CARBON EMISSIONS REDUCTION PLAN

for

PA Hollingworth & Co Ltd

01.04.2024 to 31.03.2025

Carbon Footprint Report		Written By	Samantha Cooper
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WHAT IS A CARBON FOOTPRINT?

A carbon footprint is a measure of the impact our activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide equivalent (CO2e). It is also increasingly becoming a common measure of resource efficiency for businesses and is frequently requested in sales tender information. A carbon footprint is made up of the sum of two parts, the direct / primary footprint and the indirect / secondary footprint.

1. The primary footprint is a measure of our direct emissions of CO2e from the burning of fossil fuels including domestic energy consumption and transportation (e.g. car and plane).

2. The secondary footprint is a measure of the indirect CO2e emissions from the whole lifecycle of products we use - those associated with their manufacture and eventual breakdown. The secondary footprint includes the energy used to manufacture items that the company may use but do not have direct control of. E.g. although a company is likely to use PCs, it would be very difficult to determine the carbon used in the manufacture and delivery process as the end user has no visibility or control of these items.

HOW IS THE CARBON FOOTPRINT CALCULATED?

The carbon footprint is calculated by measuring the amount of greenhouse gases (GHGs) emitted through various activities or processes. The calculation involves identifying all the activities that contribute to GHG emissions and then estimating the amount of carbon dioxide (CO_2) and other gases (such as methane or nitrous oxide) released.

Here's a basic breakdown of how the carbon footprint is calculated:

1. Identify Activities and Sources

- Transportation: Car, bus, plane, and other travel-related emissions.
- Energy Use: Electricity, heating, and cooling, which depend on the source of energy (coal, natural gas, renewables, etc.).
- Waste: Emissions from landfill waste, recycling, and composting.
- Food and Goods: The production, transportation, and disposal of food, clothing, and other goods.
- Business Operations: Emissions related to manufacturing, services, supply chains, and more.

2. Quantify Emissions

For each activity or source, we calculate how much CO_2 or other GHGs are produced. This is often done using emission factors, which are standardised values that indicate how much CO_2 (or equivalent gases) are released per unit of activity. For example:

- For driving a car, you might use a factor like 0.9 kg of CO_2 per mile driven.
- For electricity, the emission factor would depend on how that electricity is generated (e.g., coal vs. wind).

3. Use Conversion Factors

Since multiple gases contribute to the carbon footprint, each gas is converted into its CO_2 equivalent (CO_2e) using global warming potential (GWP). This is to account for the fact that some gases, like methane, have a stronger warming effect than CO_2. The formula is:

CO_2e = Amount of gas × GWP of the gas

For example, methane (CH_4) has a GWP of 25, meaning 1 ton of methane has the same warming potential as 25 tons of CO_2.

4. Sum Up All Emissions

After calculating the emissions for all activities and sources, you add them together to get the total carbon footprint. This gives you a picture of how much impact your actions have on the environment.

WHY A CARBON FOOTPRINT IS IMPORTANT FOR BUSINESS

A carbon footprint is important for businesses for several reasons, ranging from environmental responsibility to long-term financial success. Here's why it matters:

1. Environmental Impact and Sustainability

Businesses contribute significantly to global greenhouse gas emissions. By understanding and reducing their carbon footprint, companies can play a critical role in combating climate change. Reducing emissions aligns with the global movement toward sustainability and helps companies contribute to environmental stewardship.

2. Regulatory Compliance

As governments around the world introduce stricter environmental regulations, businesses may be required to measure, report, and reduce their carbon emissions. For example, many countries have set carbon reduction targets as part of international agreements like the Paris Agreement. Non-compliance or failure to adapt could result in penalties, fines, or loss of government contracts.

3. Cost Savings

Reducing carbon emissions often leads to cost savings in the long term:

- **Energy efficiency**: Switching to energy-efficient practices, such as using renewable energy or improving building insulation, can reduce operational costs.
- **Waste reduction**: By minimising waste and improving resource use, businesses can lower disposal costs.
- **Transportation optimisation**: Using fewer resources or optimising transportation routes can cut fuel costs.

4. Brand Reputation and Consumer Trust

Consumers are increasingly aware of environmental issues and tend to favour companies that are transparent about their sustainability efforts. Businesses that reduce their carbon footprint and publicly commit to sustainability often benefit from enhanced brand reputation and consumer loyalty. In fact, many consumers are willing to pay a premium for products and services from companies that are seen as environmentally responsible.

5. Investor Attraction

Many investors are now focusing on Environmental, Social, and Governance (ESG) factors when making investment decisions. Companies with a lower carbon footprint may be seen as less risky and more aligned with future regulatory trends. Investors are often attracted to businesses that have strong sustainability practices, as these businesses are likely to be more resilient and adaptable in the face of changing environmental regulations.

6. Competitive Advantage

Companies that actively reduce their carbon footprint may gain a competitive edge over others in their industry. Not only does this appeal to environmentally-conscious consumers, but it also helps companies stay ahead of regulatory changes. Being an early adopter of sustainable practices can differentiate a business in the marketplace, potentially opening doors to new customers and markets.

7. Risk Management

Climate change poses risks to businesses, such as disruptions to supply chains, extreme weather events, and rising costs of raw materials. By addressing their carbon footprint, businesses can reduce their exposure to these risks. Understanding and mitigating their environmental impact can help companies adapt to a low-carbon future, making them more resilient to environmental changes.

8. Employee Engagement and Retention

Today's workforce, particularly younger generations, is increasingly motivated by corporate responsibility and sustainability. Employees are more likely to feel proud of working for a company that values the environment, and businesses with strong sustainability initiatives often see improved employee engagement and retention.

9. Supply Chain Responsibility

Many companies are now looking beyond their own operations and considering the carbon footprint of their entire supply chain. By addressing their own carbon emissions, businesses may encourage suppliers to adopt greener practices. This can lead to collaborative efforts that reduce the environmental impact across the entire industry.

10. Long-Term Business Viability

As the global focus on climate change intensifies, businesses that fail to consider their carbon footprint may face challenges in the future. Not reducing emissions could lead to higher operating costs, loss of customers, and legal or regulatory challenges. Companies that actively address their carbon footprint are better positioned for long-term success in a world where sustainability is becoming an essential business practice.

A business's carbon footprint is critical because it impacts the environment, reputation, regulatory compliance, financial performance, and even its relationship with consumers and investors. By managing and reducing their carbon emissions, businesses not only contribute to a healthier planet but also create a more sustainable and profitable future for themselves.

SCOPE OF THIS CALCULATION

This Carbon Footprint assessment summarises the primary carbon emissions resulting from energy usage by the Company's operations. (Scope 1 & 2 emissions only).

INTRODUCTION

PA Hollingworth & Co Ltd is a building and electrical company based in Woodnesborough, near Sandwich. We supply services such as residential and commercial construction, electrical work, civil engineering and groundworks, heritage restoration and painting and decorating. Our HQ is based on a small industrial park which we share with other local businesses.

Baseline emissions for the year 2015 were calculated at 57.95 tonnes CO2e. This figure includes Scope 1 emissions (fuel used in construction equipment and vehicles), and Scope 2 emissions (electricity used at our offices and job sites).

PA Hollingworth & Co Ltd operates a fleet of 36 diesel vehicles and 2 EV's used for servicing work contracts. Route planning is utilised via an online vehicle tracking system which pinpoints where each fleet vehicle is at any time in order that vehicles can be utilised in the most efficient manner possible throughout the day. Excessive mileage is challenged.

Diesel consumption for the period 01/04/2024 to 31/03/2025 was calculated at 54877.96 litres.

Petrol is utilised for some onsite machinery and equipment, however this is slowly being phased out to electric alternatives as technology allows and as currently circulating equipment is condemned.

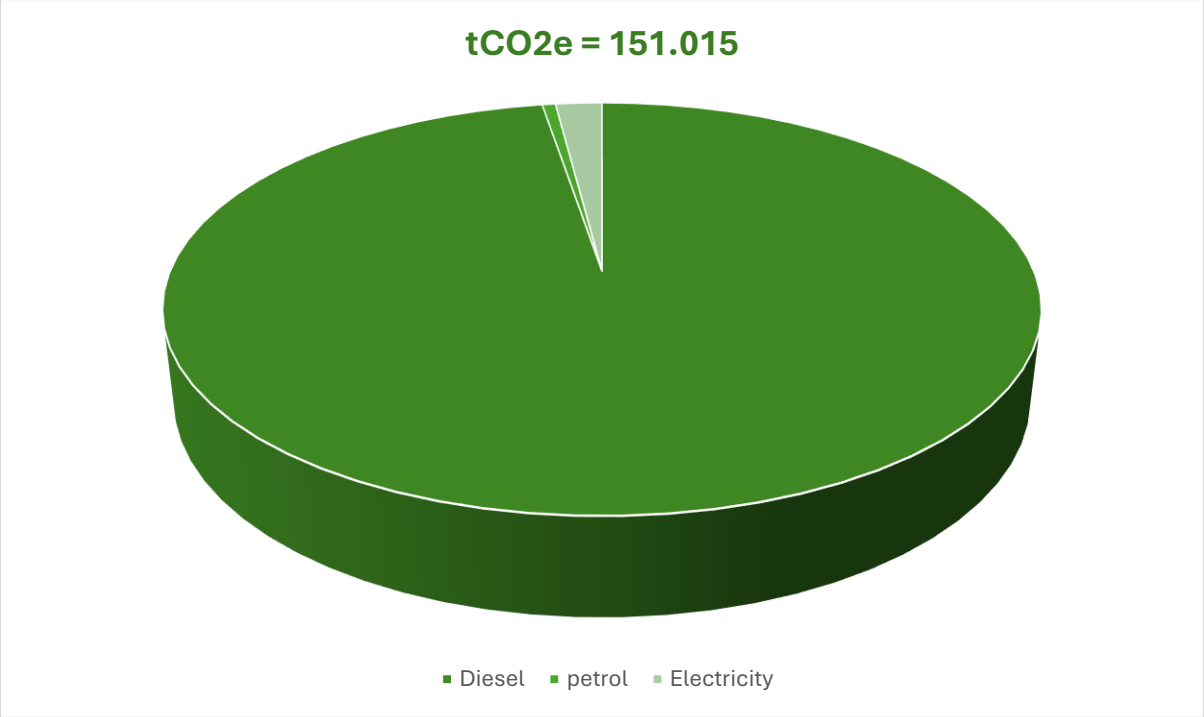
Petrol Consumption for the period 01/04/2024 to 31/03/2025 was calculated at 365.9litres.

PA Hollingworth & Co Ltd have an electrical supply only to our main HQ premises and no gas provision. All legacy lighting was replaced in 2022 with LED alternatives. Motion sensors were installed in all areas with low / occasional usage to ensure lights are not left on unnecessarily. Electric underfloor heating is installed throughout the entire ground floor which operates on a timer system to ensure an ambient working temperature is maintained as necessary. The first floor operates using two mains fitted air conditioning units which are again on timers to ensure optimal and efficient usage. All doors throughout the building have automatic closers on to maintain temperatures as required in all areas of the building. Significant improvements were also made to the insulation throughout the building in 2023 and 2025 has seen the addition of solar panels to the roof of the building.

Electricity usage for the period 01/04/2024 to 31/03/2025 was calculated at 15966.48 kwh.

RESULTS

Emission scope	Type	Units	tCO2e
1	Diesel usage	54,878 litres	147.06
1	Petrol usage	366 litres	0.875
2	Electricity usage	15966 kwh	3.08
		Total	151.015



As is evidenced, between 2015 and the current reporting year, PA Hollingworth & Co's carbon emissions increased from 57.95 tCO_2e to 151.015 tCO_2e, representing a 160.6% increase. This significant rise is attributed primarily to the company's expansion, including a marked increase in fleet size and overall staffing levels to meet growing project demands. As operations scaled up, so did fuel consumption from additional vehicles and machinery, as

well as energy use across expanded facilities and job sites. While the rise in emissions reflects the company's growth and operational success, it also highlights the importance of implementing targeted carbon reduction strategies to manage its environmental impact moving forward.

REDUCTION STRATEGIES

PA Hollingworth & Co Ltd.'s carbon emissions consist predominantly of diesel purchased for use in the company fleet of vehicles (97%). The remaining 3% is generated from both electricity consumption and petrol usage.

Although electric vans are commercially available, as a company we have explored the feasibility of investing in this area and as yet feel that the technology is not yet advanced enough to sustain our fleet. Employees work often in remote locations where electrical supply may be limited during the early phases of a project. Moving to an electrical fleet would not only present a substantial financial commitment for the company, but it would also pose logistical challenges for our employees who currently take the vehicles to their home address daily and who may not be willing (or able) to have a suitable charging point installed at their property. However, in December 2024 we switched 2 members of our senior management team into EV's and have facility to charge here at our main HQ as well as at their home addresses.

As current diesel equipment is condemned, suitable electric alternatives are sourced to further reduce our dependence on fossil fuels.

The possibility of conversion to biodiesel use was explored however provision for this is not available locally.

Solar panels were installed in February 2025, though due to the nature of our business (operating our own team of MCS registered Electricians) we were unfortunately unable to secure a grant to help with funding for this which has resulted in some delays. Self-generating energy could reduce the 'electricity' element of our overall carbon footprint which would, over time, reduce energy costs as well. From a carbon accounting perspective,

this needs to be seen in the context of electricity consumption contributing very little to the overall emissions.

Additionally, the UK Government announced plans to decarbonise the national electricity grid by 2035 at the latest. From that date, the electricity supply provided to the country should be sourced from renewable sources. As a higher proportion of the electricity supplied comes from renewable sources each year, the 'conversion factor' used to calculate consumption reduces to reflect this each year. The effect of this will be to lower the carbon footprint of PA Hollingworth & Co Ltd, even if our energy consumption does not significantly fall. In recent years, the conversion factors have fallen by around 9 or 10% per annum. This is a benefit of the national electricity grid becoming 'greener'.

PA Hollingworth & Co conduct sustainability and equipment efficiency training for all employees to further educate on the importance of environmental responsibility.

PA Hollingworth & Co Ltd has pledged its commitment to the SME Climate Hub and is dedicated to making continual improvements to our overall environmental impact. Being a family run business, we want to continue to trade in a manner that is as environmentally sustainable as possible in order for future generations to continue to 'carry the torch' in years to come. It is our intention to look further at our Scope 3 emissions (supply chain / service providers) in the coming years in order that a more comprehensive view is obtained of our business from cradle to grave.