Carbon Neutral PAS 2060 Declaration

Milton Keynes Cranswick Foods

Qualifying Explanatory Statement Update: FY 2020-2021

CRANSWICK plc
Great British Taste

Mission Zero team
STEINBECK CRESCENT, SNELSHALL WEST, MILTON KEYNES, MK4 4AE

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1. Introduction

a. PAS 2060 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 Cranswick plc's Milton Keynes site commitment 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 plc's Milton Keynes (CCFMK).

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. Milton Keynes is one of Cranswick PLC's sites that specialises in the production of cooked meat products. This site forms part of the food and agriculture industry,

more specifically meat production, which contributes a significant amount to the greenhouse gases emitted in the UK each year.

d. The site boundaries are defined as:

The approximate site boundary size (including car park and yard) is 27,042 m2. The site proper is an approximate size of 12,454 m2. These are the boundaries defined for Scope 1 and 2 calculation for the FY 2019-20 period and the FY 2020-21 period laid out in this report.

Milton Keynes has gone to great lengths to reduce its Scope 1 & 2 carbon emissions. This historic reduction path will be discussed in this document including a detailed analysis of the journey overall. Furthermore, this document will outline the future decarbonisation pathway for the Milton Keynes site in relation to its Scope 1 & 2 emissions. 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.

e. General Information

Information required under PAS 2060:2014 guidance	**Milton Keynes, Cranswick Foods PLC**
Individual(s) responsible for the evaluation and provision of data necessary for the substantiation of the declaration	Sam Pearl, Site Director, Milton Keynes Zan Janjua, HS&S manager, Milton Keynes 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, Milton Keynes site
Subject of PAS 2060 declaration	Scope 1 & 2 of all direct operational emissions of the Milton Keynes 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	3rd 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:	**Sam Pearl, Site Director**
Date:	**29/04/2021**

f. 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
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, 57% reduction in absolute terms 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	**4687** tonnes CO2e
The type of credits and projects involved	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

2. Project Summary

a. Executive summary

Milton Keynes are a site that form part of the Cranswick Foods group of sites that are all working towards carbon neutrality over the next year. Milton Keynes' 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 natural gas for heating and cooking. This is 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. This is applicable to Milton Keynes 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 are currently being developed at group level. However, a site-specific scope 3 analysis will also be carried out to ensure all emissions upstream have been factored in. Scope 3 data is not included in this report for 2020-2021.

A product life cycle assessment (PAS 2050) is also underway.

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 standard used was ISO14064-3:2019. The report issued by the 3rd 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 **Sam Pearl**	Programme Lead(s) **Kate Cawley / Zan Janjua**	Project Lead **Will Clare**	Project Sponsor **Engineering Team / Second Nature**	Project Auditor **Carbon Footprint Ltd**
Data Gathering & Analysis	**A**	**I / C**	**R**	**C**	
Carbon Management Plan	**A**	**I / C**	**R**	**C**	
Public Commitments	**A**	**R**	**C**		
Offset Portfolio Development	**A**	**C**	**R**		
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 some additions. Milton Keynes targets for 2020 are to be:

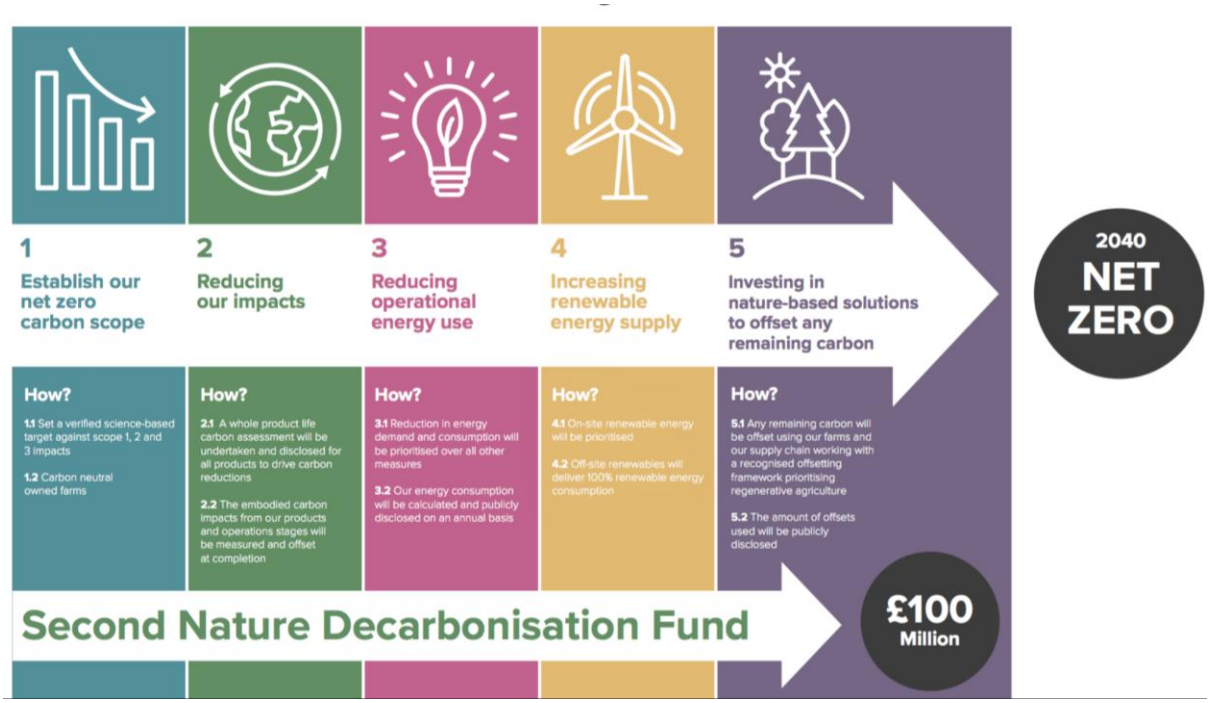
1. The first Cranswick site to be Carbon Neutral PAS 2060
2. And the first cooked sliced meat manufacturing site to be carbon neutral in the UK

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 Milton Keynes site's carbon reduction journey:



4. Emissions inventory & projections

a. Measurement

At Milton Keynes, a 5-stage process in building an emissions inventory was developed starting in 2019:

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, 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 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 installed a CHP unit in 2018, which meant an inclusion of the CHP metering from that date onward within the data. Refrigerant data was also gathered, but the site is currently transitioning from a mix of ammonia and HFCs to CO2 across the board, which produces insignificant f-gas leakage.

The data gathered is from a baseline year of 2016 up to the current reporting year of 2020-2021. 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

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 2016:

Year	GB Grid Carbon Intensity (kgCO2e/kWh)
2016	0.41205
2017	0.35156
2018	0.28307
2019	0.2556
2020	0.23314
2021	0.23314

    b. UK location-based conversion factors for kgCO2e for Natural Gas from 2016:

Year	Natural Gas Carbon Intensity (kgCO2e/kWh)
2016	0.18400
2017	0.18416
2018	0.18396
2019	0.18385
2020	0.18387
2021	0.18387

c. UK location-based conversion factors for kgCO2e for Diesel for vehicles from 2016:

Year	Natural Gas Carbon Intensity (kgCO2e/kWh)
2016	2.68787
2017	2.68787
2018	2.68787
2019	2.68787
2020	2.68787
2021	2.68787

d. UK location-based conversion factors for kgCO2e for LPG from 2016:

Year	Natural Gas Carbon Intensity (kgCO2e/kWh)
2016	0.21448
2017	0.21448
2018	0.21448
2019	0.21448
2020	0.21448
2021	0.21448

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 at a total (over the period from (Jan) 2016 – (Mar) 2021 at: 25,185.67 t/CO2e. Mainly used for on-site boilers, process heaters (including ovens), and from 2018 onwards, powering the site's CHP unit. The natural gas consumption decreased in early 2021 due to the CHP unit being shutdown for periods during that time. The total emissions associated with Natural Gas for the offsetting period were: 4644.61.

    b. **Refrigeration & cooling** is prominent on site and the main consumer of electricity for the site. The refrigerants from the fridges are however negligible due to the replacement of refrigerants with high Global Warming Potential (GWP) such as R404a, to using ammonia and now refrigerant grade-CO2 also known as R744. R744 has an Ozone Depleting Potential of 0, and a GWP of 1. For reference, R404a has a GWP of 3922.

    c. **Other fuels:** LPG emissions made up 38.86 t/CO2e for the reporting period (2020-2021), used as an input for forklifts on site. Diesel for on-site vehicles had a small contribution to the sites emissions for 2020-2021, producing 2.73 t/CO2e. All other emissions were either negligible and not-recorded on this basis, or 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.

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 19,742.13 t/CO2e from 2016 to present. The total for the offsetting period (2020-2021) is 2,107.48 t/CO2e. However, the market-based approach will be used for the specification of PAS 2060 when offsetting emissions.

Emissions summary (detail found in the emissions inventory v1.7):

To Date	Total Scope 1	Total Scope 2	Total Emissions of site (location-based approach)	Total Emissions of site (market-based approach)
	25,271.06	19,742.13	45,013.19	25,271.06

Baseline year	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	4,109.45	6,704.05	10,813.50	10,813.50

Offsetting period	Scope 1	Scope 2	Total (location-based)	Total (market-based)
	4,686.21	2,107.48	6,793.70	4,686.21

Emissions to be offset	Total
	4,686.21

c. Scope 3 measurement

Reporting on scope 3 emissions is currently reported at group level, however a site Scope 3 emissions inventory is being worked on for the 2021 year as well as a full Product Lifecycle Analysis.

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 inverters on all cooker fans, leading to a 20% reduction in energy usage of cookers.
2. Turbo fan air compression system installed: the first UK business to do so, reducing emissions by 1/3.
3. Renewable energy switch (procurement).
4. CHP installation, which includes hot water and steam running 100% from heat recovery process of the CHP unit saving on gas.
5. LED lighting upgrade across the site (partially complete).
6. Temperature adjustment in fridges to save on consumption: adjusting the -12-degree system to -10.
7. 50% of the fridge plant changed from ammonia and refrigerant mix to CO2.
8. A site wide reduction in food waste, producing more with less.
9. Replacement of 50% of fridge doors to increase energy efficiency and manage temperature.

Along with a gradual decarbonisation of grid electricity, and the installation of the CHP unit, which essentially took the site away from any emissions from scope 2 (along with 100%

renewable energy procurement), meant that the site reduced its overall emissions by 57% since 2016-2017 (or 6,127.29 t/CO2e).

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

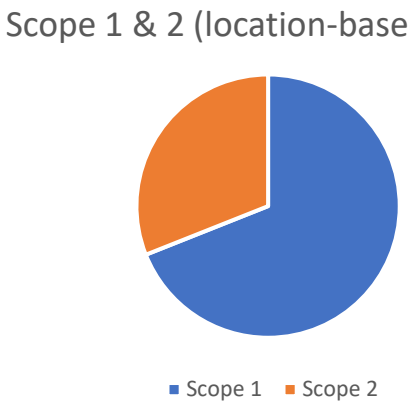


Figure 2. Site reduction against theoretical SBTi reduction path

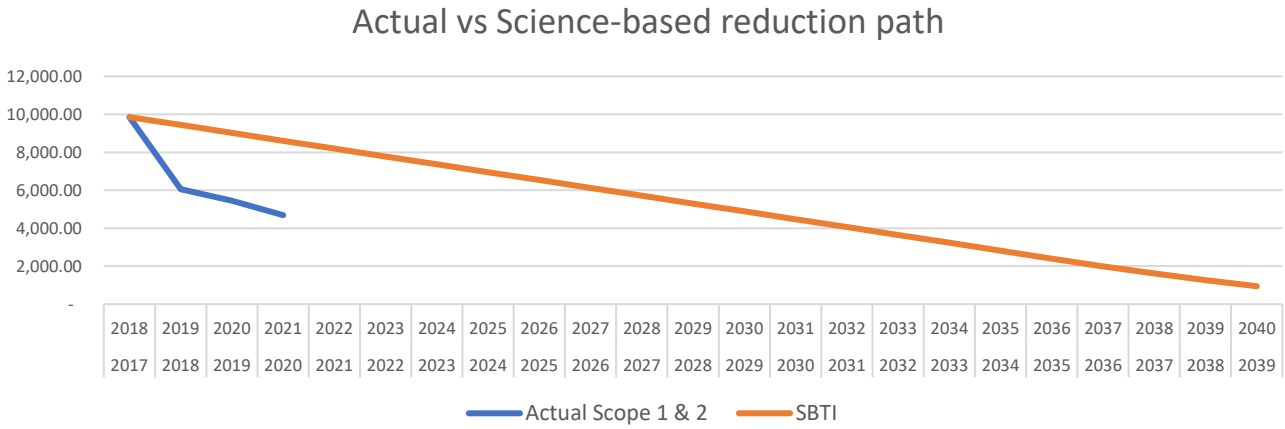
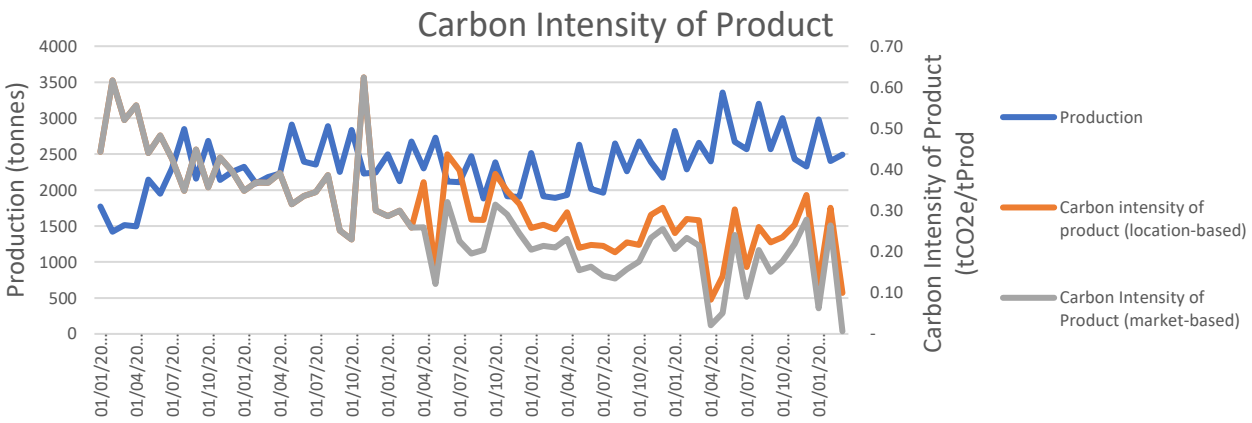


Figure 3. Site reduction against Production (carbon intensity)



Carbon Intensity: Average t/CO2e /tonne of product sold was 0.15 t/CO2e per tonne of product sold in 2020-2021. In other words, this is 150kg of CO2e per tonne of product sold. This has declined from 410kg of CO2e per tonne of product sold in 2016-17, and 340kg of CO2e per tonne of product sold in 2017-18. Overall, there has been a 64% decrease in the average t/CO2e/tonne of product from 2016-2017 to 2020-2021. This is mainly attributed to the switch to renewable electricity and efficiencies on site.

Performance highlights of the site:

- Production of site has increased but carbon intensity has decreased. There has been a 64% decrease in average t/CO2e/tonne of product from 2016-2017 to 2020-2021.
- Scope 2 emissions have reduced from 6704.05/CO2e in 2016-2017 to 0 due to the purchasing of REGO backed electricity tariff.
- Overall emission reduction of 57% between 2016-2017 and 2020-2021.
- Emissions also reduced between 2019-20 and 2020-21 by

b. 2021 onwards

The site is preparing further energy efficiency measures and innovation across the site over the next 3 – 5 years. Initiatives include:

- Computerised fridge plant monitoring and control scheme: turning down fridge plant when the ambient outside temperature matches or falls below site refrigeration requirements inside. Less reliance on compressor systems during colder months. This is estimated to have a potential 70 kilowatt saving for the site when operational.
- By end of 2021 onwards, a vacuum system upgrade: 22-year-old vacuum system to be replaced with a more efficient set of pumps, reducing total pump from 9 to 3.
- from 2022 onwards, the site is investing in larger redactor evaporation units in the roof to replace the smaller energy intensive evaporator cooler fans, generally increasing efficiency across the board. An estimate of a reduction in 40-50kilowatts of power demand once fully operational. This will lower the power requirement from the CHP, and thus the requirement for natural gas.
- The site is looking to invest in RGGOs, renewable gas guarantee of origin, which will act as a market-based mechanism to reduce the source emissions of natural gas and neutralise the emissions they produce with the use of biomethane. This currently is too expensive an option for the site but will be in consideration as the site moves towards net zero.

6. Offset portfolio

a. With the approval of the emissions inventory, the offset portfolio was chosen to reflect this total amount for the offsetting period 2020-21 (4,687 t/CO2e).

b. The offset portfolio was selected by the Mission Zero team to reflect two of the site's strategic aims: food security, and carbon reduction:

Project Name	Project Type	Quantity
Pacajai REDD+, Brazil	Conservation	2376
Solar power, Philippines	Renewable energy	2000
Breathing space cookstoves, India	Community	311

c. The Gold Standard and Verra registries were used for these international projects. These projects adhere to an in depth and controlled verification and validation process to fully understand the positive impact of the project lifecycle. Some projects are awarded further sustainable development goal attainment 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 Scope 1 & 2 verified footprint of the CCFMK entity:

- Pacajai REDD+ project, Brazil:

  https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=131071

- Solar power, Philippines:

  https://registry.verra.org/myModule/rpt/myrpt.asp?r=206&h=126569

- Breathing space cookstoves, India: https://registry.goldstandard.org/credit-blocks/details/183380