

Carbon Neutral
PAS 2060:2014 Specification

Ballymena, Cranswick Foods

Qualifying Explanatory Statement



Mission Zero team

146 FENAGHY ROAD, BALLYMENA, BT42 1EA

Contents page:

1. Introduction

- a. Introduction
- b. Context
- c. Ballymena
- d. General Information
- e. Checklist

2. Project summary

- a. Executive summary
- b. Methodology
- c. Specification (PAS 2060)

3. Context and drivers

- a. Site governance & strategy
- b. Cranswick PLC targets

4. Emissions baseline & projections

- a. Measurement
- b. Scope 1 & 2 emissions
- c. Scope 3 measurement

5. Reduction solutions

- a. 2017 – 2021
- b. 2021 onwards

6. Offset portfolio

1. Introduction

a. PAS 2060:2014 requires that an entity making a declaration in respect to carbon neutrality, in accordance with its provisions, make a qualifying explanatory statement (QES) that includes the evidence substantiating the declaration. This document forms the QES that demonstrates the commitment of Cranswick plc's Ballymena site to achieving carbon neutrality, which includes evidence substantiating the declaration under PAS 2060. All information is believed to be accurate at the time of issue. Should any further information be brought forward that would affect the validity of the statements herein, this document will be updated accordingly to reflect the most recent status of carbon neutrality for Cranswick Ballymena site.

b. Cranswick PLC is a leading UK food producer and supplier of premium, fresh, and added-value products. The company is listed on the London Stock Exchange and is a constituent of the FTSE 250 index.

Cranswick PLC has pledged to become the world's most sustainable meat business, has committed to a Net Zero target by 2040, and is in the process of setting a group-wide Science-based target to encourage their individual sites to hit the Net Zero target in 20 years' time.

c. Ballymena is one of Cranswick PLC's abattoir sites, producing cuts of meat that are then predominantly sold to manufacturing and processing sites further down the

supply chain within Cranswick operations. This site and wider business forms part of the food and agriculture industry, more specifically meat (pork and chicken, mainly) production, which contributes to the increase in significant amounts of greenhouse gases in the UK each year if unabated.

Ballymena has started its own journey as a site to reduce its Scope 1 & 2 carbon equivalent emissions. The historic site emission data will be discussed in this document, including a detailed analysis of the current state and future ambition.

Overall, this document will outline the site's road map to achieving PAS 2060 Carbon Neutrality for the 2020-2021 Financial Year and subsequent years.

d. General Information

d. General Information

Information required under PAS 2060:2014 guidance	Ballymena, Cranswick Foods PLC
Individual(s) responsible for the evaluation and provision of data necessary for the substantiation of the declaration	Tony Demaine, Site Director, Ballymena William Clare, Project Manager, Veris Strategies / Avon Energy Stuart Fowler, Third Party Auditor, Avon Energy on behalf of Carbon Footprint Ltd
Entity responsible for making the declaration	Cranswick Foods PLC, Ballymena site
Subject of PAS 2060 declaration	Scope 1 & 2 of all direct operational emissions of the Ballymena site's operational boundaries
Rationale of the selection of the subject	The scope and subject of this PAS 2060 includes all direct emissions in operational control, as stated in the PAS 2060:2014 guidelines.
Type of conformity assessment undertaken	3 rd party validation (ISO14064-3)
Application Period	2020-2021 (April - March)
Commitment Period	Continued annual commitment to offset operational emissions from Scopes 1 & 2 aligned to the financial year commencing 2020-2021
Senior Representative Signature	
Name and Position:	Tony Demaine Site Director
Date:	20-4-2021

e. Checklist for QES supporting declaration of achieving carbon neutrality.

Information required under guidance	Response
Define standard and methodology used to determine its GHG emissions reduction	Section 2 b, 2 c
Confirm that the methodology used was applied in accordance with its provisions and the principles set out in PAS 2060 were met.	Section 2 b, 2 c
Provide justification for the selection of the methodologies chosen to quantify reductions in the carbon footprint, including all assumptions and calculations made and any assessments of uncertainty. (The methodology employed to quantify reductions shall be the same as that used to quantify the original carbon footprint. Should an alternative methodology be available that would reduce uncertainty and yield more accurate, consistent, and reproducible results, then this may be used provided the original carbon footprint is re-quantified to the same methodology, for comparison purposes. Recalculated carbon footprints shall use the most recently available emission factors, ensuring that for purposes of comparison with the original calculation, any change in the factors used is considered).	Section 4 of this report, and the Carbon Footprint Verification report (provided upon request, publicly available)
Describe how reductions have been achieved and any applicable assumptions or justifications	Section 5 a, 5 b

Describe the actual reductions achieved in absolute and intensity terms and as a percentage of the original carbon footprint. (Quantified GHG emissions reductions shall be expressed in absolute terms and shall relate to the application period selected and/or shall be expressed in emission intensity terms (e.g. per specified unit of product or instance of service)).	Section 4 b
State the baseline / qualification date	Section 1 d
Record the percentage economic growth rate for the given application period used as a threshold for recognising reductions in intensity terms.	1.4 % UK GDP
Provide an explanation for circumstances where a GHG reduction in intensity terms is accompanied by an increase in absolute terms for the determined subject.	F-gas leaks have increased which has skewed the absolute emissions picture despite other energy consumption, such as electricity, decreasing. F-Gas is also being phased out over time.
Select and document the standard and methodology used to achieve carbon offset.	Section 6
Offsets generated or allowance credits surrendered represent genuine, additional GHG emission reductions elsewhere	Section 6
Projects involved in delivering offsets meet the criteria of additionality, permanence, leakage and double counting. (See the	Section 6

WRI Greenhouse Gas Protocol for definitions of additionality, permanence, leakage and double counting).	
Carbon offsets are verified by an independent third-party verifier.	Section 6
Credits from Carbon offset projects are only issued after the emission reduction has taken place	Section 6
Credits from Carbon offset projects are retired within 12 months from the date of the declaration of achievement.	Section 6
Credits from Carbon offset projects are supported by publicly available project documentation on a registry which shall provide information about the offset project, quantification methodology and validation and verification procedures.	Section 6
Credits from Carbon offset projects are stored and retired in an independent and credible registry.	Section 6
Document the quantity of GHG emissions credits and the type and nature of credits actually purchased including the number and type of credits used and the time period over which credits were generated including:	
Which GHG emissions were offset	Section 6
The actual amount offset	3267 tonnes CO2e
The type of credits and projects involved	Voluntary Carbon credits: VCS/Verra, Gold Standard, Section 6
The number and type of carbon credits used and the time period over which the credits have been generated.	Links in Section 6

For events, a rationale to support any retirement of credits in excess of 12 months including details of any legacy emission savings, taken into account.	N/A
Information regarding the retirement/cancellation of carbon credits to prevent their use by others including a link to the registry or equivalent publicly available record, where the credit has been retired.	Section 6
Specify the type of conformity assessment.	Section 1 d
Date the QES and have it signed by the senior representative of the entity concerned (e.g. CEO of a corporation; Divisional Director, where the subject is a division of a larger entity; the Chairman of a town council or the head of the household for a family group).	Section 1 d
Make QES publicly available and provide a reference to any freely accessible information upon which substantiation depends	Completed within 1 month of QES signature

2. Project Summary

a. Executive summary

Ballymena are a site part of the Cranswick Foods group of sites that are all working towards carbon neutrality over the coming years. Ballymena's scope 2 emissions are all accounted for by the market-based approach of REGO certificates purchased across group. The scope 1 on site is made up mainly of on-site red diesel usage, natural gas for heating and refrigerant leakage. These are the key issues that require focus and planning to reduce. This document summarises the ways the site is addressing these emissions long term, and how they are offsetting them in the immediate term.

b. Methodology

This carbon neutral project applied the Greenhouse Gas Protocol Corporate Standard (2015 edition) as a framework in accounting for emissions and developing an emissions inventory.

The business rationale for compiling the GHG inventory:

1. Managing risks and identifying reduction opportunities on site
2. Public reporting and participation in reporting programmes internally and externally (where applicable)
3. Participating in GHG markets in the purchasing of offsets (Scope 1 & 2)
4. Recognition for voluntary early action towards group Net Zero target

The boundaries of the site have been defined as 'operational', which includes all on-site and off-site activities, processes, services, and impacts within scope 1 & 2.

This is applicable to Ballymena as an operational entity, not Cranswick PLC, and will

therefore only include operational authority of the site as opposed to the company's operational authority.

The standard classifies emissions into 3 'scopes':

Scope 1. Emissions that arise from direct emission, primarily carbon-based fuel combustion, including on site combustion and processes using natural gas, and refrigerants as fugitive emissions.

Scope 2. Emissions which arise from purchased electricity, heat, steam, etc. – but whose production is from carbon-based fuel.

Scope 3. All other emissions, notably those that arise from:

- a. Purchased goods and services including farm produce upstream.
- b. Supply chain logistics from third party freight vehicles
- c. Business travel & Employee commuting
- d. Waste disposal
- e. Investments

Scope 3 emissions are currently being developed at group level. However, a site-specific scope 3 analysis will be investigated in the future. Scope 3 data is not included in this report or included in the assessment and specification to PAS 2060. This is currently a work in progress.

c. Specification (PAS 2060, ISO14064-1)

The specification in use to demonstrate carbon neutrality for the site is the BSI PAS 2060:2014 standard. PAS 2060 is an internationally recognised and applicable standard that sets out the requirements for achieving and demonstrating carbon neutrality – allowing the site to maintain a consistent GHG inventory with accuracy and transparency. The benefits of PAS 2060 are:

- Meet customer, stakeholder, industry, and legal expectations
- Reduce greenhouse gas emissions and quantify your carbon footprint
- Identify areas of inefficiency and improve overall performance
- Make cost savings by reducing energy consumption and bills
- Gain credibility with an accurate carbon neutrality statement

Further to the above, the overall site emissions inventory for scopes 1 and 2 were audited and verified by **Carbon Footprint Ltd**. The methodology used for building the emissions inventory was ISO14064-1, and the verification of the inventory was in accordance with ISO14064-3:2019. The report issued by the 3rd party auditing team Carbon Footprint Ltd states: 'Cranwick's boundaries and system has satisfactorily captured the most significant and relevant emissions sources.'

3. Context and drivers

a. Site Governance & Strategy

The site has seen some reduction since 2017 in energy use, which has positively contributed towards high environmental performance. As of February 2021, the site established a Mission Zero team to govern the multiple carbon reduction projects over the coming years. This governance team for PAS 2060 Carbon Neutrality is below in the RACI table:

Roles / Stages	Site Director Tony Demaine	Programme Lead(s) Denise Oliver	Project Lead Will Clare	Project Sponsor Cranswick Group /Second Nature team/Head of Compliance & Sustainability	Project Auditor Carbon Footprint Ltd
Data Gathering & Analysis	A	I / C	R	C	
Carbon Management Plan	A	I / C	R	I	
Public Commitments	A	R	C		
Offset Portfolio Development	A	C	R	I	
Third Party Audit	I	I	C	C	A / R
Carbon Neutral PAS 2060 approval	I	I	R	I	A / R

R = Responsible A = Accountable C = Consulted I = Informed

The site vision and strategy are inextricably linked to Cranswick’s overarching targets, with any additions noted below. Ballymena’s targets for 2021 are:

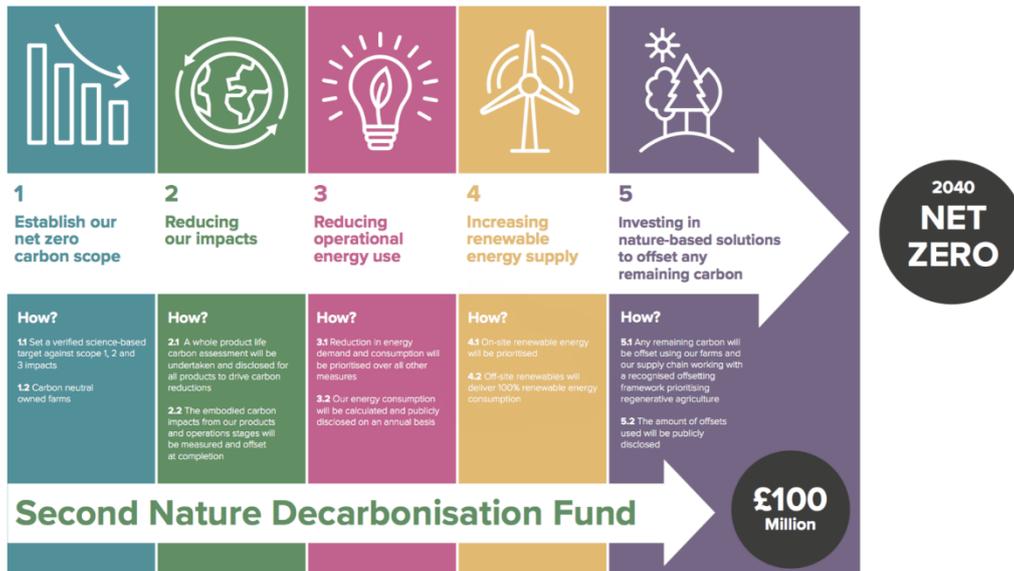
1. To be a carbon neutral site from 2021

b. Cranswick PLC Targets

As part of their Second Nature sustainability programme, Cranswick have set 3 ambitious targets in relation to carbon management:

1. The world's most sustainable meat business (2018)
2. Committing to the Science Based Targets initiative and setting a target (2020)
3. Net Zero by 2040, 10 years ahead of the UK Government target (2020)

Cranswick's Net Zero journey is broken down into 5 strategic aims, that ultimately form the base for the Ballymena site's carbon reduction journey:



4. Emissions inventory & projections

a. Measurement

At Ballymena, a 5-stage process in building an emissions inventory was developed:

1. **SLT Master Class:** an introduction for the site's senior leadership team to net-zero, carbon, and the management of emissions. This also involved the establishment of a 'Mission Zero' governance team as mentioned above to ensure ownership and accountability throughout the project.
2. **Scope & Boundaries:** Using the 'Operational Boundaries' approach as stated in the GHG Protocol Corporate Standard. This determined that the site's emissions were based on the electricity and gas consumption metered to the site, red diesel consumption from generators, any transport owned by the site (within and on the site), and f-gas refrigerant leakage from the site's fridges / cooler / air conditioning units.
3. **Data Gathering:** with assistance from onsite Director, accounting, HS&E, and engineering teams, the data gathered was from source, metered data based on monthly readings both for indirect electricity consumption, and for natural gas consumption. LPG, red diesel, f-gases, diesel for on-site vehicles and other direct sources were also based on quantities from invoices. The site's electricity has been backed by REGOs (Renewable Energy Guarantee of Origin) certificates since 2019 and are reflected in the inventory. Refrigerant data was also gathered, with

the site using R404a, R407f and R407a making up 37% of the site's emissions in 2020-2021.

The data gathered is from a baseline year of 2017 up to the current reporting year of 2021. The data and emissions were split into the financial year for the site from April to March. Therefore, the years of emissions included in the emissions inventory are:

- 2017-18
- 2018-19
- 2019-20
- 2020-21 (ongoing)

4. Data Interpretation: the site's emissions data was then calculated using a combination of the following:

- a. UK location-based conversion factors for kgCO₂e/kWh for electricity. This changed from year to year based on the grid's gradual decarbonisation from the baseline year of 2017:

Year	GB Grid Carbon Intensity (kgCO ₂ e/kWh)
2017	0.35156
2018	0.28307
2019	0.2556
2020	0.23314
2021	0.23314

- b. UK location-based conversion factors for kgCO₂e Natural Gas from 2017:

Year	Natural Gas Carbon Intensity (kgCO ₂ e/kWh)
2017	0.18416
2018	0.18396
2019	0.18385
2020	0.18387
2021	0.18387

c. UK location-based conversion factors for kgCO₂e LPG from 2017:

Year	LPG Carbon Intensity (kgCO ₂ e/kWh)
2017	0.21448
2018	0.21448
2019	0.21448
2020	0.21448
2021	0.21448

d. UK location-based conversion factors for kgCO₂e Red Diesel from 2017:

Year	Red Diesel Carbon Intensity (kgCO ₂ e/litre)
2017	2.68787
2018	2.68787
2019	2.68787
2020	2.68787
2021	2.68787

e. UK location-based conversion factors for kgCO₂e Diesel for Vehicles from 2017:

Year	Diesel for Vehicles Carbon Intensity (kgCO2e/litre)
2017	2.75776
2018	2.75776
2019	2.75776
2020	2.75776
2021	2.75776

Scope 1 & 2 emissions

1. Scope 1 emissions that significantly contribute to the site's GHG inventory are:

- a. **Refrigeration & cooling** is prominent on site and had the largest contribution to the site's 2020-2021 emissions. The refrigerants from the fridges are high in Global Warming Potential (GWP). Using a quantitative approach defined by the GHG Protocol Corporate Standard's F-Gas calculator, the leakages of R404a, R407a and R407f in 2020-2021 amounted to 1211.60 t/CO2e.
- b. **On site red diesel consumption:** accounted for 1163,73 t/CO2e in 2020-2021. Red diesel is mostly used to power the generator and a steam boiler.
- c. **Stationary combustion of natural gas:** this measured at a total (over the period from (Jan) 2017 – (Mar) 2021 at: 4008.47 t/CO2e and 839.44 t/CO2e in 2020-2021. The natural gas is mainly used for a steam boiler, central heating, and the furnace on site.

2. Scope 2 emissions are backed by REGOs due to the Cranswick group-wide procurement of 100% renewable electricity. The electricity has however been

calculated both from a market-based and location-based approach, meaning the would-be emissions are still collected for reporting purposes. This is to encourage further efficiency of the site's electricity demand. The market mechanism for the procurement of 100% renewable electricity is through UK-based Renewable Energy Certificates known as REGOs (Renewable Energy Guarantee of Origin).

- a. Market-based approach electricity: this is measured as 0 for the site as all indirect electricity has been purchased from renewable sources.
 - b. Location-based approach: the electricity generated using the GB grid's emissions factor is a total of 4463.65 t/CO₂e from 2017 (Jan) to present. The total for the offsetting period (2020-2021) is 800.34 t/CO₂e. The market-based approach will be used for the specification of PAS 2060 when offsetting emissions.
3. Other: LPG emissions from site made up 47.10 t/CO₂e for the reporting period (2020-2021), used as an input fuel for Forklift Trucks on site. Diesel used in on site vehicles accounted for 4.50 t/CO₂e in 2020-2021. All other emissions were either negligible and not significant enough to report on, or out of scope (not categorised as Scope 1 or 2), such as freight carrying produce to and from site either leased, or being owned by group, or by supplier upstream and customers downstream.

Emissions summary (detail found in the emissions inventory):

To Date	Total Scope 1	Total Scope 2	Total Emissions of site (location-based approach)	Total Emissions of site (market-based approach)
	10,032.32	4,463.65	14,495.97	10,032.32

Baseline year	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	1,870.08	1258.60	3128.67	3128.67

Offsetting period	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	3266.37	800.34	4,066.71	3,266.37

Emissions to be offset	Total
	3,266.37

b. Scope 3 measurement

Reporting on the Ballymena site scope 3 emissions will begin at a later date, which will incorporate the wider upstream and downstream impact of the site.

5. Reduction solutions

a. 2017 – 2021

Since 2017, the site has worked on several efficiency programmes to increase productivity, replace old equipment and machinery, and enhance the site's environmental performance. Reduction initiatives since 2017 include:

1. Installation of LED lighting across the site to curb energy inefficiency (location-based method).
2. Invested in REGO backed electricity tariff for 50% of production in 2018, and 100% in 2019 to neutralise emissions from Scope 2 electricity consumption (market-based).
3. Installation of a new furnace to reduce emissions from natural gas consumption.

Figure 1. Total site emissions location-based approach (2020-2021)

Scope 1 & 2 (Location-based) 2020-2021

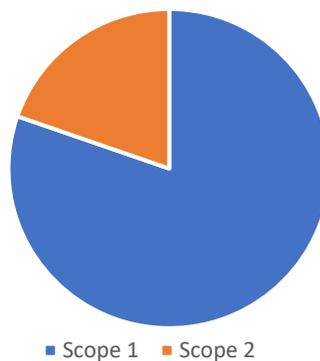
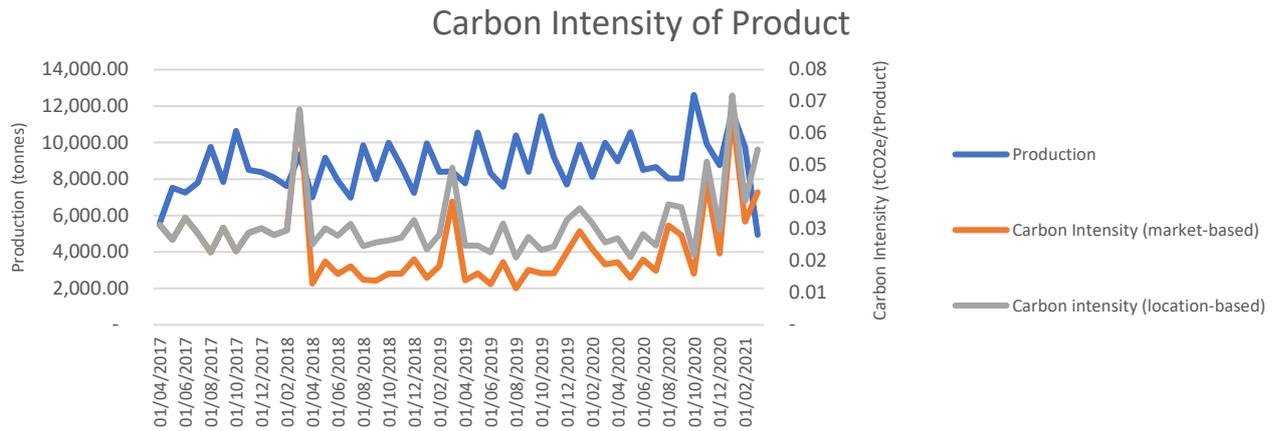


Figure 2. Site reduction against Production (carbon intensity)



Performance highlights of the site:

- Some refrigerants have been replaced with ammonia, bringing the carbon emissions for those replaced refrigerants to zero.
- Scope 2 emissions have reduced from 1258.60t/CO₂e in 2017-2018 to 0 due to the purchasing of REGO backed electricity tariff.

b. 2021 - Reduction Solutions Outlook

The site is planning for a diverse range of energy efficiency measures and upgrades over the next 1 – 5 years. Initiatives that are being proposed include:

- **The replacement of refrigerants R404a, R407f, R407a:** to more environmentally friendly alternatives will be crucial in reducing emissions of harmful GHGs from leakage and disposal. In 2020-2021 the refrigerant leakage accounted for 1,211.60 tonnes/CO₂e (37% of the site’s emissions), this can be reduced to 0 with the use of CO₂ grade refrigerant or ammonia alternative.

- **Heat recovery from the furnace:** This will improve the overall efficiency of the furnace, reducing the energy consumption.
- **Switch CHP to using a mixture of biogas and natural gas:** this will drive down grid electricity consumption and allow for the phasing out of the red diesel generator despite increasing emissions based on REGO backed electricity.
- **Phase out the oil generator:** removing the need for Red Diesel as a main fuel source, reducing a further approx. 1,000 tonnes of CO₂e per annum.

c. KPI – carbon reduction target

- The site adheres to the group wide 20% reduction in energy consumption target by 2025. This will have a material impact on the emissions of the site.
- The site also adheres to a net zero emissions target by 2040.

6. Offset portfolio

- a. With the approval of the emissions inventory, the offset portfolio reflects the total amount for the agreed offsetting period 2020 (3267 t/CO₂e).
- b. The offset portfolio was selected by the Mission Zero team to reflect the site's strategic aims:

1. Project Name	Project Type	Quantity
2. Portel-Para Rainforest (REDD+)	Forestry	2706
3. India Breathing Space Cookstoves	Community	561

- c. The projects are verified and validated by independent third parties and registered with The Gold Standard and Verra. Projects are given sustainable development goal labels based on the impact they may have beyond carbon sequestration, such as gender equality, food security, and other measures.
- d. Here are the links to the publicly retired offset projects that have offset the total:
- India Breathing Space Cookstoves:
 - <https://registry.goldstandard.org/credit-blocks/details/174200>
 - Portel-para Amazon Project:
 - <https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=124973>