

Carbon Footprint Report 2022

Filkin & Co EHS Limited



Introduction

Filkin & Co EHS Limited (“Filkin”) are committed to playing their part in combatting climate change by setting a science-based target (SBT). Filkin are committed to a **science-based target of at least 9% annual reduction**. We confirm the following:

- ◆ At present we have no buildings to include (we are home-based workers so a proportion of home bills will be included);
- ◆ We will report on a yearly basis; and
- ◆ We will continue to promote and encourage others to pledge to net zero;
- ◆ 2020 is treated as an anomaly year because travel was drastically reduced.

Filkin is currently going through a period of growth and has increased from 2 employees to 5 in recent months. This increase in personnel brings a challenge in terms of supporting growth but maintaining a commitment to movement towards net zero. Therefore, in this report we introduce the concept of average carbon footprint per employee. This will allow us to focus on reduction on an individual basis to maintain our growth as a company whilst minimising impact on the environment.

There are a number of steps and commitments we make to help support our staff in the movement towards net zero:

- ◆ We largely work from home and support staff in wearing clothes that are comfortable for the temperature to help avoid use of excessive heating or cooling equipment;
- ◆ We focus on electronic delivery wherever possible for projects that are undertaken by Filkin;
- ◆ Where possible purchased electronic devices are refurbished;

- ◆ We do not own company cars and individuals use their own, we support staff sharing lifts and travelling together wherever possible and allow for hiring of cars particularly if a large engine size is present on staff’s own car;
- ◆ We support the transfer to renewable energy providers for staff home use and allow time for research and administration associated with this.

A carbon footprint refers to the total greenhouse gas emissions (GHGs) caused directly and indirectly by an individual, organisation, event or product. The Global Warming Potential (GWP) of each greenhouse gas may be expressed in CO₂ equivalents, see Table 1. As noted within the table those gases with a high global warming potential can mean a small emission has a considerable impact. The GWP of a gas is its relative potential contribution to climate change over a 100 year period (where CO₂ = 1).

Table 1: The Global Warming Potential of the Kyoto Gases

Kyoto Gas	GWP
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous Oxide (N ₂ O)	298
Sulphur Hexafluoride (SF ₆)	22,200
Perfluorocarbons (PFCs)	4,800-9,200
Hydrofluorocarbons (HFCs)	12-12,000

Carbon footprints are typically focused on direct and indirect emissions. Direct emissions arise from those sources that are owned or controlled by the organisation. These are differentiated from indirect emissions that still result as a consequence of the organisation’s activities; however, the releases occur at sources owned or controlled by other entities. By convention, assessment based on the Greenhouse Gas (GHG) Protocol (<https://ghgprotocol.org/>)

focuses on scope 1, 2 and 3 emissions as appropriate. In addition, Guidance such as released by ISO on the move towards Net Zero Targets has been reflected in this assessment.

The assessment for Filkin has considered Scope 1, 2 and 3.

Scope 1

1. Stationary Combustion: direct GHG emissions from stationary combustion. Stationary fuel combustion emission sources are typically devices that combust solid, liquid or gaseous fuel.
2. Fugitive emissions: from refrigeration and air conditioning result from leakage and service over the operational life of the equipment and from disposal at the end of the useful life of the equipment. The leakage of refrigerant gas is a small but significant source of GHG emissions because of a high GWP associated with these GHGs.
3. Mobile Combustion Emissions: from owned or leased mobile sources (both on-road and non-road vehicles) that are within the company's inventory boundaries.

Scope 2

Emissions from Purchased Energy

Scope 3

All Other Indirect Emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

Scope

The carbon footprint has been based on measured and calculated data as explained in Table 2.

Table 2: Carbon Footprint Scope of Filkin & Co EHS Limited

Activity	2019	2020	2021	2022	2023
BT driving	✓	✓	✓	✓	✓
BT heating oil		✓	✓	✓	✓
BT electricity			✓	✓	✓
SF driving				✓	✓
SF heating oil				✓	✓
SF electricity				✓	✓

As noted previously, Filkin is currently going through a period of growth so it is proposed to provide a carbon footprint per employee to enable tracking to an individual level to demonstrate a minimum of 5% savings per year. To allow for privacy of employees (because this report is shared publicly) initials will be used.

Table 3: Employee Details

Employee	Contract
BT	Full-time
SF	Full-time
RW	Full-time
SP	Full-time
DH	Part time (6 hours per week) = 15%

Exceptions

The following are exceptions to the data for Filkin:

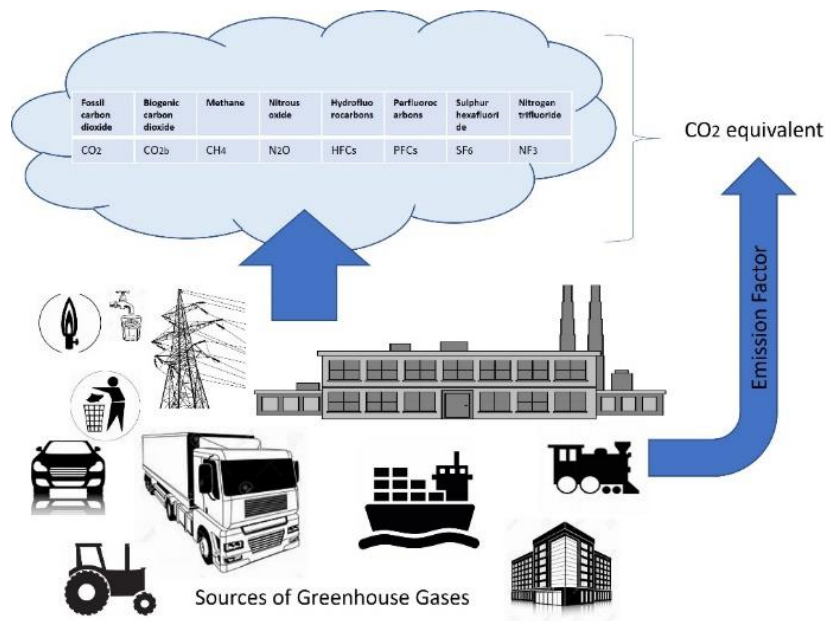
- ◆ We do not include purchases in terms of electronic equipment (but preference is always for refurbished items);
- ◆ We have gradual inclusion of data as highlighted by Table 2.

Emission Factors

An activity will emit different greenhouses gases (GHG) and their global warming potential (GWP) represents their impact on the greenhouse effect by

converting into a common measure that is CO₂ equivalent. An emission factor is a coefficient that allows conversion of activity data into GHG emissions. Carbon dioxide equivalent (CO₂e) is the unit of measurement that allows different greenhouse gases to be compared on a like for like basis relative to one unit of CO₂.

Figure 1: Carbon Dioxide Equivalence Explained



The sources of emission factors vary depending on the issues being investigated and Filkin have access to all, including Ecoinvent, Defra, IPCC, and specialist waste emission factors.

2019 Results

The 2019 assessment included car usage and equated to:

[2019 Analysis] **536.6 kg CO₂ equivalent (car usage for BT)**

Total for 2019 = 536.6 kg CO₂ equivalent

2020 Results

In 2020 the car usage dropped and equated to:

[2020 Analysis] **85.07 kg CO₂ equivalent (car usage for BT)**

This is an anomaly year because of the COVID pandemic.

The use of oil for BT home heating was included in the 2020 analysis

[2020 Analysis] **94.3 kg CO₂ equivalent (Oil for heating for BT)**

Total for 2020 = 179.37 kg CO₂ equivalent

2021 Results

In 2021 car use for BT related to work was none.

2021 and 2020 with the COVID crisis has meant that travel has been drastically reduced; therefore, it is proposed to treat it as an anomaly year and focus is on additional data that should be incorporated into the carbon footprint calculation.

In the first instance the data to include is identified as the oil usage for the work associated with BT. Approximate usage for the home of BT was 1788 litres during 2020.

On the basis that one room (out of 6 total) is used for work purposes this equates to 17% of oil.

For a total of 40 hours a week (168 hours total) this equates to 23.8% that would be 4% of the total (taking into account the 17% room allocation).

Allocation to work is therefore 71.52 litres of heating oil. The Defra, 2021 emission factor for "Burning Oil":

Main purpose is for heating/lighting on a domestic scale (also known as kerosene).

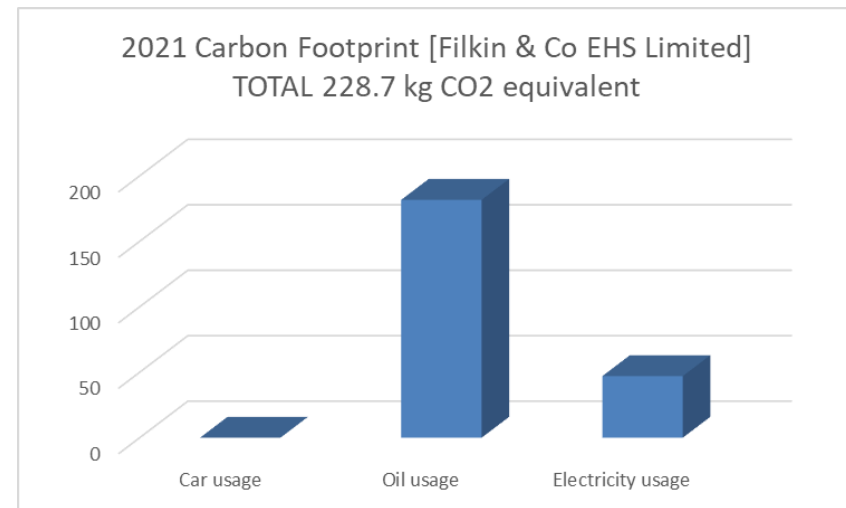
The emission factor is 2.54014 kg CO₂ equivalent per litre

The carbon footprint of oil usage related to BT is therefore 181.67 kg CO₂ equivalent in 2021.

Electricity is also included for BT in 2021. On the basis of an average of 424 kWh per month (estimated average based on bills) and using the emission factor for electricity and transmission this equates to

The carbon footprint of electricity usage related to BT is therefore 47.04 kg CO₂ equivalent in 2021.

Figure 2: 2021 Footprint



2022 Results

In 2022 car usage for BT related to work increased from the previous year to **14.2926 kg CO₂ equivalent**. Following drastic reductions in travel during the Covid-19 restrictions, Filkin have begun to see an increase in need travel for work. Baseline for BT transportation was 536.6 kg CO₂ equivalent.

Car usage relating to work for SF in 2022 is **1,188.96 kg CO₂ equivalent**. Going forward, this figure will be used as a baseline figure for SF transportation.

Approximate usage oil for heating the homes of both SF and BT is 1600 litres during 2022, the same basis is used as per the 2021 calculation: one room (out of 6 total) is used for work purposes this equates to 17% of oil.

For a total of 40 hours a week (168 hours total) this equates to 23.8% that would be 4% of the total (considering the 17% room allocation).

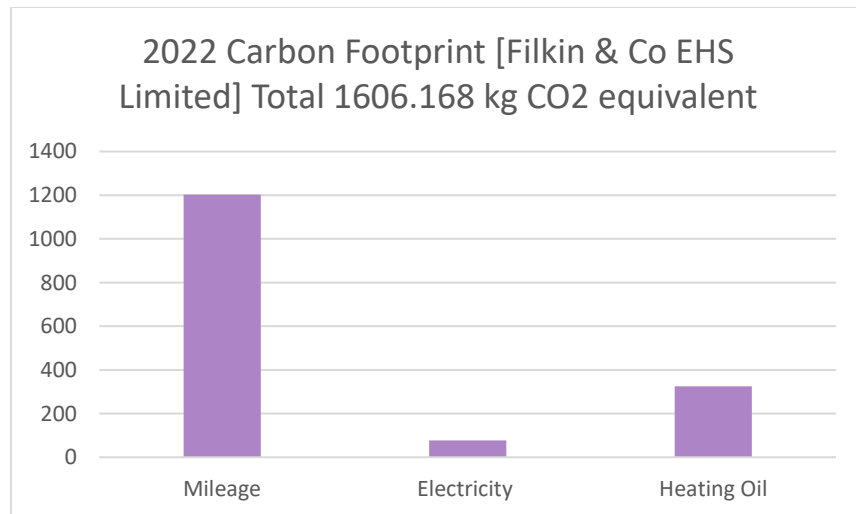
Allocation to work purposes is therefore 64 litres of heating oil, the DEFRA 2022 Emission Factor for 'Burning Oil' (litres) is 2.54013 kg CO2 equivalent per litre.

The (approximate) carbon footprint of oil usage related to BT is therefore 162.5683 kg CO2 equivalent in 2022, similarly the carbon footprint of oil usage related to SF is 162.5683 kg CO2 equivalent in 2022. Total carbon footprint related to oil usage in 2022 is 325.13664 kg CO2 equivalent.

Electricity usage is calculated on the basis of an average of 410 kWh per month, this average is estimated based on energy bills. The DEFRA 2022 Emission Factors for electricity generation and transmission is 0.19761 kg CO2 equivalent.

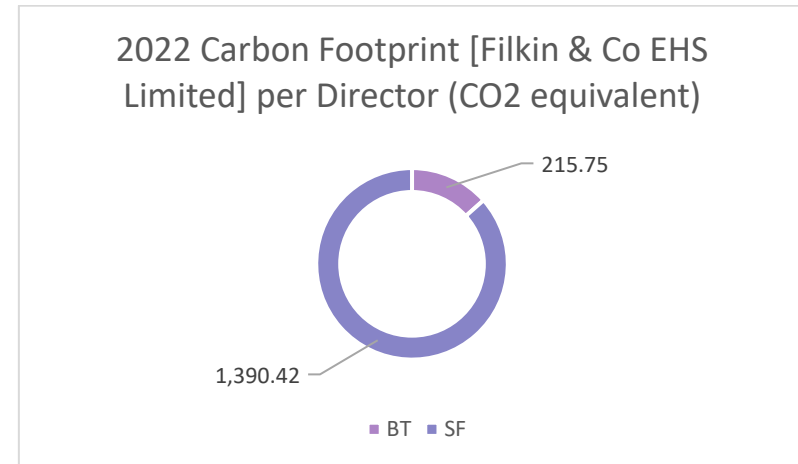
The carbon footprint of electricity usage related to BT is therefore 38.88965 kg CO2 equivalent in 2022. Similarly, electricity usage related to SF is also 38.88965 kg CO2 equivalent in 2022.

Figure 3: 2022 Carbon Footprint



On an individual basis, the 2022 carbon footprint per employee is shown in Figure 4.

Figure 4: Impact Per Employee



Opportunities to Improve

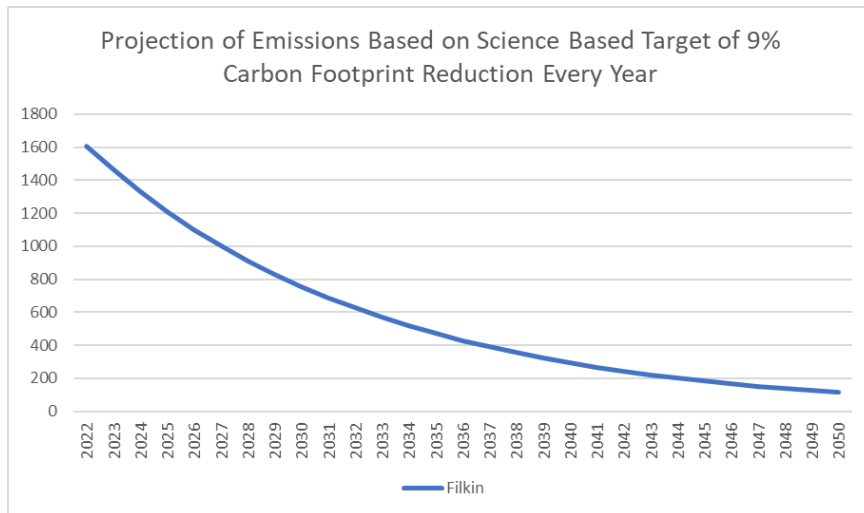
In terms of improving the carbon footprint assessment attention in the future could be placed on:

- Minimise transportation wherever possible (use of public transportation and shared movement);
- Allocate emissions based on individual employees to identify savings more effectively.

Projection

The projection takes into account a 9% reduction each year (carbon offsets may be used but for a maximum of 10% of the total).

Figure 5: Projection Footprint [Filkin]



This summary report was prepared by Filkin & Co EHS Limited for public review, shared on our website

