

Carbon Neutral  
PAS 2060:2014 Specification

# Gourmet Bacon, Cranswick Foods

Qualifying Explanatory Statement



[Mission Zero team](#)

GOURMET BACON, SEAFOX CT, SHERBURN IN ELMET, LEEDS,  
LS25 6PL

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## 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 Gourmet Bacon 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 Gourmet Bacon.

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. Gourmet Bacon is one of Cranswick PLC's sites that specialises in the production of gourmet dry cured bacon. The site is a purpose-built facility in Sherburn-in-Elmet

that was further extended in 2011 with a capacity of production circa 350 tonnes per week. The site is BRC accredited and holds BMPA and organic certification, with an employee base of 650 people.

**Site processes:**

The main processes on site are curing chilled pork. Maturation, air drying and smoking of bacon and gammon. The slicing, cutting, dicing and packing of chilled and tempered cured bacon and gammon.

**Site boundary:**

The site is 4.84 acres and secured with fencing on Seafox Court located within the Sherburn-In-Elmet Industrial estate, West Yorkshire. The buildings cover 11,308 sq. meters with the factory floor space on the ground floor and the canteen, staff facilities, offices across two floors front and back. Loading bays are used to bring in raw produce and to dispatch the finished product. The site is set across 3 buildings with preparation in the first building, slicing in the second and storage in the third. The preparation building comprises of dispatch, goods in, weight grading, wet curing injection, dry curing, stringing, tumbling, smoking, affo grilling and Air Drying/Maturation. The slicing building comprises of freezing, pressing, slicing, packing, labelling and boxing through to finished goods. The third building is a large storage area.



**Site Address:**

Seafox Court Sherburn Industrial Estate Sherburn-in-Elmet Leeds LS25 6PL

Cranswick is part of the food and agriculture industry, more specifically meat processing and manufacturing, which contributes to the increase in significant amounts of greenhouse gases in the UK each year. The UK Net Zero Strategy for 2050 includes a reduction in beef and dairy consumption by 20% per person within the timeline, and an increase in plant-based diets.

Gourmet Bacon 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 calendar year and subsequent years by the end of Q1 2021.

d. General Information

Information required under PAS 2060:2014 guidance	Gourmet Bacon, Cranswick Foods PLC
Individual(s) responsible for the evaluation and provision of data necessary for the substantiation of the declaration	John Fletcher, Site Director, Gourmet Bacon Martin Gilchrist: Environment & Risk Manager 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, Gourmet Bacon site
Subject of PAS 2060 declaration	Scope 1 & 2 of all direct operational emissions of Gourmet Bacon 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 <sup>rd</sup> party validation (ISO14064-3)
Application Period	The financial reporting year 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:	JOHN FLETCHER SITE DIRECTOR
Date:	2/5/21

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	Section 4 b

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)).	
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 (as of 2019 data)
Provide an explanation for circumstances where a GHG reduction in intensity terms is accompanied by an increase in absolute terms for the determined subject.	N/A, 82% reduction in absolute site emissions since 2016
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 WRI Greenhouse Gas Protocol for definitions of additionality, permanence, leakage and double counting).	Section 6
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	752 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 one month after signature of this document

## 2. Project Summary

### a. Executive summary

Gourmet Bacon in Sherburn-in-Elmet are a manufacturing and processing site part of the Cranswick Foods group, working towards achieving a carbon neutral business.

Gourmet Bacon's scope 2 emissions (electricity) 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 natural gas for heating and refrigerant leakage. Albeit low emission quantities, they are two 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 activities, processes, services, and impacts. This is applicable to Gourmet Bacon

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 up stream
- b. Supply chain logistics from third party freight vehicles
- c. Business travel & Employee commuting
- d. Waste disposal
- e. Investments

Scope 3 emissions have been completed already, including a lifecycle assessment for all products from site. The Scope 3 emissions are not included in this report.

### **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 3<sup>rd</sup> party auditing team Carbon Footprint Ltd states: ‘Cranswick’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 a considerable reduction since 2016 in energy use, which has positively contributed towards high environmental performance. As of July 2020, 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 <b>John Fletcher</b>	Programme Lead(s) Martin Gilchrist	Project Lead <b>Will Clare</b>	Project Sponsor <b>Cranswick Group /Second Nature team/Head of Compliance &amp; Sustainability</b>	Project Auditor <b>Carbon Footprint Ltd</b>
Data Gathering & Analysis	<b>A</b>	<b>I / C</b>	<b>R</b>	<b>C</b>	
Carbon Management Plan	<b>A</b>	<b>I / C</b>	<b>R</b>	<b>I</b>	
Public Commitments	<b>A</b>	<b>R</b>	<b>C</b>		
Offset Portfolio Development	<b>A</b>	<b>C</b>	<b>R</b>		
Third Party Audit	<b>I</b>	<b>I</b>	<b>C</b>	<b>C</b>	<b>A / R</b>
Carbon Neutral PAS 2060 approval	<b>I</b>	<b>I</b>	<b>R</b>	<b>I</b>	<b>A / R</b>

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. Gourmet Bacon’s targets for 2021 are to be:

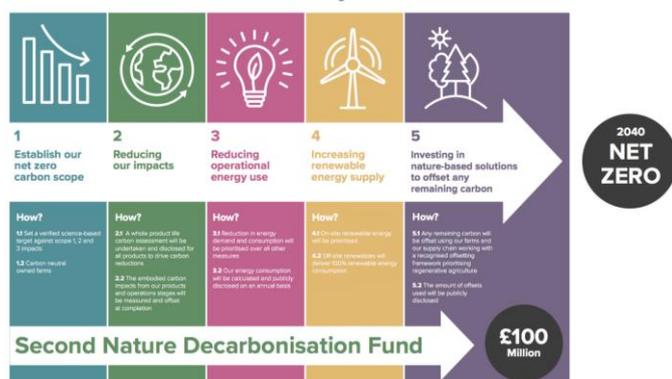
1. To be a carbon neutral site from 2021
2. To report on savings of carbon in all future energy reduction programmes on site
3. To contribute to the reduction in emissions in relation to Cranswick group’s Net Zero target

## 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 Gourmet Bacon site’s carbon reduction journey:



## 4. Emissions inventory & projections

### a. Measurement

At Gourmet Bacon, a 4-stage process in building an emissions inventory was developed:

1. **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, 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.
2. **Data Gathering:** with assistance from onsite 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. The site's electricity has been backed by REGOs (Renewable Energy Guarantee of Origin) certificates since March 2018 and are reflected in the inventory. Refrigerant data was also gathered, with the site using R449a, R410a, R407f and R507a, making up 54% of the site's emissions in 2020-2021. Data on LPG (kWh) and woodchip (kg) consumption was also collected.

The data gathered is from a baseline year of 2016 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:

- 2016-17
- 2017-18
- 2018-19
- 2019-20
- 2020-21

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

- a. UK location-based conversion factors for kgCO<sub>2</sub>e/kWh for electricity. This changed from year to year based on the grid's gradual decarbonisation from the baseline year of 2016:

Year	GB Grid Carbon Intensity (kgCO <sub>2</sub> e/kWh)
2016	0.41205
2017	0.35156
2018	0.28307
2019	0.2556
2020	0.23314
2021	0.23314

- b. UK conversion factors for kgCO<sub>2</sub>e Natural Gas from 2016:

Year	Natural Gas Carbon Intensity (kgCO <sub>2</sub> e/kWh)
2016	0.18400
2017	0.18416
2018	0.18396
2019	0.18385
2020	0.18387
2021	0.18387

- c. UK conversion factors for kgCO<sub>2</sub>e LPG from 2016:

Year	LPG Carbon Intensity (kgCO <sub>2</sub> e/kWh)
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2016	0.21448
2017	0.21448
2018	0.21448
2019	0.21448
2020	0.21448
2021	0.21448

d. UK conversion factors for kgCO<sub>2</sub>e Woodchips from 2016:

Year	Woodchips Carbon Intensity (kgCO <sub>2</sub> e/kWh)
2016	58.35272
2017	58.35272
2018	58.35272
2019	58.35272
2020	58.35272
2021	58.35272

- All conversion factors were used from the DEFRA & BEIS government 2020 guidelines where applicable. Any further information was taken from the GHG Protocol Standard, and the IPCC carbon emissions factors 2006 (and 2019 report)

**b. Scope 1 & 2 emissions**

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

are:

- a. **Stationary combustion of natural gas:** this measured a total over the period from (Jan) 2016 – (Mar) 2021 of 1729.18 t/CO<sub>2</sub>e. For the reporting period of 2020-2021, natural gas accounted for 330.67 t/CO<sub>2</sub>e. Natural gas is mainly used for on-site boilers and char-grilling produce.

- b. **Refrigeration & cooling** is prominent on site. 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 R449a, R410a, R407f and R507a in 2020-2021 amounted to 405.26 t/CO<sub>2</sub>e.
  
- 2. Scope 2 emissions are backed by REGOs due to the Cranswick group-wide procurement of 100% renewable energy decision since 2018. 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 energy 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 15199.17 t/CO<sub>2</sub>e from 2016 to present. The total for the offsetting period (2020-2021) is 2351.78 t/CO<sub>2</sub>e. However, the market-based approach will be used for the specification of PAS 2060 when offsetting emissions.
  
- 3. Other: LPG emissions from site made up 12.86 t/CO<sub>2</sub>e for the reporting period (2020-2021), used as an input fuel for Forklift Trucks on site.

Woodchips used for heating onsite made up 2.55 t/CO2e for the reporting period (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 being owned by group or by 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)
	10,413.56	15,199.17	25,612.73	10,413.56

Baseline year	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	1,875.71	3,702.00	5,577.71	5,577.71

Offsetting period	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	751.35	2,351.78	3,103.13	751.35

Emissions to be offset	Total
	751.35

**c. Scope 3 measurement**

Reporting on scope 3 emissions was out of scope for this PAS 2060 specification, but product lifecycle assessments have been completed at site. The total Scope 3 emission-base will not be offset using carbon reduction/removal projects.

## 5. Reduction solutions

### a. 2016 – 2021

Since 2016, 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 2016 include:

1. Install of LED lighting across the site to curb energy inefficiency (location-based method).
2. Invested in REGO backed electricity tariff to neutralise emissions from Scope 2 electricity consumption (market-based).
3. An upgrade to the air compressor was made, improving efficiency.
4. A heat recovery system was installed to pre-heat boiler water, reducing the amount of natural gas required.
5. Sub-metering has been introduced to further understand consumption and ultimately reduce.
6. Reducing the cleaning water consumption which in turn reduced natural gas consumption
7. Retrofitted the main fridge plants with a lower GWP refrigerant, removing R507a which is now no longer compliant under European regulations.

Along with a gradual decarbonisation of grid electricity, and the above site efficiencies, the site reduced its overall emissions by 60% since 2016 (or 1124.36 t/CO<sub>2</sub>e).

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

## Scope 1 & 2 (Location-Based) 2020-2021

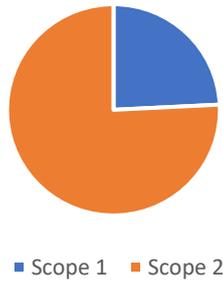
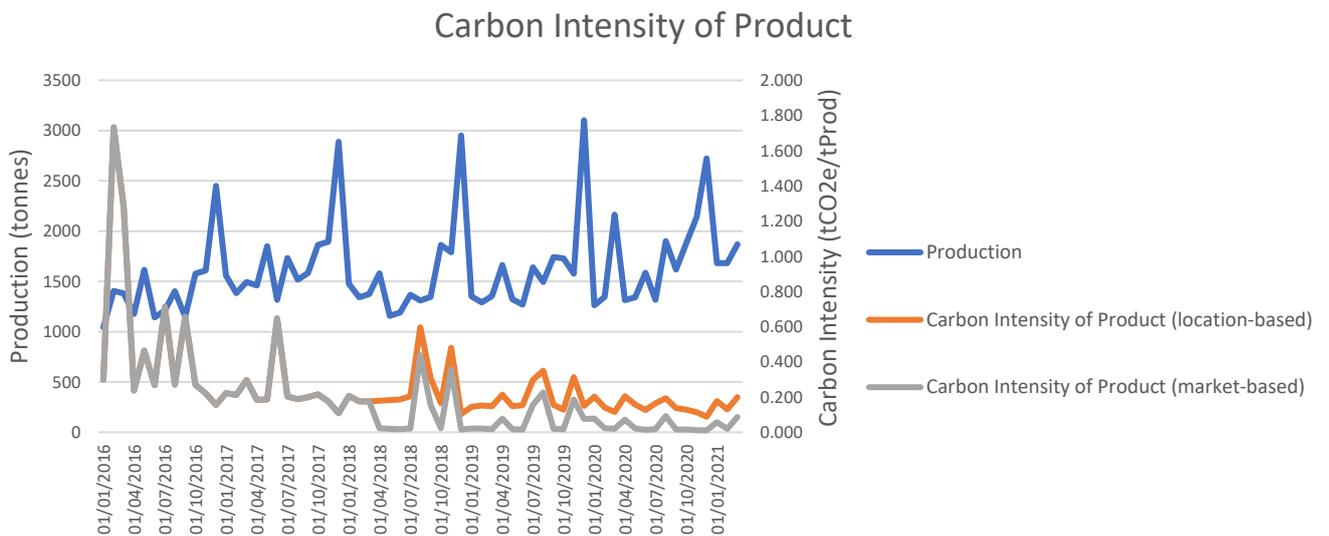


Figure 2. Site reduction against Production (carbon intensity)



### Performance highlights of the site:

- 60% reduction in absolute carbon of Scope 1 since 2016
- 62% reduction in carbon emissions from F-Gases since 2016
- 82% reduction in Scope 1 & 2 emissions since 2017
- From an annual high of 1.73 tonne of CO2e per tonne of product produced in 2016, to an annual high of 0.087 (87kg) CO2e per tonne of product in 2021 thus far.

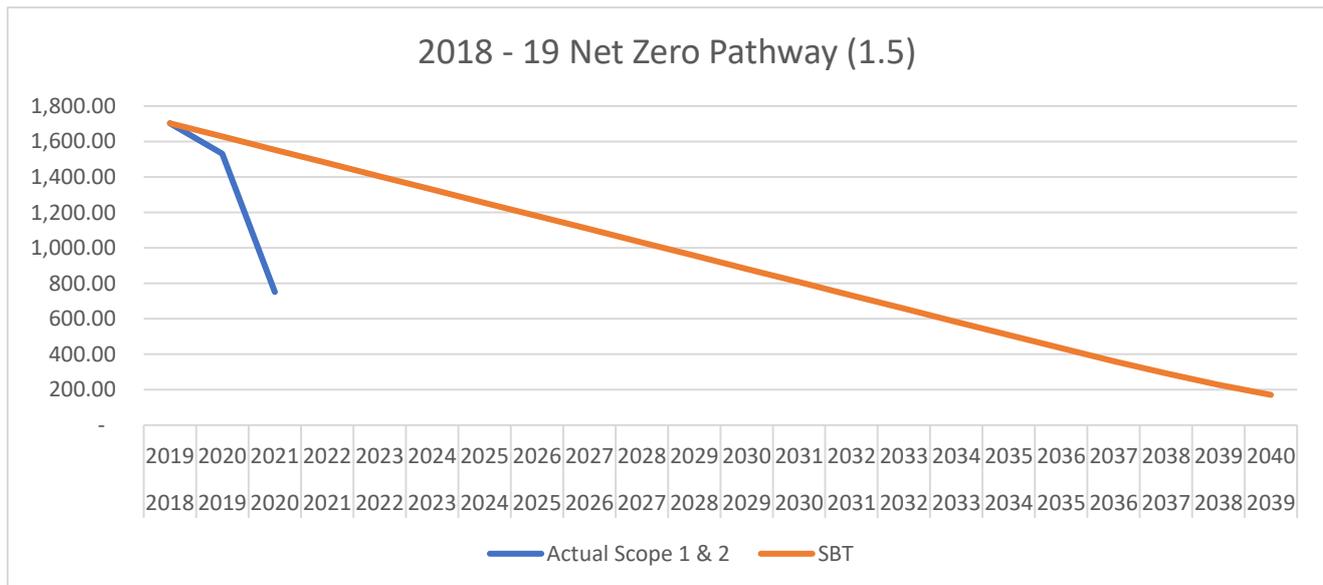
## **b. 2021 - Reduction Solutions Outlook**

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:** The site is looking to curb 54% of its emissions by switching to ammonia in refrigeration where possible. The 2020-2021 leakage of 405.26t/CO<sub>2</sub>e can be reduced to 0 with the use of an ammonia alternative or CO<sub>2</sub> grade refrigerant. The main reason for high levels of emissions from refrigerant leakage is the HFC substances have high global warming potential compared to CO<sub>2</sub>. Replacement initiatives are already up and running at several Cranswick sites.
- **Heat recovery from ammonia glycol:** to heat water for cleaning.
- **Convert office heating from gas boilers to heat pumps:** electrification of heat could curb a large % of the natural gas consumed on site and transfer the load to electricity, which is REGO backed.
- **Switch from LPG to biofuel for external FLT's:** the availability of bio-fuels is currently an option to explore as more waste is being transferred to AD and RDF facilities in the UK. However, an alternative to biogas is battery-powered FLT's (Forklift Trucks).
- **Explore alternatives to natural gas for chargrilling**
- **On-site behaviour change and upskilling:** informing employees of climate change and the current best practices to reduce emissions is likely to improve efficient use of equipment and processes on site where applicable.

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.



As part of the overall analysis, the Science based target calculator was used to illustrate the year-on-year reduction requirements for site based on a 1.5 degree Celsius scenario. The site is well under its baseline 2019 total, due mainly to the following factors:

- The site has dropped its usage of high GWP F-Gas over the last 3 years which has led to a considerable reduction in annual emissions.
- Since 2017-18, the site's emissions have reduced from 4251.7 to 751.35, which is a reduction of 82%.
- This is due to the replacement of R507a, a refrigerant with a GWP of 3985, with R448a which has a GWP of 1387, almost 3 times lower.

## 6. Offset portfolio

- a. With the approval of the emissions inventory, the offset portfolio reflects the total amount for the agreed offsetting period 2020-2021 (752 t/CO<sub>2</sub>e).
- 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	Forestry	752
3. UK Woodland (Doddington North)	Forestry	75 *

\*10% of the 2020-2021 offset portfolio has been dedicated to the UK Forestry project. This is additional to the total offset portfolio as they are Pending Issuance Units and won't yet begin to offset carbon emissions.

- c. The projects are verified and validated by independent third parties and registered with Verra and the Woodland Carbon Code. Projects are given sustainable development goal labels based on the impact they may have beyond carbon sequestration, such as gender equality, food security, etc as part of the Verra standard. The Woodland Carbon Code credits do not contribute to the Carbon Neutral standard in the first year but will lead to removal of carbon in the coming years as part of the overall reduction to Net Zero.
- d. The links to the publicly retired offset projects that have offset the total:
  - Portel-para Amazon Project: <https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=130223>
  - UK Woodland Carbon Code Project: [https://mer.markit.com/br-reg/public/master-project.jsp?project\\_id=103000000017169](https://mer.markit.com/br-reg/public/master-project.jsp?project_id=103000000017169)