Structec (NW) Ltd
Carbon Reduction Plan

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Contents

1.0 Executive Summary

Richard Packer of Eventus Environmental Ltd has been working with Structec (NW) on environmental management projects since 2012. Over this time, the Company has implemented multiple initiatives to improve company performance which is now very good, however, there are further improvements which can be made, some in the short-term, and others such as the implementation of Solar PV in the longer-term. This is primarily due to the constraints of the short 'head lease' of the landlord with the council eliminating eligibility to grant aid or finance to cover sustainable investment in energy self-generation, EV charging and storage.

This aim of this plan is to help Structec to understand their present environmental position, recognise and document recent improvements, and to identify areas where they could become more sustainable and reduce carbon emissions.

This plan contains information gathered by Eventus Environmental Ltd covering a number of years. All the Company's main activities have been considered and data has been collected and analysed for electricity, water, waste, and diesel used for transportation. Two key periods are considered; 2021 which has been chosen as the baseline year and the latest period covering 2025 for comparison. All references to the 'Company' refer to Structec's operations at the Kirkby site.

2.0 Introduction

2.1 Company Background

Structec (NW) Ltd was formed over 25 years ago as a small construction and maintenance company comprising a few employees. Today, the Company has developed substantially to meet the building and maintenance requirements of Local Authorities, Housing Providers and Private Sector customers across Merseyside and the North West of England. The Company operates from modern purpose-built offices on the Knowsley Industrial Park in Kirkby, Merseyside, in close proximity to the M57, M58, M62 and M6 Motorway Network. This location ensures quick and convenient access to all areas of the North West region, enabling the Company to undertake works across a broad geographical scope.

Structec has expertise across all areas of construction, but specialises in refurbishment works to occupied and void dwellings, disabled adaptations to residential properties, and planned and reactive maintenance. Normal operating hours are Monday – Friday 08:00 to 17:00

2.2 Project Aim and Methodology

This Carbon Reduction Plan will assess the Carbon Dioxide (CO_2) emissions produced as a result of direct business activity. The assessment will identify and quantify the business activities that contribute towards climate change. Four key business processes are included in the assessment:

- Business Travel (company vehicles)
- Energy Use (electricity)
- Water Use
- Waste

Available data has been analysed covering periods for 2021, and 2025. Total carbon dioxide equivalents (CO_2e) have been calculated in tonnes using the UK government GHG Conversion Factors for Company Reporting for electricity, fuel, water, and waste.

2.3 Net Zero Definition

The balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away.

[IPCC]

In 2018, the IPCC's Special Report warned that global emissions must drop to net-zero by 2050 to avoid the most catastrophic impacts of climate change.

Within the corporate context, however, the definition of net zero application has not been clear, leading to significant confusion and inconsistent claims.

To limit global heating to no more than 1.5 degrees C by 2050, companies will need to ensure their activities produce close to zero emissions and that they will offset any limited residual emissions that are not possible to cut.

The 2050 pathway to net zero also means rapid emission reduction cuts now, with a need for companies to halve emissions by 2030. [SBTi]

2.4 PPN 006

In 2019 the UK Government amended the Climate Change Act 2008 to establish a legally-binding target of Net Zero carbon emissions by 2050. On the 5th June 2021, the UK Government issued Procurement Policy Note (PPN) 06/21 (now known as PPN 006) to encourage suppliers to the public sector to outline and implement a CRP to help contribute to decarbonising UK public procurement.

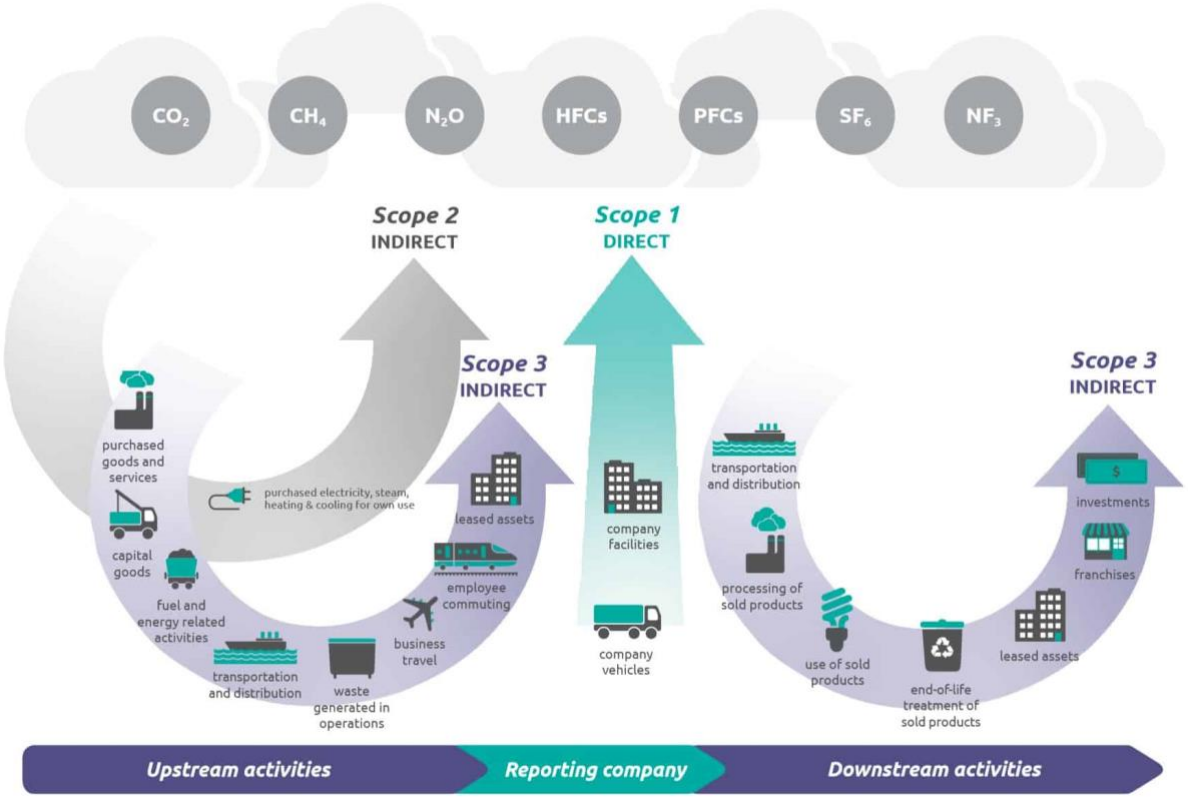
Regardless of organisation size, all suppliers will be required to submit a CRP whereby they will need to detail their carbon footprint as well as confirming their commitment to achieving Net Zero by 2050.

Companies with government contracts over £5 million that wish to continue supplying products or services to government departments or public bodies must have a credible CRP, signed off by a senior manager and published on their website.

A supplier's CRP plan should:

- Be published and updated regularly on their UK website
- Verify their commitment to achieving Net Zero by 2050 for their UK operations
- Provide current UK emissions for Scope 1 and 2 of the GHG Protocol and a defined subset of Scope 3 emissions
- Similarly, provide emissions reporting for the six greenhouse gases covered by the Kyoto Protocol
- Detail the environmental management measures that can be applied in the delivery of the contract

3.0 Carbon Emission Scopes



3.1 Scopes 1, 2 & 3

Carbon Reporting breaks emissions down into 3 categories; Scope 1, Scope 2 and Scope 3 (as shown in the diagram above). The term 'Scope' first appeared in the Green House Gas Protocol of 2001 and today, Scopes are the basis for mandatory Greenhouse Gas (GHG) reporting in the UK.

3.2 Scope Definitions

Scope 1 (direct emissions) emissions are those from activities owned or controlled by an organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.

Scope 2 (energy indirect) emissions are those released into the atmosphere that are associated with the consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of an organisation's energy use, but occur at sources not owned or controlled by the organisation.

Scope 3 (other indirect) emissions are a consequence of actions that occur at sources an organisation does not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by the organisation, waste disposal, materials or fuels the organisation purchases. Deciding if emissions from a vehicle, office or factory that are used are Scope 1 or Scope 3 may depend on the definition of an organisation's operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of an organisation.

3.3 Scopes 1, 2 & 3 Results 2021

Scope 1 emissions include company owned vehicles and accounted for 235.6 tonnes CO_2e annually.

Scope 2 includes grid electricity, but not losses which occur through transmission and distribution. In total, Scope 2 emissions accounted for 7.83 tonnes CO_2e annually.

Scope 3 includes losses which occur through electricity transmission and distribution, water and waste. In total, Scope 3 emissions accounted for 2.11 tonnes CO_2^e annually. It should be noted that Scope 3 emissions would also include any staff using personal vehicles for work use.

Scope			
Activities	**Scope 1 (CO2 Tonnes)**	**Scope 2 (CO2 Tonnes)**	**Scope 3 (CO2 Tonnes)**
Transport	235.60		
Grid Electricity		7.83	
Electricity Transmission and Distribution			0.69
Water			0.05
Waste			1.37
Total	**235.60**	**7.83**	**2.11**

3.4 Scopes 1, 2 & 3 Results 2025

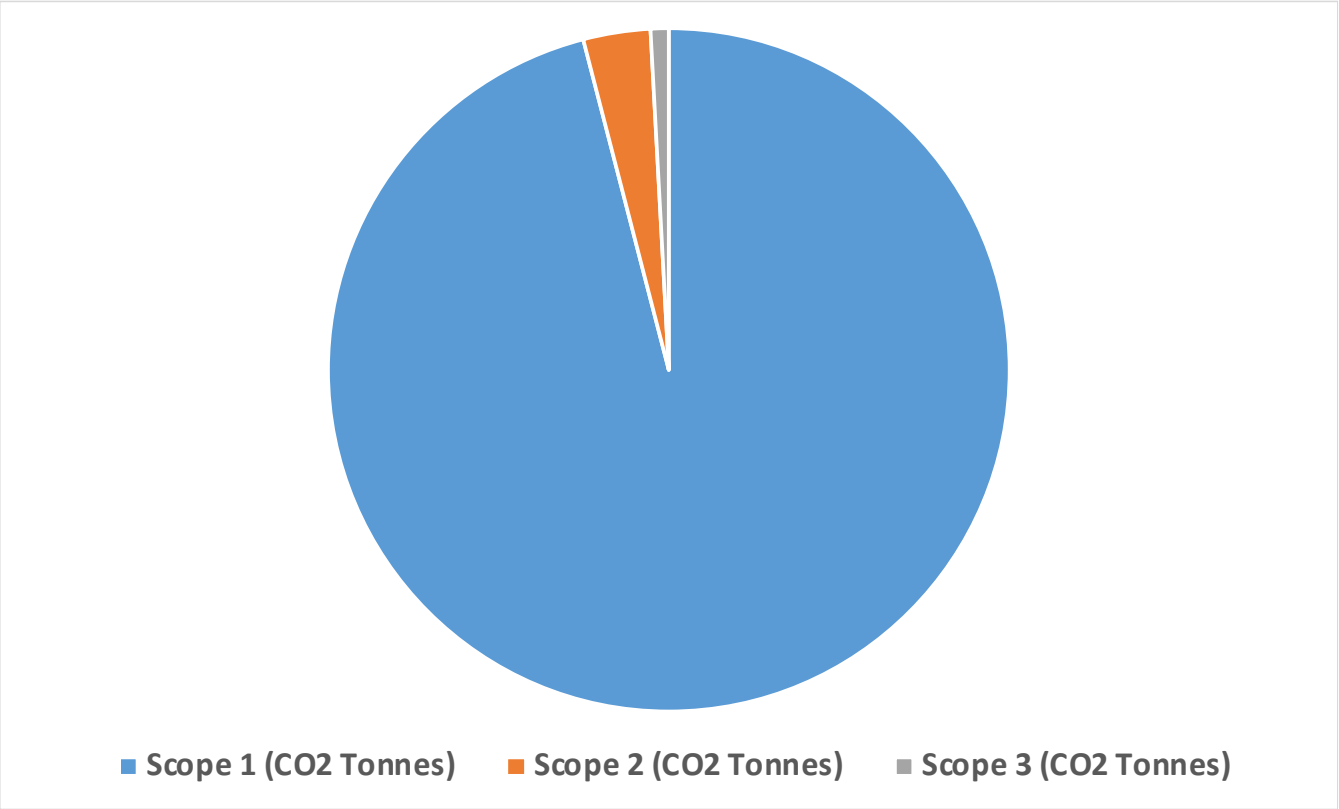
Scope 1 emissions include company owned vehicles and accounted for 201.37 tonnes CO_2e annually.

Scope 2 includes grid electricity, but not losses which occur through transmission and distribution. In total, Scope 2 emissions accounted for 0 tonnes CO_2e annually due to REGO backed contract.

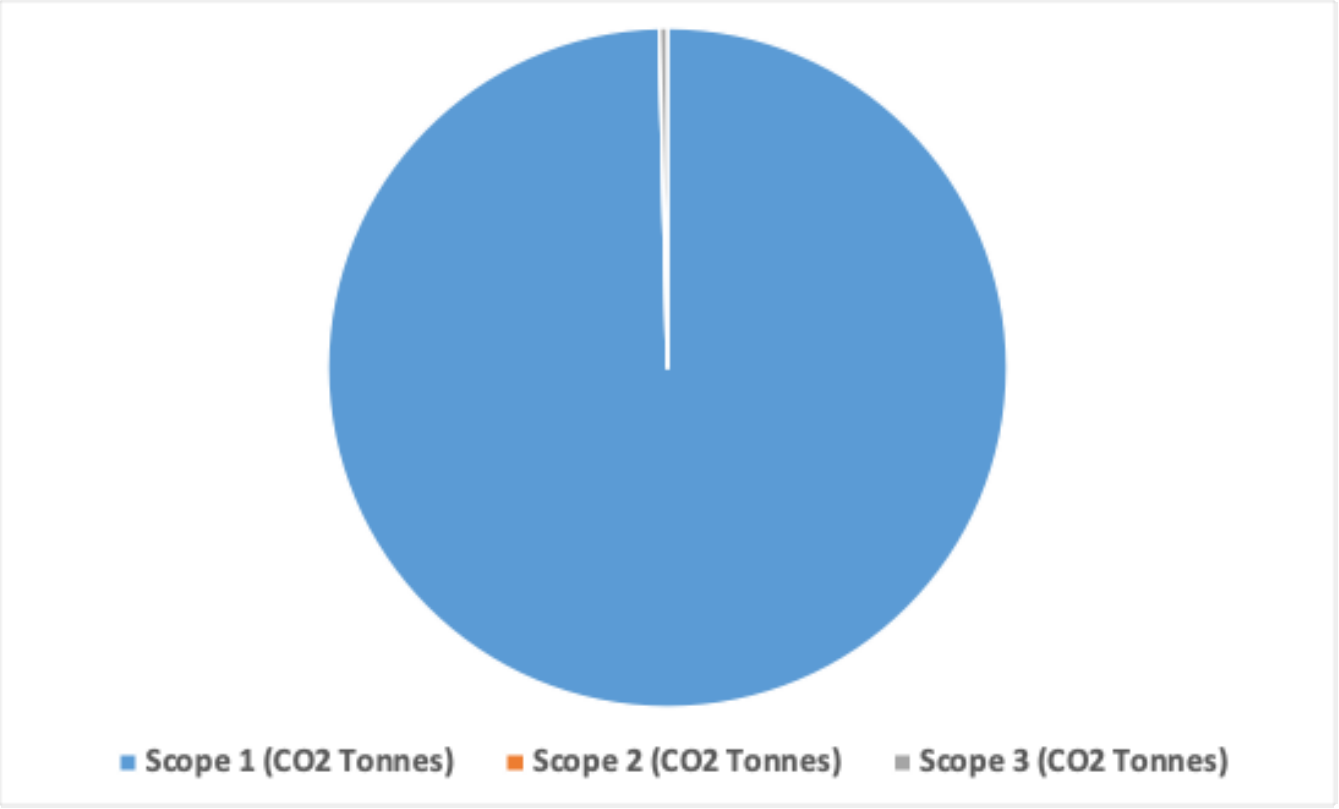
Scope 3 includes losses which occur through electricity transmission and distribution, water and waste. In total, Scope 3 emissions accounted for 0.77 tonnes CO_2^e annually.

Scope			
Activities	**Scope 1 (CO2 Tonnes)**	**Scope 2 (CO2 Tonnes)**	**Scope 3 (CO2 Tonnes)**
Transport	201.37		
Grid Electricity		0.00	
Electricity Transmission and Distribution			0.00
Water			0.05
Waste			0.72
Total	**201.37**	**0.00**	**0.77**

3.5 Breakdown of Emissions - Scopes 1, 2 & 3 2021



3.6 Breakdown of Emissions - Scopes 1, 2 & 3 2025



4.0 Energy

4.1 Electricity

The site is powered via grid electricity which is used for lighting, heating, and cooling as necessary via a low-wattage portable evaporative air cooler. The office's total consumption of electricity for 2021 was 36,854kWh with a total of 8.52 tonnes CO2e being produced. The Company implemented several energy saving initiatives in 2022 and 2023 including replacing aging storage heaters with more energy efficient panel heaters, swapping kettles with an instant hot water source, and changing fluorescent tubes for daylight LED panels. There has also been a switch off campaign to stop electricity being wasted. The Company also made the switch in November 2024 from a 'brown' electricity tariff to a REGO-backed renewable tariff, allowing for significant reductions in Scope 2 emissions going forward.

In 2024, total electricity consumption fell to 34,520kWh of which 25,937kWh came from 'brown' electricity accounting for a total of 5.84 tonnes CO2e being produced. In 2025, there was a small decrease in total consumption to 34,464kWh but total tonnes CO2e are now 'zero' due to the REGO-backed supply in place for the full 12 months being calculated. This has resulted in the avoidance of 6.74 tonnes CO2e.

Carbon emissions have been calculated using the UK government's GHG Conversion Factors for Company Reporting 2021, 2024 and 2025.

5.0 Water

5.1 Water Use and Water Supply

Water is used for domestic purposes for 20 members of staff. Usage has been estimated at 125m^3 per annum. This would account for 0.04 tonnes CO_2e.

6.0 Waste

6.1 Construction Waste and Cardboard

The Company brings most waste back to the site, and segregates as appropriate. All construction waste is disposed of in skips provided by 1st Choice and cardboard is segregated and disposed of in an FEL provided by Veolia. CSH Waste is also used on some contracts.

The total amount of construction waste accounted for 747.3 tonnes in 2021 and 0.74 tonnes CO_2e. Over the period 2025, this had fallen to 708.63 tonnes and 0.71 tonnes CO_2e. Cardboard waste has also fallen significantly over the same period.

7.0 Transport

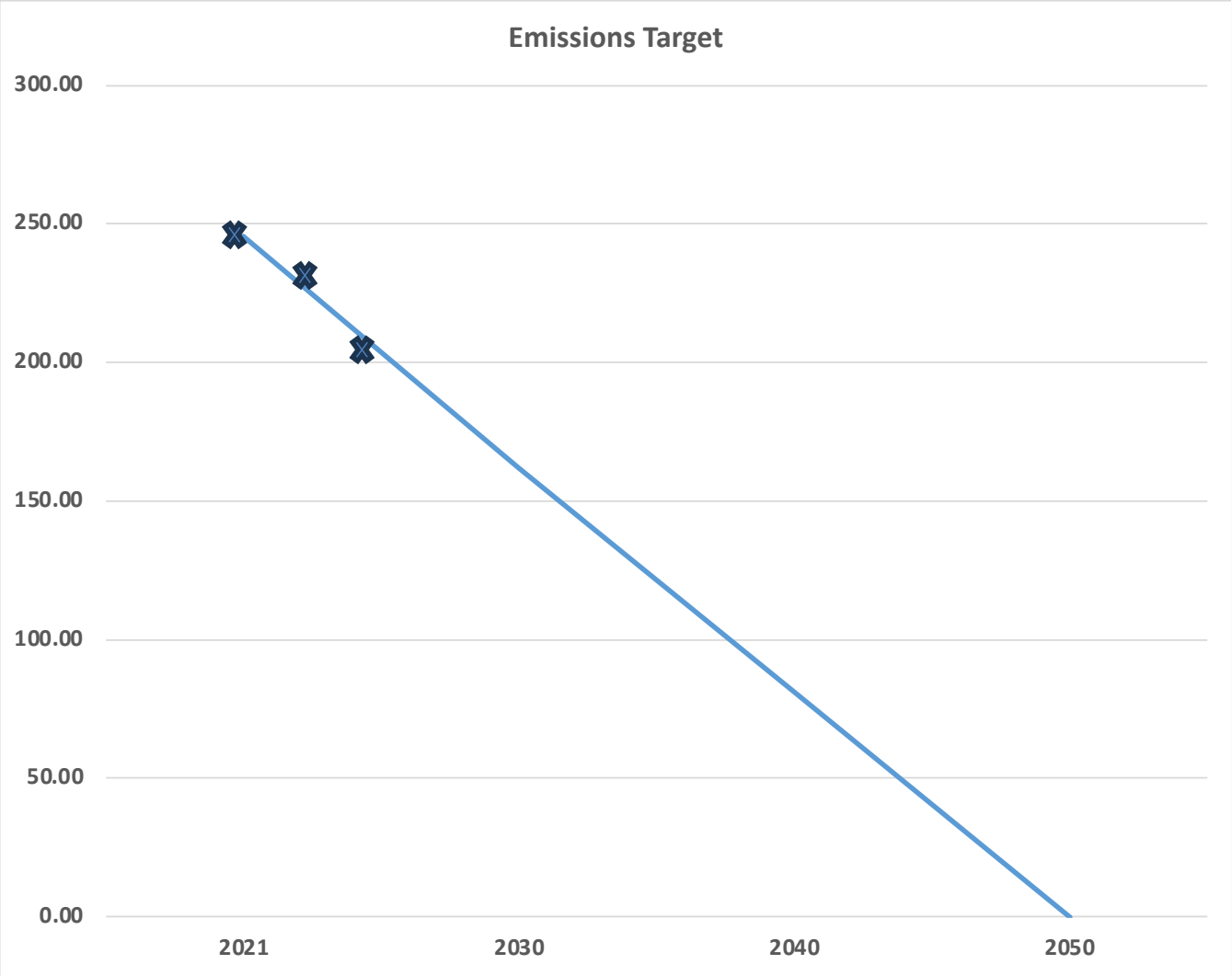
7.1 Diesel Use

The Company operates a fleet of 45 vehicles (including 3 electric vehicles). All vehicles are regularly serviced and maintained to ensure they are running efficiently. Total carbon emissions for all vehicles in 2021 equated to 235.6

tonnes CO_2e, this fell to 231.91 tonnes CO_2e for 2024, and 201.37 tonnes CO_2e in 2025. This is due to several factors including recruiting a workforce close to projects to reduce travelling distance, improved driver performance, better route planning, getting more materials delivered to site, and purchasing more fuel-efficient vehicles. Fuel consumption is in part dependent upon where contracts are situated, however, the move towards more EVs should see emissions decrease over the coming years.

8.0 Carbon Reduction Targets

8.1 Carbon Reduction Targets 2021 - 2050



Year	Emissions Target (CO2 Tonnes)
2021	245.54
2030	162.06
2040	81.03
2050	0.00

As we can see from the graph above, carbon emissions have fallen from **245.54** tonnes CO_2e in 2021 to **238.7** tonnes CO_2e a year in 2024, and 202.14 tonnes CO_2e in 2025. The fall in total emissions is currently just ahead of the trend line and is expected to fall further in the coming years as emissions from electricity are eliminated, and more electric vehicles are purchased to replace aging diesel vehicles.

9.0 Future Considerations

9.1 Installing Solar PV

The Company commissioned an independent survey to be carried out on the feasibility of installing Solar PV on the roof of the main office building. The survey was carried out by Low Carbon Eco-Innovatory in April 2024. The key findings of the report were that if an 18kW solar PV system were installed to generate on-site power, Structec (NW) would save approximately **3.019 tonnes CO2e*** during the first year of operation, when compared to importing power from the grid. This accounted for a saving of 2.87 tonnes CO_2e from Scope 2 - Electrical Generation emissions and 0.15 tonnes CO_2e from Scope 3 - Transmission and Distribution Loss emissions. This was based on the assumption that 60% of the power would be used onsite and the remainder exported. Under these assumptions, over the life span of the scheme 69.614 tonnes CO_2e would be saved. In addition to a carbon saving, it is likely that there will be a financial impact as well, assuming a fixed electrical cost of 26.862p/kWh, and a FiT tariff of 5p/kWh. By producing 13,860.0kWh per year, of which 60% is used on site, Structec (NW) would save approximately **£2,511 a year**.

9.2 Installing insulation in the ceilings

It is understood that at present, there is no insulation in the cavity above the ceiling on the first floor. Heat lost through ceilings and roofs can account for a quarter of all heat generated. Taking into account seasonal differences, it might be expected that energy savings in the region of 5% of total annual use could result from installing insulation such as this. This would result in cost savings of **£352** and **0.3 tonnes of CO_2e***.

9.3 Driver Training

Smarter driving training teaches staff techniques to drive more fuel efficiently. The training is focused on giving drivers the techniques to enable them to drive more efficiently. Examples of efficient driving techniques can be found at the Energy Saving Trust at www.energysavingtrust.org.uk/advice/efficient-driving.

There are several companies that run Energy Saving Trust approved courses such as IAM Roadsmart www.iamcommercial.co.uk/eco-driving-training.

While it is probably quite difficult to make future savings as driving style is scoring high at the moment, even a 2% saving would equate to an annual saving of **£2,214** and **4.44 tonnes of CO_2**.

9.4 Company Vehicles

The Company recently purchased 3 electric cars for managers and ultimately, the most effective way to reduce Scope 1 emissions is to replace the diesel vans with electric vans. For example, a Class II van travelling 10,000 miles per annum would create 2.8 tonnes CO_2e, but the same sized electric van travelling the same distance would only create 0.88 tonnes CO_2e assuming standard tariff electricity from the grid had been used for recharging. If solar or REGO-backed electricity is used this would result in zero emissions.

It is understood that at this time, electric vans are not always practical for all services due to a lack of range, and issues over the charging network and availability of charging stations. It is, however, an opportunity worth monitoring and purchasing vehicles once these issues have been addressed.

***When compared to a brown energy supply.**