

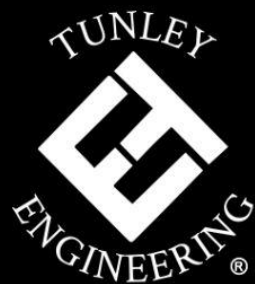


CARBON ASSESSMENT REPORT

Tunley Engineering

*"Engineering A
Decarbonised Future"*

henrynicholas



BUSINESS CARBON ASSESSMENT REPORT

for

**HENRY NICHOLAS ASSOCIATES
LTD**

henrynicholas

September 2022

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Nomenclature

AR6 is the sixth assessment report of the IPCC, published in August 2021.

Carbon Equivalent is the effect on global warming of a greenhouse gas (GHG) relative to that of CO₂.

Carbon Off-setting is the action of compensating for unavoidable necessary residual greenhouse gas emissions by participating in a programme designed to make equivalent atmospheric carbon dioxide reductions.

Embodied Carbon is the total GHG emissions generated to produce a product; It includes those from extraction, manufacture, processing, transportation and assembly in every component.

Global Warming Potential is the heat absorbed by a GHG as a multiple of the equivalent in carbon dioxide.

Greenhouse Gases are gases that trap heat in our atmosphere. GHG include Carbon dioxide, methane, nitrous oxides and fluorinated gases.

The Greenhouse Gas Protocol is the GHG Protocol Corporate Accounting and Reporting Standard which provides requirements and guidance to prepare a corporate-level GHG emissions inventory.

ICE is The Inventory of Carbon and Energy.

IPCC is the Intergovernmental Panel on Climate Change. It provides regular scientific assessment on climate change to policy makers.

ISO 14001 is the international standard that specifies requirements for an effective environmental management system (EMS).

Net Zero Carbon (NZC) is the sum effect of combining actions to reduce GHG emissions with actions to offset them.

Scope 1: Direct GHG emissions are those that occur from sources that are owned or controlled by the company such as emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc., emissions from chemical production in owned or controlled process equipment.

Scope 2: Indirect GHG emissions account for GHG emissions from the generation of imported energy such as purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary

of the company. Scope 2 emissions physically occur at the facility where electricity is generated.

Scope 3: Other indirect GHG emissions. The GHG Protocol Corporate Accounting and Reporting Standard defines Scope 3 as an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services. BS EN ISO 14064 separates out Scope 3 emissions into categories 3 to 6 covering indirect emissions from transportation, products used, use of products from the business and other sources respectively.

tCO₂e is the notation for tonnes of carbon dioxide equivalent emissions.

Zero Carbon is the absence of GHG emissions.

Methodology and Quantification Standards

The Business Carbon Assessment was completed to the international standard BS EN ISO 14064-1 and The GHG Protocol. Quantification of carbon dioxide equivalent emissions arising from business activities were completed in accordance with the emission factors of Greenhouse gas reporting: conversion factors published by DEFRA, the UK government Department for Business, Energy and Industrial Strategy for 2021.

Carbon equivalent data conversions were calculated in accordance with greenhouse gas reporting: 2019 published by the UK Government Department for Business, Energy and Industrial Strategy. Additionally, The Inventory of Carbon and Energy has provided carbon equivalent data conversions for complex materials.

Global Warming Potentials are stated from IPCC Sixth Assessment Report, 2021 (AR6).

Where data on gas and water usage were not available, Tunley Engineering used our expertise and experience to make reasonable assumptions based on published, peer-reviewed data.

Executive Summary

Climate change poses a significant challenge to the environment, necessitating mitigating measures at international, national and local levels. It impacts businesses, natural systems and communities. This is caused by global warming, as a result of an increase in greenhouse gas (GHG) emissions, known as carbon emissions.

As a leading specialist in recruitment services, Henry Nicholas Associates Ltd recognise the importance of sustainability and take their environmental and corporate social responsibilities very seriously. They approached Tunley Engineering to request a Business Carbon Assessment on their activities at their office. The baseline year over which the assessment covers is between 01st April 2021 and 31st March 2022. Quantifying Henry Nicholas Associates' carbon emissions puts them in a position to demonstrate their sustainability and environmental responsibility to their customers and the wider public; it allows them to make a measurable change to climate change emissions and facilitates achievement of Net-Zero Carbon (NZC). Henry Nicholas Associates and Tunley Engineering have collaborated to identify emission sources and collect data.

Tunley Engineering has conducted an independent assessment to quantify carbon emissions due to business activities at Henry Nicholas Associates, based on the data provided by the company. The evaluation herein reported includes two components of emission quantifications for:

- i) Henry Nicholas Associates' business activities in 2021-2022. This first component evaluates carbon emissions from their emissions in Scopes 1, 2 and 3.
- ii) A roadmap to Net-Zero Carbon (NZC) based on data of 2021-2022. This will act as a guidance for Henry Nicholas Associates to minimise their carbon footprint resulting from their business activities.

This assessment demonstrates Henry Nicholas Associates' commitment to reducing their carbon emissions. It also provides Henry Nicholas Associates with a clear evaluation of carbon emissions associated with their business practices and aligns with their ambitions for achieving carbon neutrality.

Total carbon emissions in tonnes of carbon dioxide equivalents per annum (tCO₂e p.a.) for 2021-2022 were 5.14 (Figure 1).

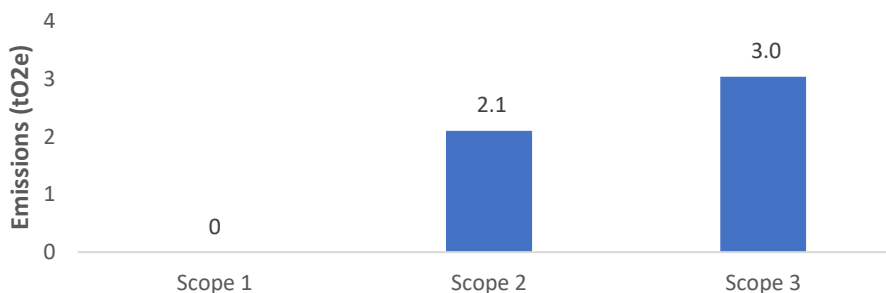


Figure 1: Greenhouse gas emissions from Henry Nicholas Associates in 2021-2022.

Our suggestions to reduce emissions and become NZC include reducing emissions from electricity use and commuting. And encouraging staff to work from home. By implementing the emission reduction initiatives suggested in this report, Henry Nicholas Associates will be able to reduce their emissions by 1.87 tCO₂e p.a., based on data for 2021-2022. This is 36% of the total emissions of the baseline year.

Introduction

Tunley Engineering conducted this assessment using the standard [protocols](#) stated above and data provided by Henry Nicholas Associates for their business activities for the baseline year between 01st April 2021 and 31st March 2022.

This assessment is based on data categorised into three scopes, as defined by The Greenhouse Protocol. For each year, the assessment provides detailed quantification of GHG emissions due to:

- i) Scope 1: Direct Emissions such as those arising from fuel consumption by gas heating and driving company-owned vehicles. This category is not applicable for Henry Nicholas Associates as they do not use gas for office heating and do not own any vehicles,
- ii) Scope 2: Indirect emissions from purchased electricity usage for the office,
- iii) Scope 3: Other indirect emissions. This includes usage of waste processing, business travel and employees' commuting to facilitate Henry Nicholas Associates' business in 2021-2022.

Appreciating the importance of determining major contributors to the emissions, Tunley Engineering provides detailed analysis and discussion on different components in each scope; this will support Henry Nicholas Associates with their decision-making processes to reduce their carbon emissions. Where information and data were limited, we made reasonable assumptions based on our expertise and external sources of data. This report is completed to internationally recognised [standards](#) stated previously. This document reports on carbon emissions in 2021-2022 and a roadmap to NZC for Henry Nicholas Associates.

Assumptions

Emissions arising from water usage and water treatment in the office are assumed to be insignificant and thus were not considered in this assessment.

Henry Nicholas Associated relocated their office during the baseline year. Data on electricity usage were provided for the period between July 2021 and February 2022. The available data were then used to project the usage of the whole baseline year.

Emission data

Table 1: Emission data for Henry Nicholas Associates in 2021-2022 in tCO_{2e}.

Item	Scope	Emissions (tCO _{2e})
Scope 1 emissions	1	0
Electricity	2	2.1
General waste	3	0.26
Recycled waste	3	0.0045
Organic food waste	3	0.0004
Business travel - train	3	0.01
Business travel - driving	3	0.04
Commuting - bus	3	0.53
Commuting - driving	3	2.19
Total		5.14

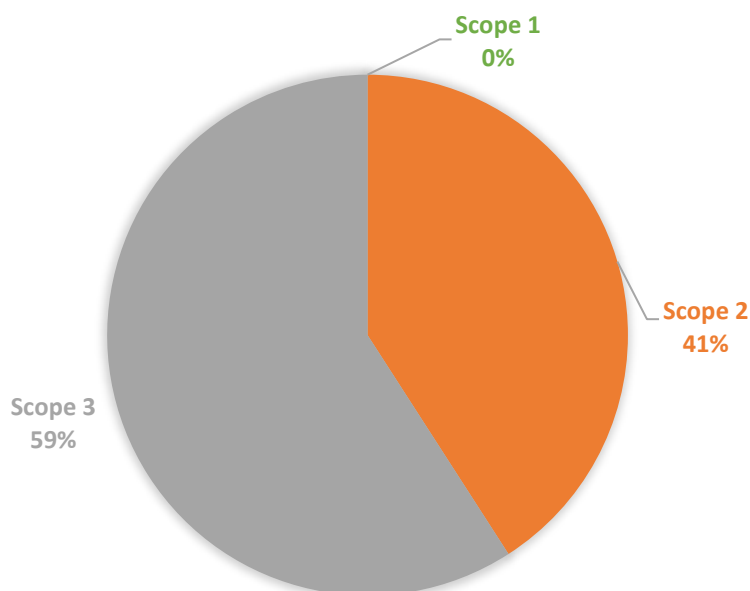


Figure 2: Percentage contributions of Scopes 1, 2 and 3 emissions.

Henry Nicholas Associates do not use gas heating or own vehicles and thus their Scope 1 emissions are zero. Scope 2 emissions for the office contributed 41% to the total emissions of 5.14 tCO_{2e} (Table 1, Figure 2). Scope 3 emissions covered all other activities, including waste processing, travel for business by cars and train and staff's commuting. This scope emitted 3 tCO_{2e}, contributing only 59% to the total emissions in 2021-2022 of Henry Nicholas Associates' business activities. Carbon reduction initiatives will be suggested for emission sources relative to the significance of their percentage contributions to the total emissions.

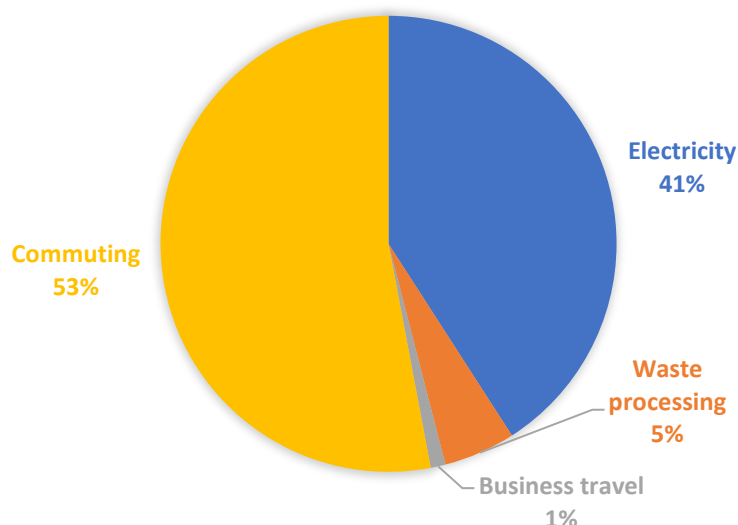


Figure 3: Percentage contributions of different emission sources.

Business travel and waste processing contributed only 1% and 5%, respectively to the total emissions in 2021-2022. Employees' commuting made up 53% of the total emissions.

Strategic CO₂e Reduction Initiatives

To offset the current carbon emissions (2021-2022 data) of 5.14 tCO₂e, Henry Nicholas Associates can purchase carbon credits from [Gold Standard](#) at the price of £8.31/tCO₂e, totalling a price of £45. However, Tunley Engineering recommend Henry Nicholas Associates to implement a longer term, more economic approach on carbon reduction. More offset options will be suggested in the following sections.

GHG emissions can be reduced by 36% through implementing reduction strategies that focus on emission sources of significant contributions. Once the initiatives have been considered and taken, any unavoidable, remaining emissions can be removed by carbon off-setting actions.

This section provides Henry Nicholas Associates with GHG reduction initiatives.

Electricity usage

Emissions from electricity usage in Henry Nicholas Associates office is significant. Therefore, to reduce CO₂e emissions, Tunley Engineering suggest encouraging behavioural changes in electricity usage to reduce the impact of electricity on the environment. These can be demonstrated by switching off equipment and lights when they are not in use or when natural lights are sufficient to ensure visual comfort and safety in the office. In addition, thermal comfort and energy saving can both be ensured by implementing a reasonable timing automation configuration on lighting and air conditioning systems such that they are only switched on when necessary.

In addition, Tunley Engineering appreciate that Henry Nicholas Associates already purchase their electricity from an eco-tariff provider, this will reduce the emissions from their electricity usage by 50% in the future.

Working From Home and Holding Online Meetings

Where appropriate, Tunley Engineering suggest Henry Nicholas Associates to allow and encourage people to work from home. The assumption deployed for this assessment that this would reduce the greenhouse gas emissions from staff’s commuting by 30%.

Roadmap to Net Zero Carbon

Figure 4 illustrates a roadmap to Net Zero Carbon (NZC) for Henry Nicholas Associates. The measures outlined above can be implemented over 3 years. The total reduction of 1.87 tCO₂e (36%) can be achieved by implementing reduction initiatives. The remaining emissions of 3.28 tCO₂e can be offset to achieve NZC. These initiatives can be taken over 3 years; this will enable Henry Nicholas Associates to become carbon neutral by 2025.

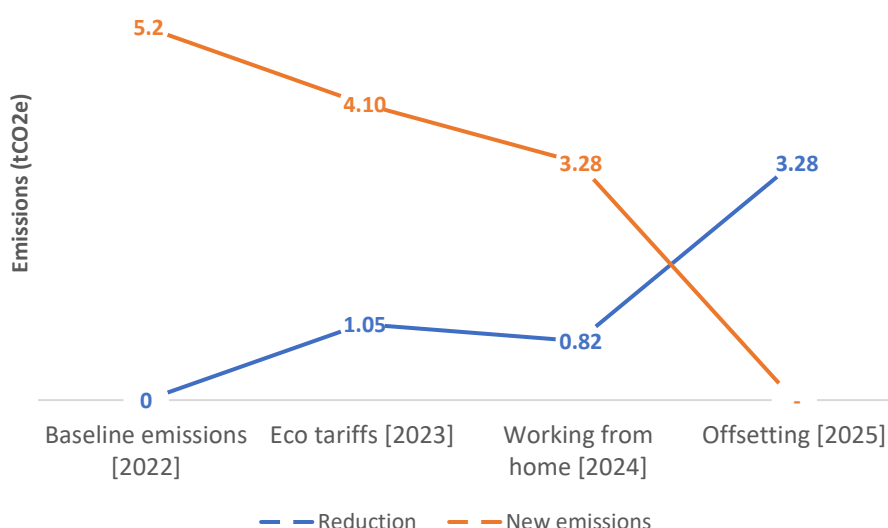


Figure 4: Roadmap to NZC for Henry Nicholas Associates, based on data in 2021-2022.

Offsetting by Henry Nicholas Associates

Offsetting can be purchased from accredited carbon offset providers.

Table 2: List of carbon offset providers.

Carbon Offset Provider	URL
United Nations Framework Convention on Climate Change	https://unfccc.int/
The Gold Standard	https://www.goldstandard.org/
Verified Carbon Standard	https://verra.org/
Eden Reforestation Projects	https://edenprojects.org/

There are many projects from which Henry Nicholas Associates can purchase carbon credits (Table 2), based on the company's preferences. However, Tunley Engineering recommends a selection of offsetting schemes that do not rely on tree-planting such as reforestation. This is because these projects can be vulnerable to the consequences of climate change such as wildfires.

Conclusion

Total GHG emissions for Henry Nicholas Associates are 5.14 tCO₂e p.a. for 2021-2022. The carbon footprint quantification presented in this report was conducted using data provided to Tunley Engineering by Henry Nicholas Associates.

Tunley Engineering has provided Henry Nicholas Associates with detailed analysis of the emissions and recommendations on approaches by which Henry Nicholas Associates can reduce its carbon footprint, for example by reducing electricity usage, using electricity from eco tariffs and allowing employees to work on a Hybrid basis. These initiatives, if successfully taken, alongside offsetting approaches, will enable Henry Nicholas Associates to become NZC by 2025 as 1.87 tCO₂e will be removed by implementing the initiatives and the remaining 3.28 tCO₂e can be offset by purchasing carbon credits from the recommended providers.

Tunley Engineering's Report Emission Statement

Tunley Engineering's GHG emissions from completing this assessment were 0.007 kgCO₂e.

Approval

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B					
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