



Bwyd a Diod Cymru
Food & Drink Wales

Carbon Reduction Plan

A J Rees & Sons Ltd.

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1. Introduction

This report presents A J Rees & Sons Ltd Carbon Reduction Plan (CRP), developed in line with requirements set out as part of Procurement Policy Note (PPN) 06/21, with supporting Technical Standard documentation. The Carbon Reduction Plan has been prepared by Arthian Ltd in collaboration with Mentera and funding from the Welsh Government.

This carbon footprint evaluation was prepared for A J Rees & Sons Ltd for the reporting year 2023/2024.

Organisation Background

Name:	A J Rees & Sons Ltd
Business Area:	Food production
Business Description:	A J Rees & Sons Ltd is a butcher and wholesaler.

Organisational Boundary

This measurement covers the following sites:
A J Rees & Sons Ltd
29 High Street, Narberth, Pembrokeshire, SA67 7AR
Units 3-5 West Wales Business Park, Redstone Road,
Narberth, Pembrokeshire, SA67 7ES

Report Period

1st March 2024 to 28th February 2025

Reporting Omissions

Employee Wages

Total Emissions

10,601.61 tCO₂e

Scope 1 Emissions

85.70 tCO₂e

Scope 2 Emissions

17.21 tCO₂e

Scope 3 Emissions

10,498.70 tCO₂e

1.51 kgCO₂e / £1

Emissions Intensity

(For every pound spent by customers with Business A, 1.51 kgCO₂e emissions are produced)

460.94 tCO₂e per employee

Data Analyst	Site Assessor	Reviewed by	Date of Report	Version
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2. Commitment to Carbon Reduction

Communication and dissemination

This report was prepared for A J Rees & Sons Ltd to assist it in managing its reduction of greenhouse gas (GHG) emissions and to meet the Welsh Government's Target of a Net Zero Public Sector by 2050. The report is also intended to be a communication tool to demonstrate to stakeholders that A J Rees & Sons Ltd has identified its emissions profile and is taking the issues of climate change seriously. The intended users of this report are the staff and managers of the A J Rees & Sons Ltd, their existing and potential clients as well as members of the public.

Preparation accordance and disclaimer

The inventory has been prepared in compliance with best practice methodology set out by the GHG Protocol Corporate Accounting and Reporting Standard (GHG Protocol Standard) and UK Government Reporting Guidelines. Scope 1 and Scope 2 GHG emissions have also been calculated in accordance with existing Streamlined Energy and Carbon Reporting requirements (SECR). All results are presented in tonnes CO₂e or kilograms CO₂e (carbon dioxide equivalent) and have been normalised per £1 turnover and per employee. It should be noted that this measurement is an unverified inventory, and no verification audit has been conducted upon the findings.

Commitment to Carbon Reduction

A J Rees & Sons Ltd is committed to achieving Net Zero Carbon emissions by 2050 (or sooner). This target demonstrates the ambition to reducing the environmental impact in support of the Welsh Government's Net Zero Target.

To underline this ambition, A J Rees & Sons Ltd will focus on direct emissions sources and actively engage with the wider supply chain to measure and reduce emissions in line with the Net Zero Target. Becoming Net Zero requires A J Rees & Sons Ltd to reduce the operational GHG emissions as much as possible (at least 90%). This report outlines the baseline GHG emissions, interim targets and reduction trajectory, as well as the completed and planned reduction projects of A J Rees & Sons Ltd.

3. Baseline Carbon Footprint

A J Rees & Sons Ltd baseline greenhouse gas (GHG) emissions footprint for the 2024/2025 financial year (1st March 2024 to 28th February 2025). This period will act as a base year for future measurements to track future corporate GHG emissions and will be used to benchmark against the progress towards Net Zero.

The supporting activity data covering the reporting period (questionnaire data) is included in Appendix A.

Organisational Boundary

The organisational boundary defines the businesses and operations that constitute the company for the purpose of accounting and reporting GHG emissions. The GHG Protocol categorises emissions as follows:

Scope 1 emissions are those resulting directly from the organisation's operations including stationary energy sources and vehicles owned by the company.

Scope 2 emissions are indirectly created by the company through the importation of electricity, heat or steam generated elsewhere.

Scope 3 emissions are from indirect sources such as business travel and waste production that the organisation cause to be emitted by others due to their purchase of goods and services.

The operations included in A J Rees & Sons Ltd's GHG emissions include the preparation of meat and meat products and wholesaler activities.

Companies can choose to report either the emissions from operations over which they have financial or operational control (the control approach) or from operations according to their share of equity in the operation (the equity share approach). A J Rees & Sons Ltd's carbon footprint has been developed following the operational control approach. The emission sources included in the carbon footprint are summarised in Table 1 below. Other Scope 3 categories not included in this table were deemed not applicable or not feasible to calculate at this time.

Table 1. Summary of applicable emission sources

Scope	Emission Source	Included (Yes/No)	Applicability to A J Rees & Sons Ltd
1	Stationary Combustion	Yes	Natural Gas consumption for comfort heating.
1	Mobile Combustion	Yes	Diesel fuel use in company fleet.
1	Fugitive Emissions	Yes	Fugitive emissions in refrigeration units and refrigerated vehicles.
2	Electricity (Location-Based)	Yes	Electricity Use in operations.
2	Electricity (Market-Based)	Yes	Electricity Use in operations.
3	Purchased Goods and Services	Yes	Ingredients and services purchased are included.
3	Fuel and Energy-Related Activities	Yes	Upstream emissions from processing of purchased fuels and energy.
3	Upstream Transportation and Distribution	No	Transport of goods to site is captured in purchased goods and services as spend-based data is used which includes delivery. Other transport services are not used as deliveries are completed in owned vehicles.
3	Waste Generated in Operations	Yes	Waste and recyclables generated in operations.
3	Business Travel	No	Not applicable.
3	Employee Commuting	Yes	Employee commuting to site in Narberth.
3	Downstream Transportation and Distribution	No	Not applicable, deliveries are done in owned vehicles.
3	Investments	No	Not applicable.
3	Franchises	No	Not applicable.

Reported Baseline Emissions

The reported 2024/25 GHG emissions are presented in Table 2 with the percentage breakdown by source included in Figure 1. The total calculated carbon footprint of A J Rees & Sons Ltd during the time period 2024/25 was **10,601.61 tCO₂e**.

Breaking the calculated emissions down by scope, Scope 3: Indirect Emissions has the largest contribution of 99.0%, followed by Scope 1: Direct Emissions with 0.8% and whilst Location-based Scope 2: Indirect Emissions with 0.2%.

Table 2 and Figure 1. A J Rees & Sons Ltd's Breakdown of Emissions across Scopes:

Scope	Previous year emissions data	Emissions (tCO ₂ e)	% of Total
Scope 1	29.01	85.70	0.8%
Scope 2 – location based	34.59	17.21	0.2%
Scope 2 – market based	0.00	0.00	0.0%
Scope 3	Not reported	10,498.70	99.0%
Total market-based	63.60	10,601.61	100.0%

Breakdown of Emissions Scopes (Market-Based)

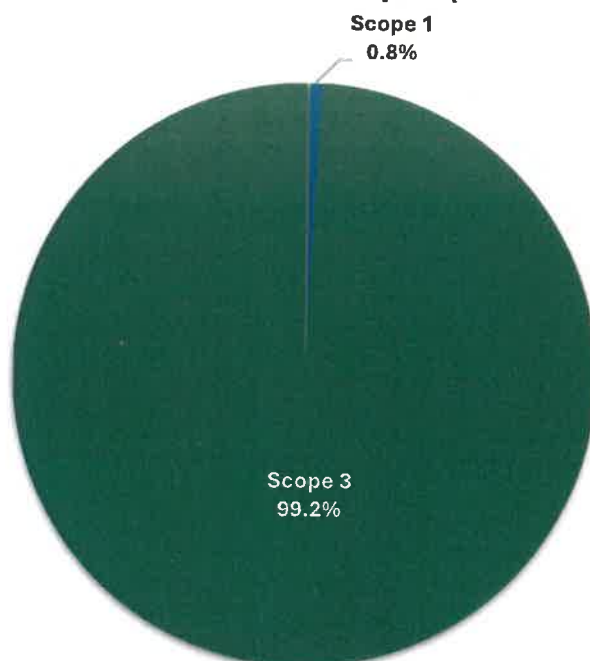


Table 3. Baseline GHG Emissions

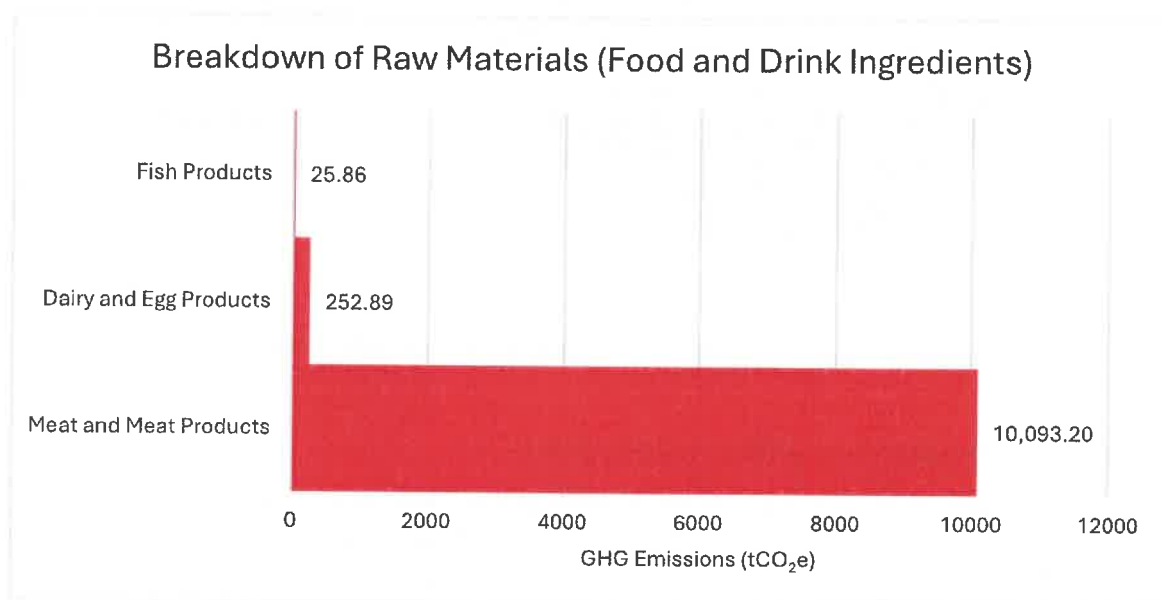
A J Rees & Sons Ltd (Baseline Year) GHG Emissions (tonnes CO ₂ e)				
Reporting Scope	GHG Emissions Source	Previous year GHG Emissions (tCO ₂ e)	GHG Emissions (tonnes CO ₂ e)	Percentage of GHG Emissions (%)
Scope 1	Stationary Combustion	-	3.39	<0.1%
	Mobile Combustion	-	67.80	0.6%
	Fugitive Emissions	-	14.51	0.1%
Scope 2	Electricity (Location-Based)	-	17.21	0.2%
	Electricity (Market-Based)	-	0.00	0.0%
Scope 3	Purchased Goods and Services	-	10,438.53	98.6%
	Fuel and Energy-Related Activities	-	22.57	0.2%
	Waste Generated in Operations	-	13.42	0.1%
	Employee Commuting	-	24.17	0.2%
Total GHG Emissions (Market-Based)		-	10,584.40	100.00%
Total GHG Emissions (Location-Based)		-	10,601.61	-
GHG Emissions per £ turnover (Market-Based) (kgCO ₂ e/£1)		-	1.51	-
GHG Emissions per employee (Market-Based) (tCO ₂ e/employee)		-	460.94	-

Supply Chain: Ingredients and packaging

The results reveal that Meat and Meat Products are the largest contributor to supply chain emissions. This result is expected due to the nature of operations.

Table 4 and Figure 2. A J Rees & Sons Ltd Breakdown of Emissions across Purchased Ingredients and Packaging.

Source	Emissions (tCO ₂ e)
Meat and Meat Products	10,093.20
Dairy and Egg Products	252.89
Fish Products	25.86



GHG Emission Profile Hotspots

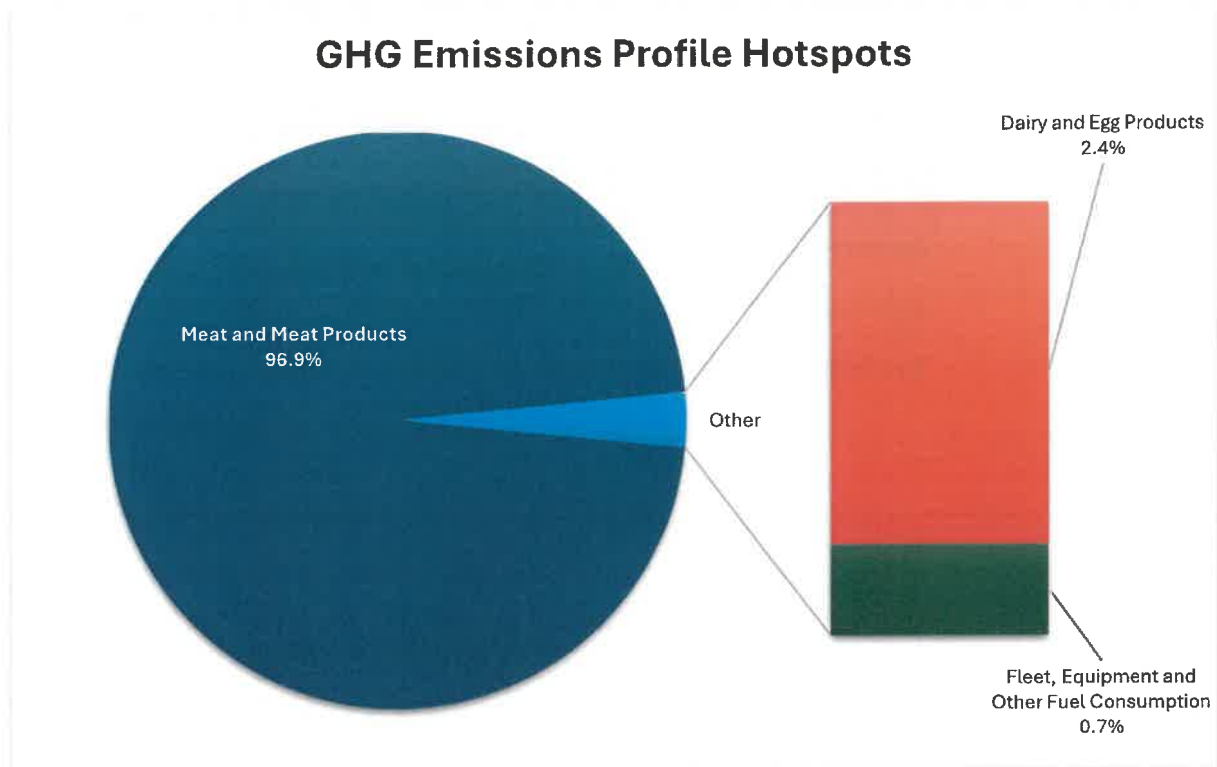


Figure 3. A J Rees & Sons' top area of business with the highest emissions (%of total).

Emission comparisons with previous years

Scope 1 emissions increased by over 100%, primarily due to enhanced reporting practices and the inclusion of additional emission sources. In contrast, Scope 2 emissions decreased, driven by energy efficiency measures implemented across buildings and improvements in solar panel data accuracy. The solar panels, installed in 2012, experienced a technical issue in 2021—the year of the previous Carbon Reduction Plan—which affected the reporting of photovoltaic generation for several months. As a result, the solar yield data for that year was inaccurate. This discrepancy, combined with the energy efficiency upgrades, likely contributed to the observed reduction in Scope 2 emissions.

4. Emissions Reduction Targets & Trajectory

This carbon reduction plan acts as our first plan of action to meet our goal of becoming Net Zero by 2050 (or sooner). The plan should be revisited yearly to monitor emissions and the actions to be taken will be updated every five years, similar to the carbon budgets of the Welsh Government.

Arthian recommends the following approach to reducing greenhouse gas emissions. Establishing the reporting base year (Step 0) has been completed as part of this assessment.

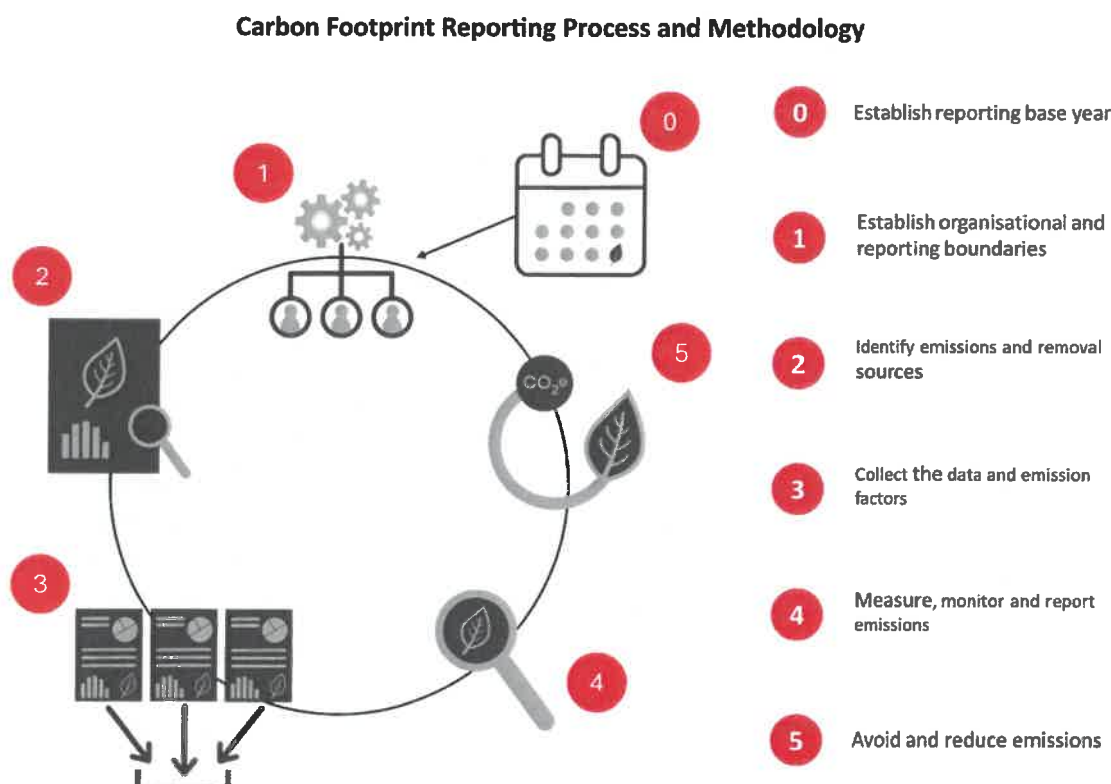


Figure 4. Process and methodology of the carbon reporting.

Decarbonisation Roadmap

We would recommend that A J Rees & Sons Ltd achieves Net Zero by 2050 in line with the Wales National Targets. To decrease A J Rees & Sons Ltd's carbon footprint, short-, mid- and long-term recommendations have been made which look at all areas within the business.

Table 5. presents identified recommendations. The recommendations have been given a priority grade of 1-4 (Priority 1 being high impact actions which are easy to implement in a short timeframe, priority 4 being lower impact measures, or long-time actions with a high capital investment).

Table 5. Identified recommendations based on estimate figures.

Proposed energy and decarbonisation intervention	Estimated Annual Energy Saving (kWh)	Estimated Annual Cost Saving (£)	Estimated capital cost (£)	Emissions saving (tonnes of CO ₂ e/yr)	Priority grade
Energy Management and Purchasing					
Electric Vehicle	-	-	-	9.0 tCO ₂ e/yr*	1
Solar Panels	36,000 kWh	-	-	7.6 tCO ₂ e/yr	1

*Estimated based on switching from average petrol vehicle.

Energy Management and Utilities Monitoring

- **Energy Monitoring** - It is recommended to implement an energy monitoring system for gas and electricity. The system can make use of the current onsite meters, and additional submetering to track real-time usage across key equipment, such as freezers, lighting, etc. allowing the identification of high energy usage equipment or times. By monitoring this consumption, operations can be scheduled to minimise idle energy usage and detect inefficiencies in equipment.
- **Equipment Shutdown** - A J Rees & Sons Ltd should adopt a structured equipment shutdown and scheduling approach. Non-essential appliances, such as mincers and office equipment should be powered down when not in active use, while refrigeration units should be scheduled to operate only during production, where possible. The schedule should include a clear timetable to align equipment use with peak production times and minimising standby energy consumption.
- **Equipment Upgrades** - Energy efficiency can be adopted through a phased approach to equipment upgrades. As older equipment and refrigeration units, etc. reach the end of their service life, replacements should prioritise models with high energy ratings and proven efficiency performance. A J Rees & Sons Ltd has begun this action with planned purchase of a more efficient freezer and refrigeration unit to improve freezing operations.

Energy Purchasing (inc. renewable tariffs)

- Renewable energy tariffs are already purchased through British Gas to cover total electricity used. It is recommended to continue with the purchase of a low carbon energy tariff.

Building Fabric

- Plans are currently underway to refurbish units 3-5 onsite. This refurbishment aims to be completed before the end of the current financial year. Energy efficient actions include upgraded lighting including PIR sensors and energy efficient heating systems will be implemented during the refurbishment. A new EPC rating will be provided for the building upon completion which can be used to determine the energy and carbon savings from the project.
- Unit 6 was also refurbished this year, with works completed in July 2025. The unit consists of office space for staff which was refurbished to include upgraded lighting, PIR sensors and

energy efficient heating systems. Some improvements in GHG emissions were realised in this reporting period, however, next period, after a full year of data with the upgrades in place, will demonstrate the full impact of the actions.

Cooling and Refrigeration

- **Refrigeration Maintenance** - During this reporting period, there was some leaks of refrigerant gases identified in the refrigeration and freezer units which resulted in 14.51 tCO₂e. It is recommended to continue with regular preventative maintenance of these systems to avoid or reduce leakage.
- **Refrigerant Gas Upgrades** - A long-term action, if refrigeration equipment is transition refrigeration units to inert or low impact refrigerant gases where possible. Phasing in equipment that operates on lower Global Warming Potential (GWP) refrigerants, can be done either through retrofitting existing units or specifying sustainable alternatives in future purchases.

Freighting and Logistics

- As GHG emissions from diesel use in company vehicles is the largest contributor to the Scope 1 emissions, this should be a key focus area for reduction. A phased replacement of vehicles should be adopted, beginning with the integration of hybrid or alternative-fuel vehicles where EV infrastructure is not yet fully available, and moving towards a fully electric fleet as charging networks expand. Vehicle replacement should be aligned with the natural end of life cycle to minimise financial and vehicle waste impact. The long-term goal should be to operate a zero-emission delivery fleet, reducing reliance on fossil fuels. In the interim, A J Rees & Sons Ltd currently optimises routes to reduce emissions by minimising number of deliveries and maximising vehicle loads.

Renewable Technology Installation

- Solar PV is already installed at the production site with an estimated 36,000 kWh yield and approximately 7.60 tCO₂e savings per annum.

Waste generation, disposal and treatment

- An assessment of waste generated in the business can be conducted to identify significant waste areas. A waste review can include audit of each waste stream to identify where waste is generated in operations and what are the main materials wasted. Further, a review of packaging materials used can be done to identify opportunities to minimise material used in packaging and, therefore, minimise waste. This packaging audit can include review of types of material used in packaging, to identify if these can be reduced to one material type and weight of packaging to see if this can be reduced.

Purchased raw materials (inc. supplier targets)

- It is recognised that the majority of GHG emissions are the supply chain emissions and specifically meat products, as expected. These emissions are currently calculated with spend-based factors, which are the lowest quality data, used at the beginning stages of carbon footprinting. To address these emissions, A J Rees & Sons Ltd should work to improve data quality, progressing to industry average calculations and supplier specific information, where

possible. These calculation methodologies require A J Rees & Sons Ltd to set up data collection procedures to obtain specific quantities information on their products, for example tonnes of pork, to be used with industry average factors, such as those from WRAP, or factors for their suppliers.

To obtain supplier data A J Rees & Sons Ltd should engage with suppliers to collect carbon data and details on their sustainability practices. This engagement action can focus initially on key suppliers to request information on their own carbon reduction plans and targets, or product carbon footprints, if available. Collaborating with suppliers is imperative for tackling supply chain emissions. Requests for this information can be included in procurement policies alongside other environmental & health and safety requirements.

Other purchased goods and services (inc. supplier targets)

- These supplier engagement and procurement policies implemented for ingredients can be expanded to include all purchased goods and services to ensure A J Rees & Sons Ltd is working with suppliers that share the same values for carbon reduction and reducing their environmental impact.

Employee Commuting

- Many employees are local and already cycle or walk to site which helps to minimise emissions from commuting. For those employees that drive, a car sharing programme can be initiated to encourage employees to travel to work together and reduce number of individual vehicle journeys.

Carbon Offsetting

- A J Rees & Sons are in the process of reviewing the use of carbon offsetting to counterbalance their emissions. It is recommended that actions to reduce emissions are prioritised then when the use of carbon offsets are required to balance residual emissions high-quality carbon removal credits are selected in the first instance.

Training

- **Climate Awareness Training** - Including staff in emissions reduction and making them aware of A J Rees & Sons Ltd net zero ambitions is key to improving employee behaviours for actions that can support carbon reduction. Staff should be made aware of A J Rees & Sons Ltd's carbon reduction goal and the reasons behind them so that staff can be involved in the actions.
- **Energy Usage Training** – Staff should be trained on how their behaviours impact energy usage. For any shutdown actions, staff should receive training on the procedures and the importance of following a consistent schedule to support A J Rees & Sons Ltd's carbon reduction goal. Further, any data collected from energy monitoring systems can be used support staff training by helping the team understand the impact of their daily practices on energy use.

Recommended Emissions Reduction Trajectory

The figure displays the emissions reduction trajectory A J Rees & Sons Ltd needs to follow in order to meet Net Zero by 2050. Trajectory also includes interim targets which will be used to benchmark reductions from our baseline emissions.

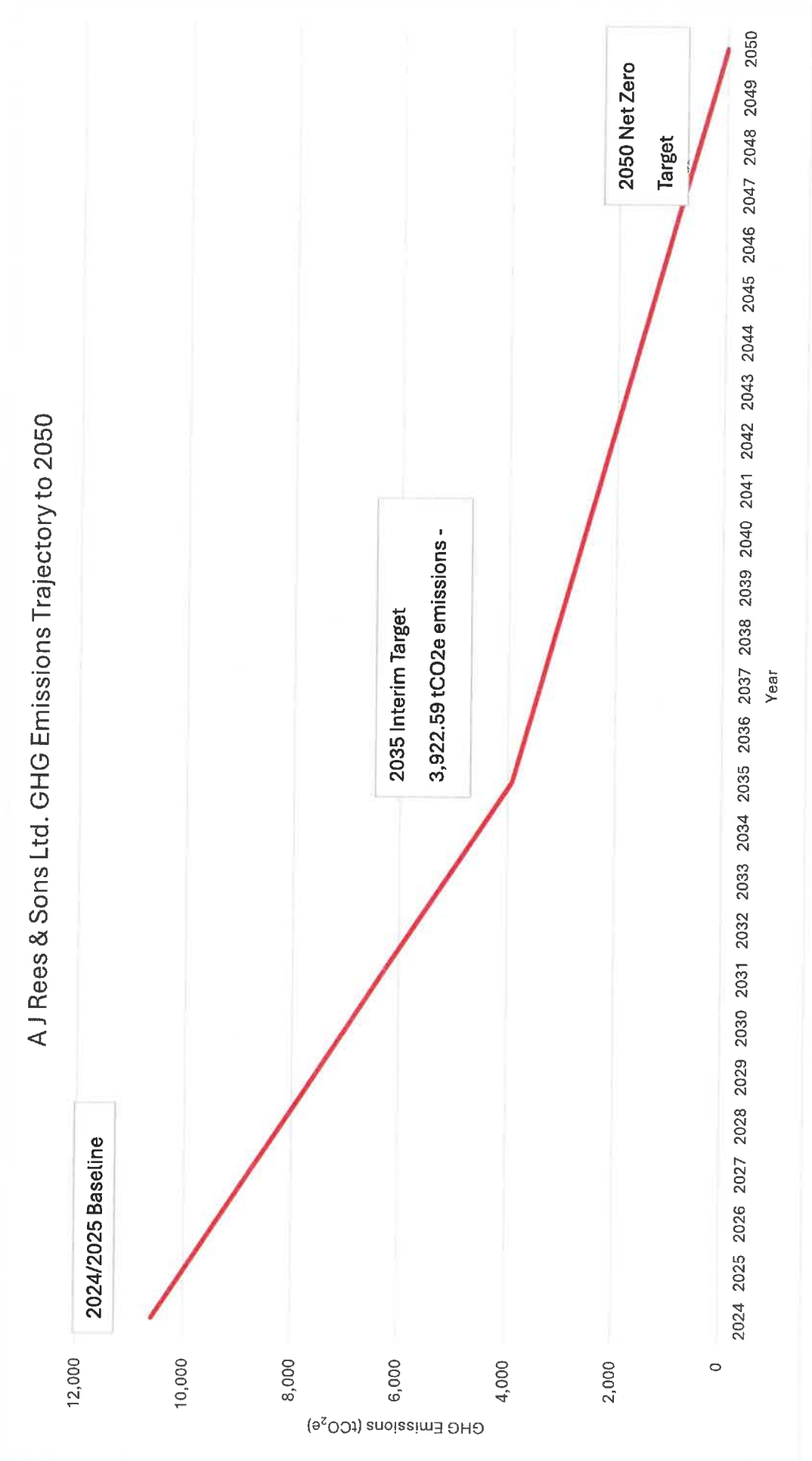


Figure 5. A J Rees & Sons Ltd. GHG emissions trajectory to 2050

Declaration and Sign Off

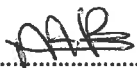
This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol Corporate Standard, using the appropriate Government emission Conversion Factors for GHG Company Reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard from Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

SIGNED ON BEHALF OF A J Rees & Sons Ltd



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Date:

14/10/25