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ROSE

CARBON FOOTPRINT REPORT FOR ROSE BUILDERS LTD

Date: July 2023

Prepared by: Emily Tucker

Contents

Auditel's Credentials – Verification Bodies

nqa.app Associate Partner

bsi. | Associate Consultant

Company Information

Entity	Rose Builders Ltd
Subject	Rose Builders Ltd
Company Number	03106982
Contacts - Rose Builders Ltd	Jenny Stokes, Commercial Managing Surveyor T: 01206 394029 E: JStokes@rosebuilders.co.uk
Contacts - Auditel	Emily Tucker, Carbon Accountant T: 029 2002 5750 E: Emily.Tucker@auditel.co.uk John Elliott, Internal Verifier T: 0113 841 8900 E: John.elliott@auditel.co.uk
Baseline Year	2022

Summary of the Organisation

Rose Builders Ltd is a family-run firm of builders, contractors and developers based in Essex, East Anglia. Rose Builders Ltd was founded in 1995 and evolved from H L Rose & Sons first established in 1869. Today, the company has over 200 employees, supplemented by specialist subcontractors. The company works across a wide array of sectors, including commercial, industrial, leisure, education, housing, and healthcare, where they carry out new build, refurbishment, and extension projects. Their residential development for sale is a rapidly expanding part of the business. This is resourced from their direct labour force of skilled craftspeople, in-house joinery shop and plant division together with their supply chain.

The success of Rose Builders is founded on their reputation of delivering high quality, innovative work within their community. The company is constantly striving to deliver exceptional services and excellent customer satisfaction. This is reflected by the company's array of certifications and accreditations which to name just a few, include ISO 45001: Occupational Health & Safety, ISO 14001: Environmental Management, and ISO 9001: Quality. Rose Builders also believe in giving back to their community, and frequently sponsor fundraising events with both local charities such as the Lawford Under 11s football strip, and larger charities such as Cancer Research UK.

Rose Builders are committed to reducing its environmental impact, both locally and globally. The company is now embarking on a new mission; to reduce its carbon emissions and subsequent impact on climate change. To achieve this, Rose Builders have partnered with consultants at Auditel, and are working on calculating an accurate carbon footprint for the reporting year 2022.

Methodology

This report follows the GHG Protocol Corporate Accounting and Reporting Standard methodology.

As with financial accounting and reporting, generally accepted GHG accounting principles are intended to underpin and guide GHG accounting and reporting to ensure that the reported information represents a faithful, true, and fair account of a company's GHG emissions.

GHG accounting and reporting practices are evolving and are new to many businesses; however, the principles listed below are derived in part from generally accepted financial accounting and reporting principles. They also reflect the outcome of a collaborative process involving stakeholders from a wide range of technical, environmental, and accounting disciplines.

Carbon Footprint and reporting shall be based on the following principles:

Relevance

Ensure the carbon footprint appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.

Completeness

Account for and report on all GHG emission sources and activities within the chosen boundary. Disclose and justify any specific exclusions.

Consistency

Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

Transparency

Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

Accuracy

Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

Executive Summary

Background

- The need for taking immediate and bold action on climate change is being increasingly recognised by businesses, government, and the general population.
- The amount of action that needs to be taken, and the speed at which this must be done has been recognised by the UK through its ratification of the Paris climate agreement – to limit global temperature rise to well below 2°C.
- Consequently, the UK has declared a climate emergency, and the independent committee on climate change has laid out what needs to be done for the UK to become net-zero carbon by 2050.
- Rose Builders Ltd has acknowledged their role in the need to act and have themselves decided to develop a strategy to achieve net zero carbon emissions.

Drivers – Climate Change Act

- This act commits the UK government to reducing emissions by at least 80% in 2050 compared to 1990 levels. The 80% target includes GHG emissions from the devolved administrations, which currently accounts for around 20% of the UK's total emissions.

Leadership

- Taking strategic action towards reducing carbon emissions will ensure that Rose Builders Ltd can lead the way in developing effective mechanisms to tackle climate change. This will help stimulate low carbon transitions across the regions in which we operate.

Cost Savings

- With increasing pressure on all businesses to cut costs, reducing the amount spent on energy bills is a key driver for lowering our energy consumption.

Reputation

- With stretching national targets, there is increasing pressure on businesses to be seen as "doing their bit" and playing a leadership role on climate change action. Failure to act could lead to reputational risks and adversely affect the company's public image.

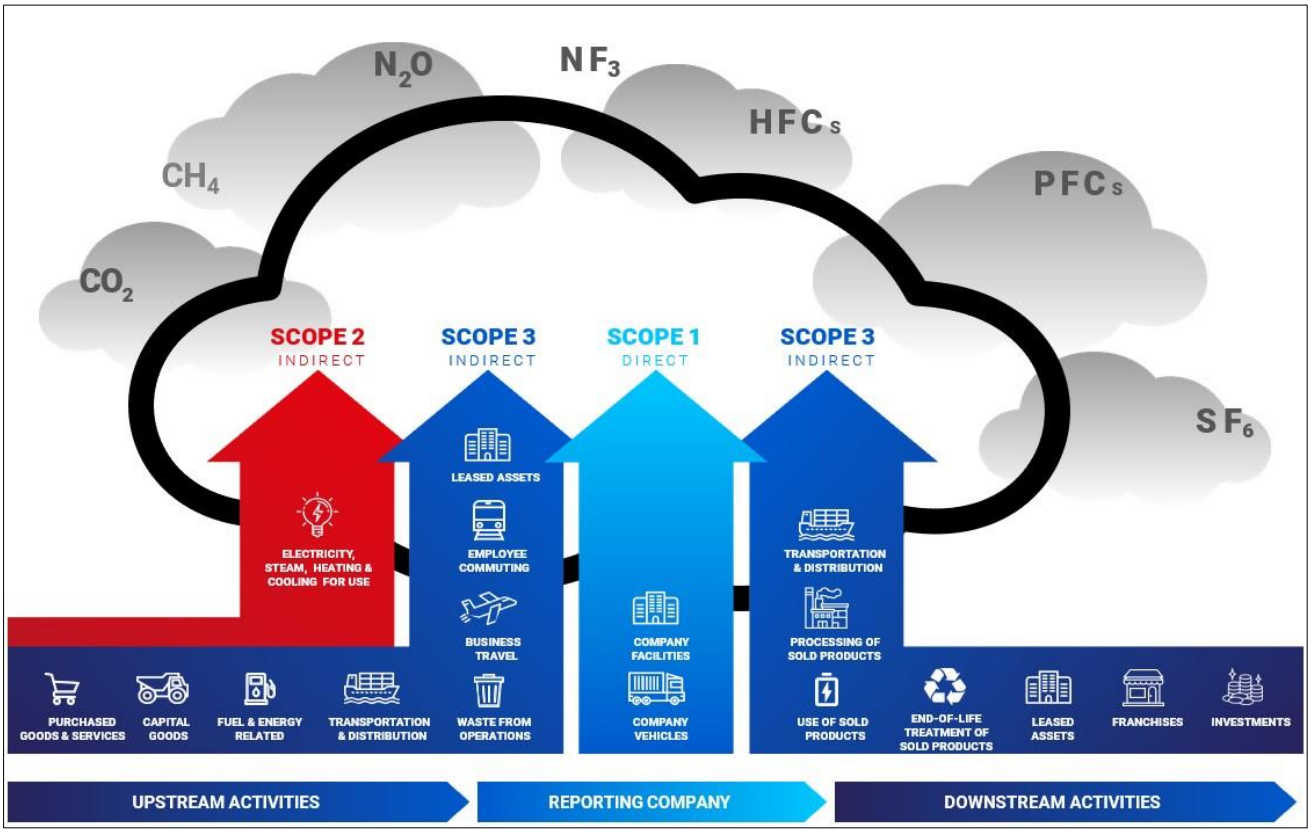
The Plan

- Rose Builders Ltd is in the process of finalising plan for the years 2023-2024, this plan aims to show how the business will meet its social, economic, and environmental needs.
- A fundamental part of developing a plan is gathering evidence to then direct strategy.
- A key driver for undertaking this project is the need for trusted, independent, and clear evidence to feed into the sustainability appraisal and strategic environmental assessment to develop the plan.
- The results from this work will form a key part in ensuring that Rose Builders Ltd have sustainability, reducing emissions, and climate change as a core element of their strategic plans for years to come.

Proposal

- Auditel have been contracted by Rose Builders Ltd to support the first stage of their journey: to complete a comprehensive carbon footprint of their direct and indirect carbon emissions (scope 1, 2 and 3) for the calendar year 2022.
- Creating a carbon footprint is an essential first step in developing a carbon reduction strategy and is key to understanding the scale of the challenge focussing efforts on the most impactful activities.
- This Carbon Footprint has been calculated in line with the Greenhouse Gas (GHG) Protocol emission Scopes; these are set out as follows:
- **Scope 1:** Direct emissions from combustion of gas and other fuels.
- **Scope 2:** Emissions resulting from the generation of electricity and other energy purchased (but generated elsewhere).
- **Scope 3:** Emissions made by third parties in connection with operational activities.
- All activities within this report have been undertaken by the criteria set out by the British Standards Institute PAS2060:2014, in line with the Green House Gas Protocol.

GHG Protocol



Emissions Boundary

Included Emissions								
Scope 1		Scope 2	Scope 3					
FLEET	BUILDINGS	ELECTRICITY	CAPITAL GOODS	FUEL & ENERGY RELATED ACTIVITIES	UPSTREAM TRANSPORT & DISTRIBUTION	WASTE FROM OPERATIONS	BUSINESS TRAVEL	EMPLOYEE COMMUTING & HOMEWORKING

Emission Sources

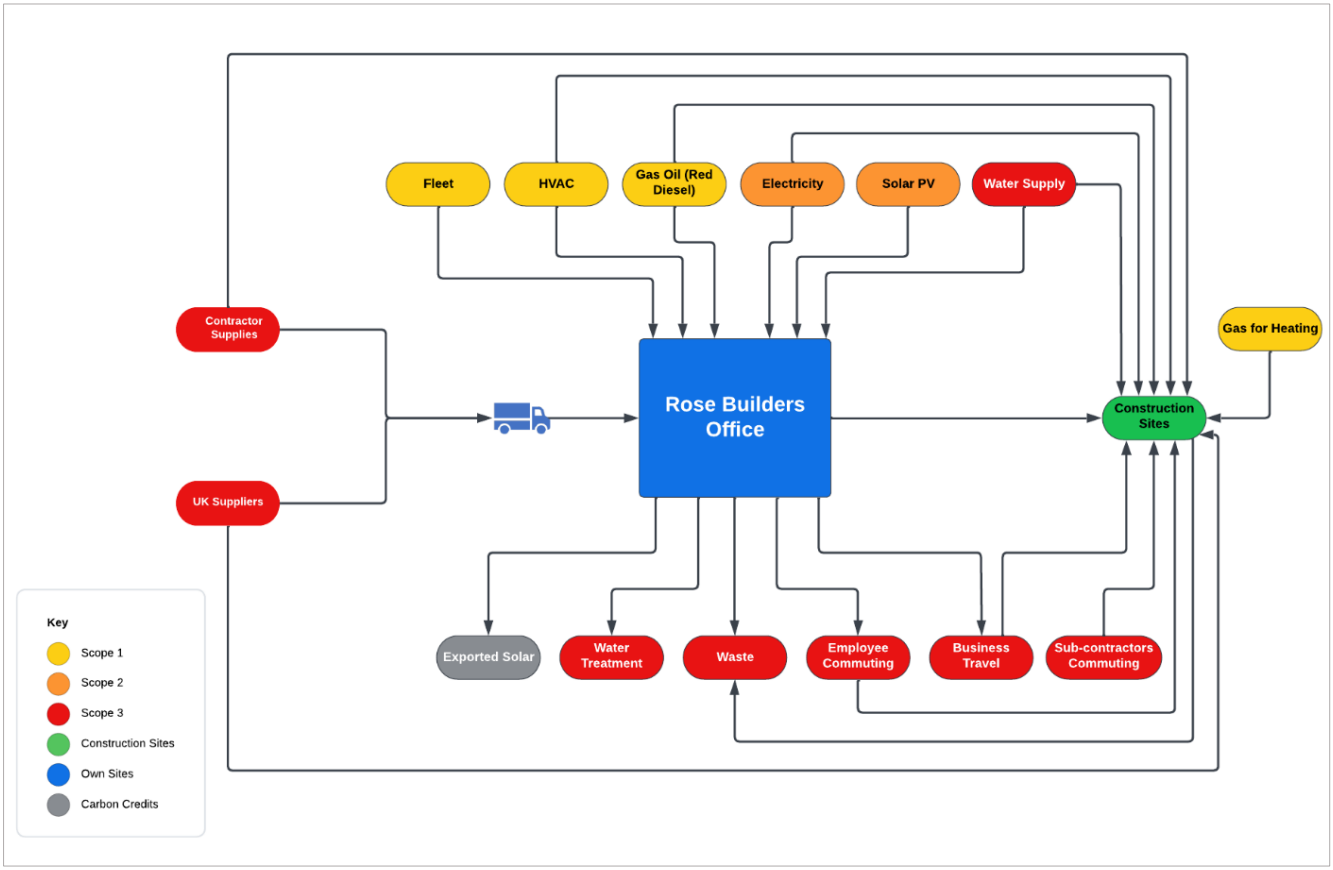
Table of Included Emissions

Scope	Category	Details
1	Fleet	Fuel card data & invoices of bulk purchased plant fuel
	Buildings	Gas usage data from gas provider & HVAC maintenance reports
2	Electricity	Usage data from electricity provider & electricity exported from solar
3	Capital Goods	Invoices of capital purchases
	Fuel & Energy Related Activities	T&D losses and fuel WTT
	Upstream Transport & Distribution (partial)	Invoices of capital purchases
	Waste from Operations	Usage data from water and waste collection providers
	Business Travel	Expense claim data
	Employee Commuting & Homeworking	Survey

Table of Excluded Emissions

Scope	Category	Details
3	Purchased Goods & Services	Cost versus benefit of obtaining data
	Upstream Transport & Distribution (partial)	Cost versus benefit of obtaining data
	Upstream Leased Assets	None associated with the business
	Downstream Transport & Distribution	None associated with the business
	Processing of Sold Products	None associated with the business
	Use of Sold Products	None associated with the business
	End of Life Treatment of Sold Products	None associated with the business
	Downstream Leased Assets	None associated with the business
	Franchises	None associated with the business

Value Chain Map



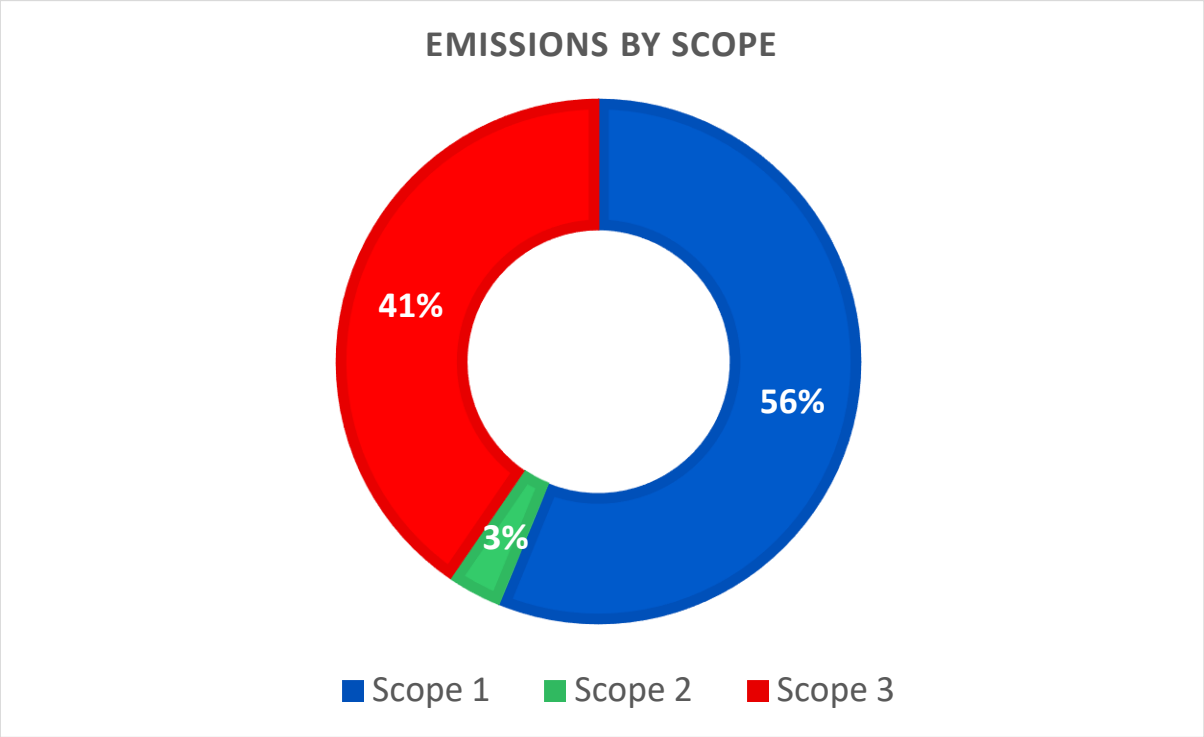
Carbon Footprint Breakdown

2022 Emissions

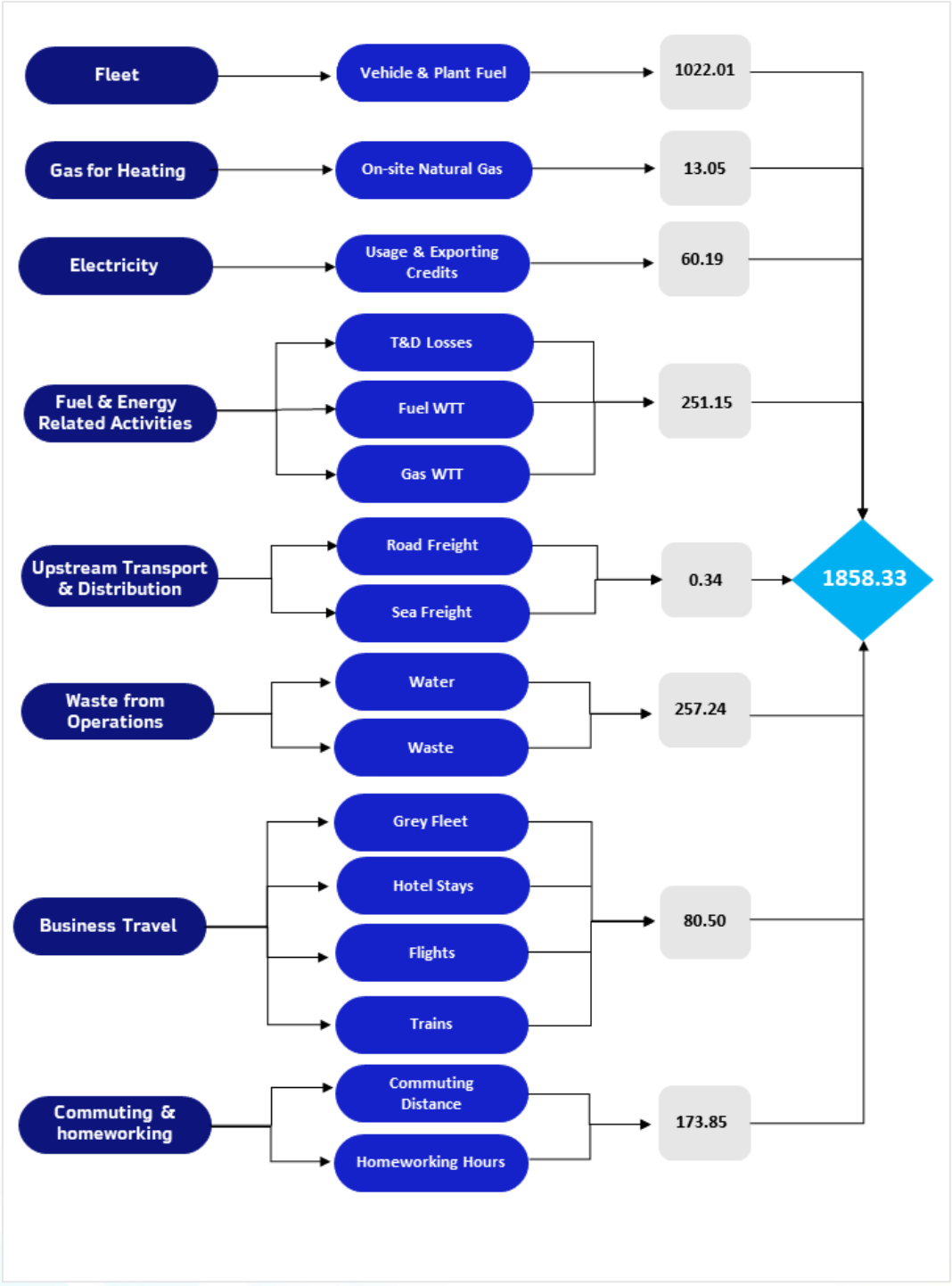
The total Green House Gas emissions for Rose Builders Ltd in the calendar year 2022, according to the data provided and the use of the Government conversion factors for the same year are:

1858.33 tCO_2e

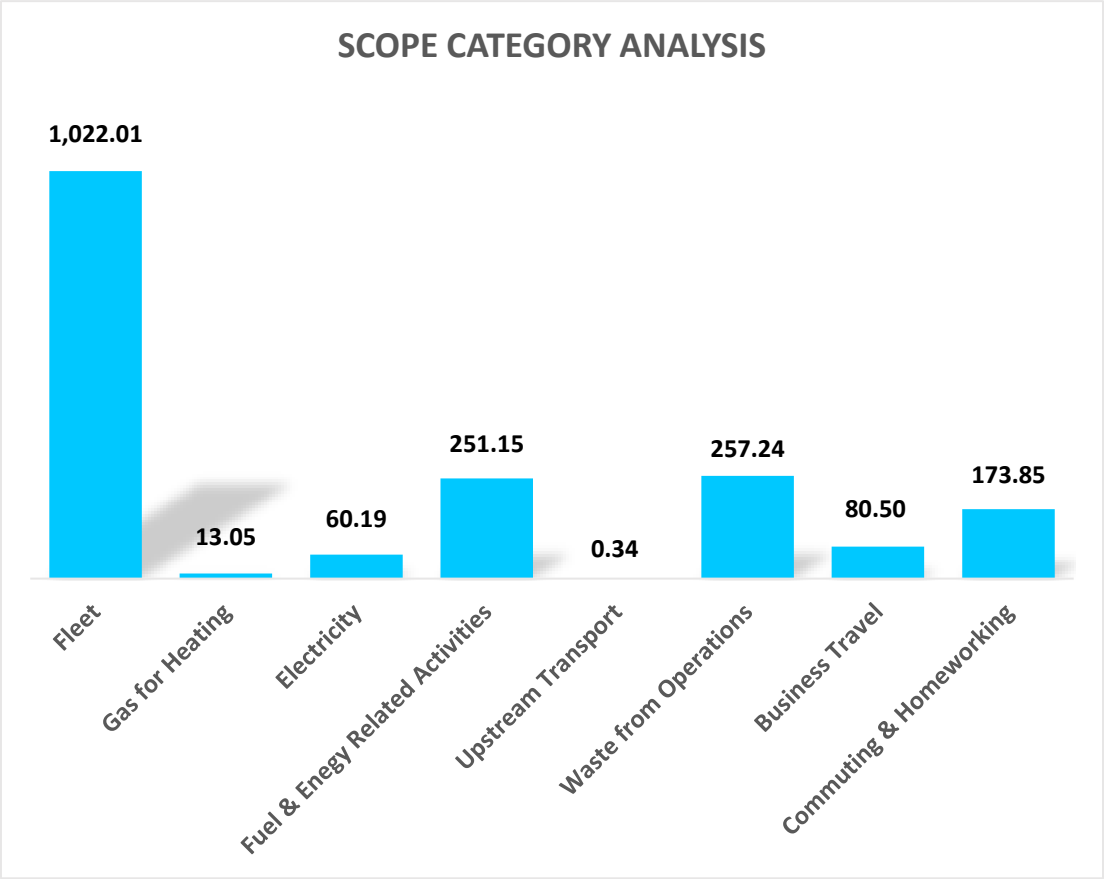
Scope Category	Emissions (tCO_2e)	% of Footprint
Fleet	1,022.01	55.00
Buildings	13.05	0.70
Electricity	60.19	3.24
Fuel & Energy Related Activities	251.15	13.52
Upstream Transport & Distribution	0.34	0.02
Waste from Operations	257.24	13.84
Business Travel	80.50	4.33
Employee Commuting & Homeworking	173.85	9.36
Total	**1858.33**	**100%**



Emissions Map



Emissions by Scope Category



Intensity Metrics

1858.33

Total tonnes of carbon dioxide equivalent

29.17

Total tonnes of carbon dioxide equivalent per £1M turnover

8.60

Total tonnes of carbon dioxide equivalent per employee

Scope Data Breakdown

Scope 1

Fleet

This category included emissions from both company vehicle fuel and plant machinery fuel. In total four different fuels were used: diesel, petrol, gasoil (also known as red diesel) and kerosene. Different conversion factors were applied to each fuel. The total emissions associated with fleet were 1,022.01 tonnes of carbon dioxide equivalent (tCO_2e), with the largest proportion being attributed to diesel. Overall, 63% of fleet emissions were due to plant fuel and 37% due to vehicle fuel.

Fuel Type	Usage (Litres)	tCO2e
Diesel	303014.71	775.06
Petrol	15667.67	33.87
Gasoil	76504.00	211.04
Kerosene	800.00	2.03

Source	tCO2e	% of fleet emissions
Vehicle Fuel	379	37
Plant Fuel	643	63
Total	**1022**	**100**

Gas for Heating

Emissions within this category related to the use of gas for heating on construction sites. Gas bills were provided for each gas meter across all construction sites. From this, a total gas usage of 6,472.72 m^3 was calculated. This equated to a carbon emission of 13.05 tCO_2e, as shown below.

Usage (m3)	tCO2e
6472.72	13.05

Scope 2

Electricity

This category included emissions associated with the use of grid electricity across both the Rose Builders office and their construction sites. Electricity bills were provided and analysed to calculate the total electricity usage in 2022. In total, emissions associated with electricity were 62.46 tCO_2e. This was attributed relatively equally between the office and construction sites, as shown below.

Site	Usage (kWh)	tCO2e
Office	135468.11	26.20
Construction Sites	187509.13	36.26

During the reporting period, electricity was also generated by solar panels located at the Rose Builders Office. Excess solar electricity was exported, and bills were provided to quantify this. The emissions associated with exported solar were calculated and then deducted from the final electricity footprint. Therefore, the final footprint for electricity was 60.19 tCO_2e.

Total exported solar (kwh)	11731.24
tCO2e	2.27

Scope 3

Fuel & Energy Related Activities

This category included emissions from transmission & distribution losses associated with grid electricity use. Well-To-Tank emissions associated with fuel and gas usage were also accounted for. The total emissions associated with these was 251.15 tCO_2e, the majority of which related to WTT for fuel, as shown below.

Source	tCO2e
T&D Losses	5.71
Fuel WTT	243.22
Gas WTT	2.22

Upstream Transport & Distribution

This category included emissions associated with the delivery of capital purchases to the company. It is important to note that not all relevant emission sources were accounted for, specifically the delivery of building materials to site, for which data could not be provided. Therefore, the total emissions shown below are an underrepresentation of the actual upstream transport & distribution GHG emissions. Most capital purchases were made from within the UK and just one was delivered from China.

Total road freight (tonne.km)	tCO2e
2181.94	0.23

Total sea freight (tonne.km)	tCO2e
2807.85	0.11

Waste from Operations

In this category, emissions from both water usage and waste production were calculated. Emissions were calculated for water usage in both the office and across construction sites. Overall, the total water usage in 2022 was 1384.75 m3, the majority of which was associated with construction sites. Emissions were calculated for both the direct use of water, and the treatment of wastewater, as shown below.

Water Usage

Site	Usage (m3)	tCO2e
Office	108.00	0.02
Construction Sites	1276.75	0.19
Total	1384.75	0.21

Wastewater Treatment

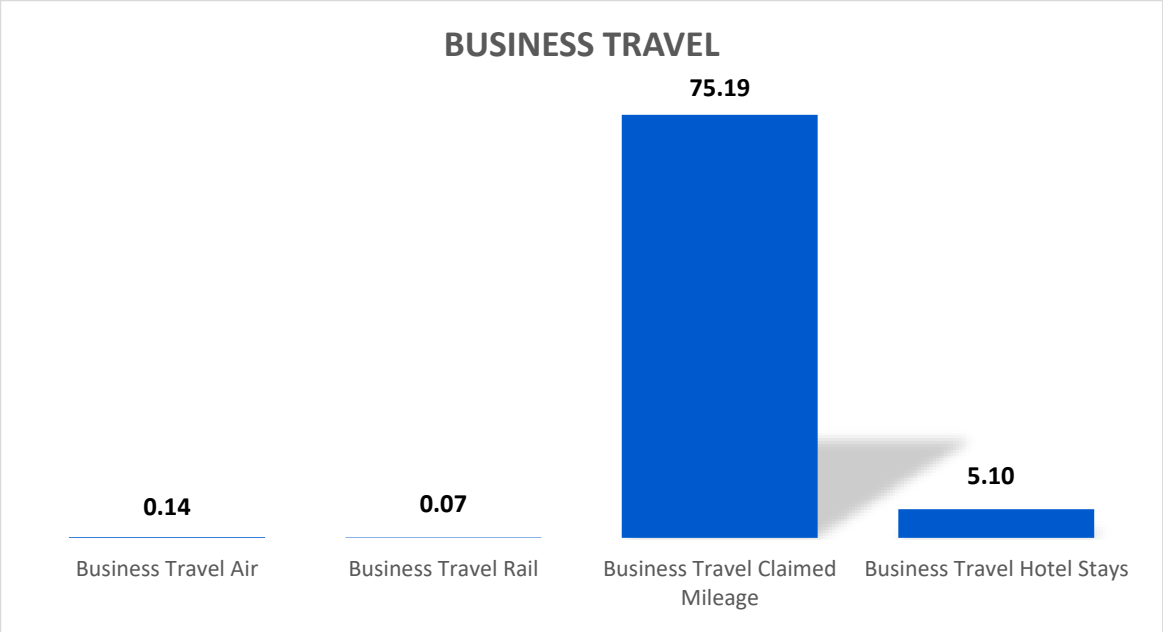
Site	Usage (m3)	tCO2e
Office	102.60	0.03
Construction Sites	1212.91	0.33
Total	1315.51	0.36

Despite there being many different types of waste produced in 2022, most waste-related emissions were due to 526 tonnes of general waste being sent to landfill by the waste provider Buggs. To contrast, most other waste streams had little carbon impact, with recycled waste accounting for 10.70 tCO_2e only.

Disposal Method	tCO2e
Recycled	10.70
Landfilled	245.97

Business Travel

This category included emissions from hotel stays, flights, rail travel, and grey fleet. Most emissions in this category were associated with grey fleet, followed by hotel stays. Emissions associated with flights and rail travel were minimal.



Employee Commuting & Homeworking

This category included emissions associated with commuting and homeworking. Few employees worked at home during 2022, meaning homeworking emissions were minimal (0.96 tCO_2e). To contrast emissions associated with commuting were moderate and were largely associated with the use of medium and large diesel cars. Note that only office staff were accounted for in this data. Mobile employees were not contacted due to the cost versus benefit of obtaining data. Strategies will be put in place to collect this data in future years.

Car Type	Commuting Distance (miles)	tCO2e
Small Petrol	69456.00	16.38
Medium Petrol	105912.00	31.48
Small Diesel	20640.00	4.65
Medium Diesel	178968.00	48.39
Large Diesel	188640.00	63.61
Medium Hybrid	38784.00	6.87
Large Hybrid	4320.00	1.08
Small Electric	6240.00	0.44
Total	612960.00	172.90

Verifiers Statement

Auditel is a management consultancy that is suitably qualified in carbon emissions, measurement and verification. Those approved to conduct verifications are recorded by Auditel (UK) Limited. This process is transparent and is guided by the requirement ISO14064-3 specification with guidance for the verification of greenhouse gas statements.

Auditel has been appointed to measure and evaluate carbon emissions from 1/1/22 – 31/12/22 and to prepare a carbon footprint report for:

Rose Builders, Riverside House, Lawford, Essex CO11 1US.

The disclosure made in this Carbon Footprint report for Rose Builders dated 12th July 2023 conforms with the verifier requirements of ISO14064-3 2019.

The following reporting principles have been met – Transparency, Completeness, Accuracy, Consistency, Relevance.

The verified GHG emissions are:

Scope 1 1035.06

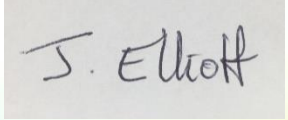
Scope 2 60.19

Scope 3 763.09

This statement is issued 12th July 2023 and is verified with a modified opinion*. The report incurs a scope 3 category 1 limitation – Upstream transport with delivery of building materials to site for which data could not be provided. For this reason, it was excluded from the boundary. It would be expected that the current GHG statement is of a significant lower CO_2e tonnage than expected due to the shortfall of this criteria.

Emily Tucker

Report Author Auditel.



John Elliott

Independent Verifier – Entpack Ltd.

Ref ISO 14064-3 paragraph 6.3.2.3