Market-based	7.57	Increase	We have acquired the Home Retail Group in the summer of 2016. As a result, our absolute emissions have increased year on year. As the figure for cases assembled currently only applies to our Sainsbury's operations, this has led to an increase in total group emissions intensity. For our Sainsbury's division, our emissions intensity over cases assembled has reduced by 6% year on year due our work on reducing emissions by increasing energy efficiency and renewable generating capacity.

Further Information

Page: CC13. Emissions Trading

CC13.1**Do you participate in any emissions trading schemes?**

No, and we do not currently anticipate doing so in the next 2 years

CC13.2**Has your organization originated any project-based carbon credits or purchased any within the reporting period?**

No

Further Information

Page: CC14. Scope 3 Emissions

CC14.1**Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions**

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	13366000	We have used the combined cradle-to-retail emissions of an assortment of 217 products, as calculated by the WRAP (Waste & Resources Action Programme), which is 82 Mt CO2e per year for the whole UK grocery sector. Primary data from Sainsbury's was used to calculate the figure. We have applied Sainsbury's market share (16.3%) to the figure to calculate total cradle-to-retail emissions for Sainsbury's.	0.00%	
Capital goods	Relevant, calculated	46800	Calculations are based on applying a conversion factor from Defra 2012 Annex 13 Supply chain factors - Real	0.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Estate Activities to core capital expenditure (during the reporting year.		
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	219575	Transmission and Distribution losses are calculated for Sainsbury's electricity consumption in the UK and overseas, using Defra conversion factors from 2016. Well-To-Tank (WTT) losses are calculated for a range of fuels (natural gas, biomethane, diesel, red diesel, LPG, LNG, biomass) consumed by Sainsbury's, using Defra conversion factors from 2016.	100.00%	
Upstream transportation and distribution	Relevant, calculated	9562	The emission factor for diesel was taken from Defra's 2016 emission factor dataset and applied to the amount of litres consumed by the tanker fleet distributing the fuel we sell to our customers at our petrol stations, which is operated by fuelsupply company Greenergy.	100.00%	
Waste generated in operations	Relevant, calculated	5313	Emissions from waste were calculated by taking total waste by type and treatment route amounts from the Waste Management Team in Sainsbury's. These were multiplied with emission factors from the Defra 2016 dataset. All volume data drawn from waste collection notes from Sainsbury's waste contractors.	0.00%	
Business travel	Relevant, calculated	10780	Business travel emissions are calculated by using cost data from the expenses system. Air, Bus/Coach, Sea and Rail travel emissions are calculated by applying Defra Supply Chain Annex 13 factors to the expenditure information. Emissions from car travel are calculated by applying the Defra 2016 emission factor for "Average Car (Unknown Fuel)" to data from mileage claims. Any travel from company cars	0.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			falls under Scope 1 emissions. All data provided as extractions from expenses system and calculations based on pounds spent rather than fuel use or distance calculations.		
Employee commuting	Relevant, calculated	82910	Emissions from employee commuting have been estimated using FTE figures and an employee travel survey. We have used statistical information from the DfT from the most recent year (2015) to estimate average distance travelled for various modes of transport. We used the travel survey to estimate the percentage of employees using each mode of transport and calculate the total distance travelled per year by that mode. We applied DEFRA conversion factors (tCO2e/mile, tCO2e/passenger.km) for the total distance travelled by mode to calculate total tCO2e emissions.	0.00%	
Upstream leased assets	Not relevant, explanation provided				All assets leased by company are considered to be within Scope 1 & 2, as Sainsbury's is using the Operational Control definition to determine scope of coverage.
Downstream transportation and distribution	Not relevant, explanation provided				As a retailer, there is very limited scope for Sainsbury's to influence how customers travel to and from stores. As they do not contribute to the Group's risk exposure, we have therefore deemed them as 'Not relevant'. All home deliveries with vans for Sainsbury's

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					Argos are included in scope 1 and 2 emissions.
Processing of sold products	Not relevant, explanation provided				As Sainsbury's only sells final products to customers, this category is not relevant.
Use of sold products	Relevant, calculated	9943000	We have made the assumption that our products are used for lighting, cooking, cleaning and washing. A study completed by WRAP (Waste & Resources Action Programme) calculated that there is 61 MtCO2e associated with the use phase of grocery products per year in the UK. We have taken this figure and applied Sainsbury's market share of 16.3% to it to obtain emissions for use of sold products.	0.00%	
End of life treatment of sold products	Relevant, calculated	1141000	Sainsbury's sells different types of products, which makes it difficult to estimate what their total end-of-life impact would be. As the majority of goods sold is food, we have focused on food waste in our reporting here. We have obtained the total amount of food waste collected by local authorities in the UK in 2012 from a study conducted by WRAP. Total food waste in that year was 4.7 million tonnes, and we have assumed this to be of a similar magnitude in 2016/17. We have applied the market share for Sainsbury's (16.3% in 2016) to this figure and used a Defra emission factor (2016) for organic waste to landfill (723 kgCO2e/tonne) to calculate emissions.	0.00%	
Downstream leased assets	Relevant, calculated	1671	Across its property portfolio, Sainsbury's sub-lets various units, which are often part of larger sites owned or leased by Sainsbury's. As energy supplies are the	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			responsibility of the sub-let tenant, associated emissions are not reported under Scopes 1 & 2. We have collated all kWh consumed by the tenants in these concessions, and applied UK grid factors to calculate total emissions.		
Franchises	Not relevant, explanation provided				Sainsbury's has no franchises so this category is not relevant.
Investments	Not relevant, explanation provided				The majority of Sainsbury's investment activities are captured in scope 1 and 2 emissions. Sainsbury's Bank (which is fully owned by Sainsbury's) invests in a limited range of assets at third parties for the purpose of liquidity management. Sainsbury's Bank does not exert operational control over these investments. As such, we consider any emissions resulting from these investments beyond our scope of reporting.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/14/23/214/Climate Change 2017/Shared Documents/Attachments/CC14.2a/Appendix 8 - Carbon Trust Standard Certification Letter - J Sainsbury Plc - 2017.06.zip	Whole document	Verification as part of Carbon Trust standard certification	1

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output	1.21	Decrease	Market share decreased from 16.5% to 16.3% as an average over the reporting year so associated emissions from grocery production will have decreased accordingly.
Capital goods	Change in output	25.38	Decrease	Our methodology remains the same, including the emission factor applied, with the only change being the capital expenditure in 2016/17 lower than in the previous reporting year.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Acquisitions	7.32	Increase	We have acquired HRG in the summer of 2016 and this has significantly increased the amount of energy we use. As such, the fuel-and-energy related emissions have also been increased. However, without emissions reduction activities across our portfolio, our emissions would have increased even further.
Upstream transportation & distribution	Change in output	3.57	Increase	We have expanded our operations and turnover, resulting in an increase in the total amount of fuel used by our third-party operated tanker fleet.
Waste generated in operations	Change in output	3.62	Increase	We have expanded our operations and turnover, resulting in an increase in the

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
				total amount of waste generated in our operations.
Business travel	Acquisitions	5.19	Increase	We have acquired HRG in the summer of 2016 and the expansion of our operations has led to an increase in business travel.
Employee commuting	Acquisitions	5.18	Increase	We have slightly changed our methodology compared to last year with updates to the emission factors we have applied. Additionally, due to the acquisition of HRG we have increased the number of FTE by about 10% compared to last year.
Use of sold products	Change in output	1.21	Decrease	Our methodology remains the same, with the only change being a small reduction in market share year on year.
End-of-life treatment of sold products	Change in output	1.21	Decrease	Our methodology remains the same, with the only change being a small reduction in market share year on year.
Downstream leased assets	Change in methodology	90.36	Decrease	We have now been able to obtain more accurate data on our tenants' consumption and are therefore able to calculate emissions with more accuracy.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Suppliers

Methods of engagement

We engage with our suppliers through our Farmer Development Groups and new Crop Sustainability Groups, which are practical working partnerships where we pool knowledge about supply chains and work together to develop the skills and resources our suppliers need. Additionally, in partnership with AB Sustain, we have developed on-farm carbon footprint assessment models that now cover more than 2,300 farms, creating one of the largest real on-farm datasets across the globe.

Initiatives like these set us apart from other retailers, demonstrating how our values make us different.

We have developed our Carbon Cost of Production metric, which allows us to engage with farmers directly and showcase the benefits we can provide in a simple, evidence-based form. This lets our farmers assign financial value to projects that would help improve their carbon emissions.

Strategy for prioritising engagements

Sainsbury's engages with all suppliers in some degree on sustainability, but particular attention has been paid to the farmers in our UK Farmer Development Groups, as Sainsbury's recognises the need to protect a vulnerable agricultural supply base that was only covered by small-scale studies not reflective of the industry. We also believe that working with these suppliers will help us reduce carbon emissions from overseas distribution and ensure resilience on the long-term.

Measures of success

We have identified several areas of improvement across the Farmer Development Groups by combining cost of production and carbon assessments. This combined approach enables our farmers to identify links between farm costs such as fertilizer, feed and fuel and carbon emissions, reducing both costs and emissions. For example, our Dairy Development Group has reduced average farm carbon emissions by 3.8% year on year between 2014 and 2015, with fertilizer use decreasing by 6% year on year. This has been achieved comparing farms and analyzing how much feed is purchased by each farm and providing recommendations on

how to reduce the amount of feed purchased to help save money and carbon. The reporting has also assisted some producers with key decision making within their businesses, leading to bottom-line savings. Going forward, further analysis of data and the collaboration with cost of production and animal health bodies should further assist with delivering sustainable production and reduce carbon emissions. The way we have structured data collection on farms cuts the number of trips required from two to one, reducing the time commitment required by the farmer, we have also helped to make the correlation between farm costs and carbon emissions more understandable for our farmers. We have also worked on promoting good environmental agricultural practices by sponsoring Open Farm Sunday, which is managed by Linking Environment and Farming (LEAF), an organisation that promotes sustainable agriculture, food and farming. We worked with nine key farms to invite members of the public to learn about our good agricultural practices and sourcing criteria.

Customers

Methods of engagement

We engage our customers through a number of channels, including:

- Corporate website: we post key documents, updates and reports to our corporate website, which is also used by our customers.
- Store signage: we communicate to customers in store through signage on energy reductions and other sustainability initiatives.
- We have organized several projects under our “Waste less, Save more” initiative to encourage our customers to reduce waste, including a £1 million grant and a dedicated website where customers can exchange tips and recipes to reduce food waste.
- We have a trade-in scheme in our Argos stores for customers to return unwanted gadgets when they replace or trade-up devices, encouraging effective recycling and preventing these products from going to landfill, and we have in-store collection points at our Sainsbury’s supermarkets for used batteries.

Strategy for prioritising engagements

We listen to customers, colleagues and stakeholders to determine the issues that are most important to them. In addition to this, we organise regular customer surveys and have launched an online customer panel, “Trolley Talk”, where we receive direct insights on what issues matter to our customers.

Measures of success

Examples of measures of success with key engagement initiatives:

- Electric vehicle charging - We offer customers with electric vehicles the opportunity to charge their cars for free at 148 charging points in 46 stores and we consider the use of these in future developments.
- We have awarded £1 million for developing waste saving projects across more than 140 communities in the UK, as part of our Waste Less, Save More initiative
- We have collected more than 28 million batteries from store collection points from our customers

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Collaboration/innovation	2000	100%	Several of the commitments laid out in our Sustainability Plan relate to our value ‘Sourcing with Integrity’. Engaging our suppliers is therefore a key area for Sainsbury’s in order to achieve our commitments and develop long-term resilience.

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
John Rogers	CEO Sainsbury's Argos & Board member J Sainsbury plc	Director on board

Further Information

CDP: [W][-,][AQ][Pu][E2]