Green Business

Ulverston Town Council Carbon Footprint 2024-25

Briefing paper

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Non-Technical Summary

Green Business is working with Ulverston Town Council to estimate its carbon footprint and to help it manage and reduce its environmental impacts. This report presents the findings of the first stage of the project, the carbon footprint estimate, as well as guidance on how to interpret and use the results.

Carbon footprints can help to identify key areas for action, and although carbon is not the Council's only environmental impact, it is considered a useful indicator as it is often linked to other issues such as biodiversity and pollution.

The carbon footprint is intended as an internal tool for monitoring impacts over time. While it can be tempting to compare the footprints of different organisations, this is not advisable as no two organisations are ever the same and there is not one definitive approach to estimating a carbon footprint.

This is the first time the Council has estimated its carbon footprint. Green Business and Farm Carbon Toolkit used information provided by the Council to calculate the footprint in the 2024-25 financial year.

Carbon footprints are reported as carbon dioxide equivalents (CO_2e), which combines the impacts of all the different greenhouse gases into one measure.

The carbon footprint includes all the greenhouse gas emissions related to the Council's operations and activities. Some emissions come directly from the organisation's buildings and vehicles, while others are released indirectly elsewhere during the production of the goods or services the Council buys.

The Council's carbon footprint in 2024-25 is estimated to be 24.65 tonnes CO_2e. The largest sources of emissions relate to the production of goods and services it purchases and its electricity use.

Farm Carbon Toolkit estimated that the Council allotments captured 7.75 tonnes CO_2e, with trees accounting for two-thirds of this. It is important not to subtract the carbon absorbed from the carbon the Council emitted – this is not permitted by the global protocol for carbon footprinting, and so the two numbers must be reported separately. It is also important to remember that the figures are estimates, and many environmental factors will affect the amount of carbon actually absorbed year to year. Nevertheless, the exercise highlights the important roles of green spaces and trees for removing carbon from the atmosphere.

The next step of this project is to review how the Council currently manages its environmental impacts and identify new opportunities. Green Business will produce an environmental Action Plan and environmental policy to support the Council's priority actions.

What is a Carbon Footprint?

“Carbon footprint” is a term used to describe the climate warming impacts of greenhouse gases (GHGs) released into the atmosphere because of processes and activities. Because the different GHGs (including carbon dioxide, methane, nitrous oxides and sulphur oxides) have different levels of climate-warming effect, the term “carbon dioxide equivalent” is used to normalise them all in terms of the impacts of carbon dioxide.

An organisational carbon footprint typically encompasses the majority (ideally all) sources of GHG emissions released because of the organisation’s activities, along with the goods and services consumed, within a 12-month period.

Emissions are classed into three main categories, “Scopes”, depending on where they occur in the value chain (Figure 1).

- **Scope 1** refers to GHG emissions released from activities occurring on company premises, for example the burning of fuels, refrigerant leaks, and process emissions.
- **Scope 2** emissions occur off-site, indirectly because of the burning of fuels for generating electricity and district heat and steam consumed by the reporting company.
- **Scope 3** emissions capture all other sources of indirect emissions, from the supply chain (**upstream**) and past the point of sale (**downstream**). All goods and services, tangible and intangible, procured by organisations for their operations have an associated carbon footprint, as emissions are released during activities such as the extraction of raw materials, manufacture of goods, and the running of suppliers’ offices. **For many organisations, supply chain Scope 3 emissions dwarf operational scope 1 and 2.** For some industries, downstream Scope 3 emissions may also be relevant, as they cover activities such as product processing, use, and end-of-life treatment. Companies with investments or franchises may also consider their downstream Scope 3 impacts.

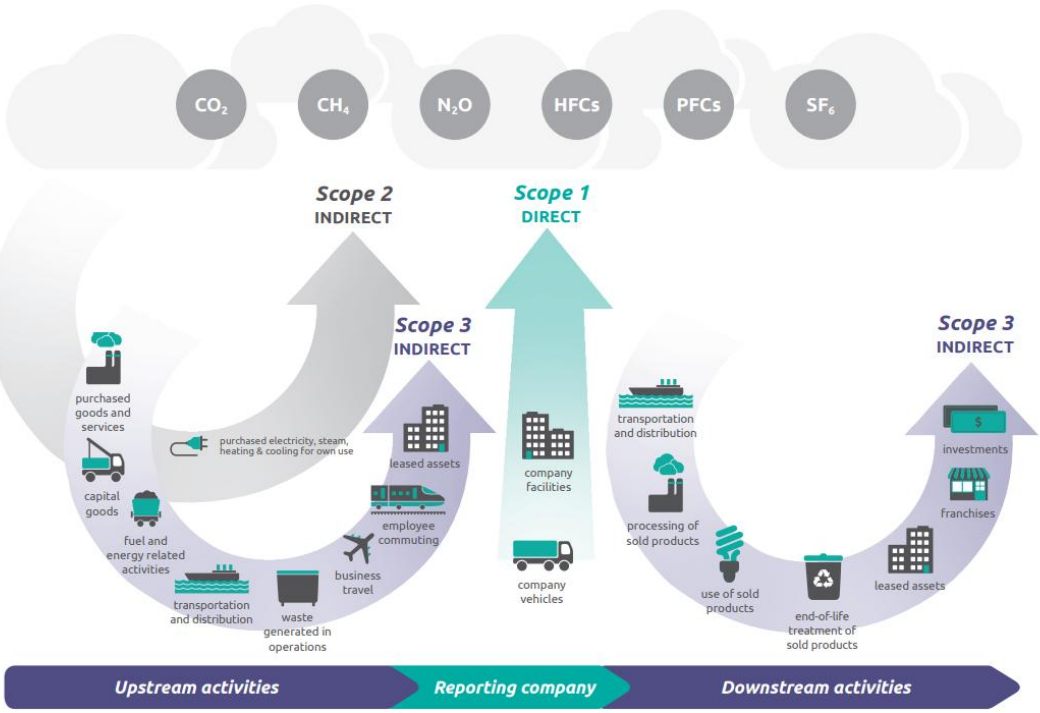


Figure 1: Summary of GHG scopes and emissions categories as defined by the Greenhouse Gas Protocol (GHGP). Graphic by the GHGP.

It is important to note that all carbon footprints are subject to a degree of uncertainty. Some activities, such as the burning of fuels for energy and transport, are relatively well understood from an emissions perspective. Others, particularly the supply chains of intangible services (e.g. consultancy, legal, financial) rely on industry-average estimates of carbon emissions per unit of output (usually revenue) generated. It is impossible to follow the infinite supply chain pathways for every good or service, and often the footprint studies (particularly life cycle analyses) used to estimate a company carbon footprint may not exactly align with the production systems in a company's supply chain.

Despite the uncertainty involved in carbon footprint methodologies, it is possible to get good enough estimates of operational and supply chain emissions for organisations to make meaningful carbon management decisions. By aiming to include all sources of emissions as far as possible, we can generate a best estimate of the likely carbon emissions hotspots and determine appropriate actions to begin to reduce impacts.

Nevertheless, calculating the carbon footprint of your organisation is an iterative process that we will always look to improve upon, whether through improved data availability and collection, or new calculation methodologies and updated assumptions. It is not advisable to claim that a carbon footprint is "accurate", but improving data quality and reviewing assumptions and methodologies can improve the reliability and level of detail. Green Business may also from time-to-time update the historical footprints of your company as methodology changes are applied, to allow for better comparison between years.

This Report

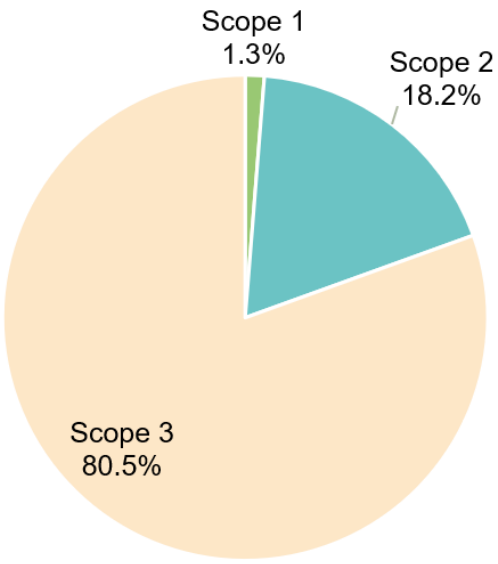
This report represents the first best estimate of the Scope 1, 2, and upstream scope 3 emissions associated with the day-to-day operations and supply chains of Ulverston Town Council (hereby referred to as the Council). An estimate of annual carbon sequestration from the Council's land assets was carried out by Becky Willson at Farm Carbon Toolkit and is also included in this report.

While all carbon footprint calculations are subject to a degree of uncertainty, this analysis identifies the most likely hotspots of carbon emissions within the Council's value chain, enabling it to develop appropriate carbon management strategies.

Results

Organisational carbon footprint

The estimated Scope 1, 2 and upstream Scope 3 greenhouse gas (GHG) footprint of the Council in 2024-25 was 24.65 tonnes carbon dioxide equivalent (tCO_2e). A breakdown by Scope is shown in Figure 2.



	GHG emissions (tCO_2e)
Scope 1	0.31
Scope 2	4.49
Scope 3	19.85

Figure 2: Breakdown of Ulverston Town Council's 24-25 carbon footprint by Emissions Scope.

The Council's Scope 1 emissions relate to fuel consumption by Council-owned vehicles. Scope 2 emissions arise from electricity consumption across Council assets: the office, Sir John Barrow Monument, The Gill Toilets, and the King Street Lamppost. Data was not

available for the Sir John Barrow Cottage, but consumption is likely minimal due to limited opening hours throughout the year. Scope 3 emissions encompass all other emissions sources throughout the Council's supply chain. Scope 3 is often the largest component of an organisation's carbon footprint.

SCOPE 3 BREAKDOWN

A breakdown of the Council's most relevant Scope 3 emissions, using the categories defined by the GHGP, is shown in Figure 3. A summary of what is included in each category is provided in Annex A. For more detail, see the Greenhouse Gas Protocol Scope 3 Guidance.

Scope 3 emissions from the Council's supply chain accounted for 80.5% of the overall footprint estimate in 24-25 (19.85 tCO_2e). A breakdown is shown in Figure 3. Key contributors are purchased goods and services, fuel- and energy-related activities, and employee commuting (which includes councillor travel).

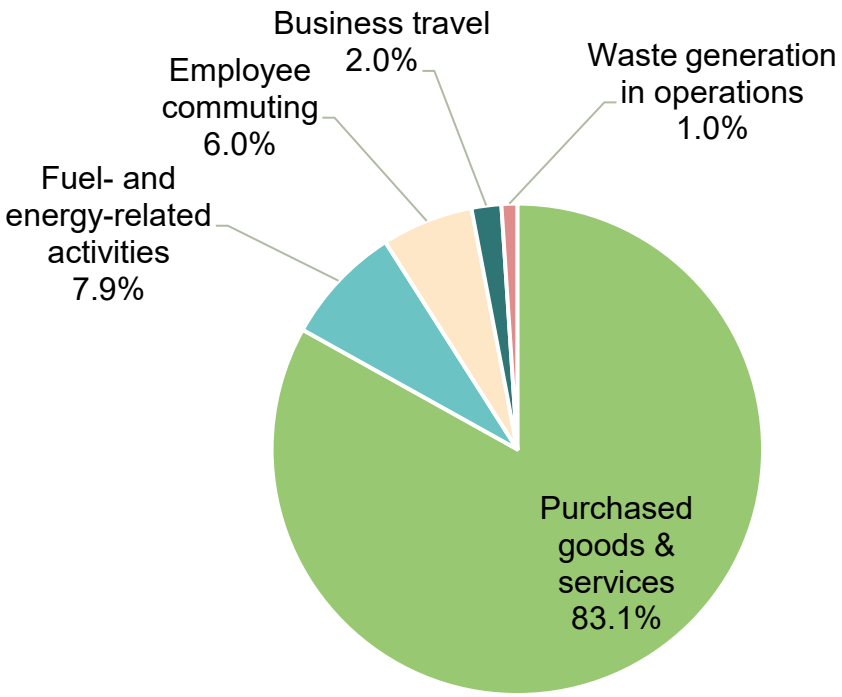


Figure 3: Breakdown of Ulverston Town Council's Scope 3 footprint in 24-25 by GHGP category.

CATEGORY BREAKDOWN

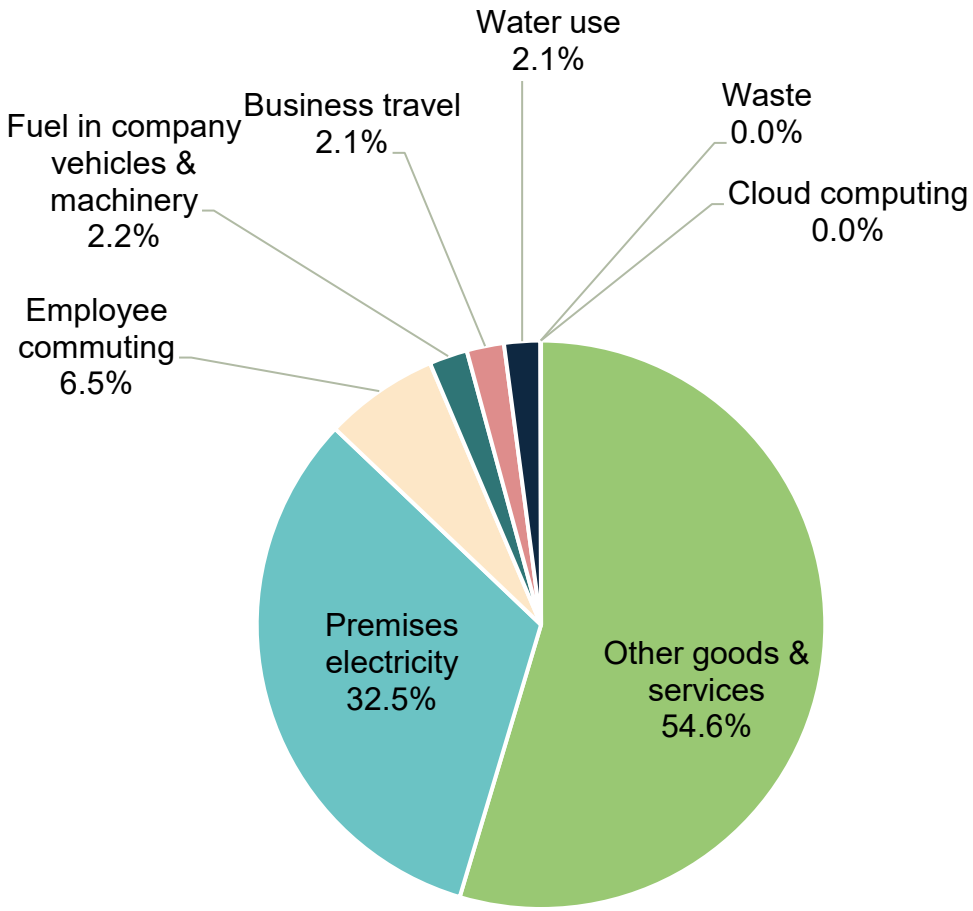


Figure 4: Breakdown of the Council's total carbon footprint in 24-25 by activity.

Figure 4 is a plain English breakdown of the Council's carbon footprint by activity.

The top three contributors to the Council's 24-25 Scope 1, 2 and 3 footprint of 24.65 tCO_2e were:

- Other goods and services: encompasses a wide range of tangible and intangible goods and services paid for by the Council, including vehicle and buildings maintenance, consultancy, IT hardware and software, insurance, grants and event costs.
- Premises electricity: electricity consumption across all Council assets.
- Employee commuting: including councillor travel to meetings. Many people drive fossil-fuel cars.

Carbon sequestration

Total estimated carbon sequestration from Council-owned allotments in 24-25 was -7.75 tCO_2e. This was dominated by woodland, which sequestered -5.18 tCO_2e (Figure 5). On average, Council allotments sequestered -1.01 tCO_2e per hectare in 24-25.

When reporting carbon, Ulverston Town Council should not subtract the carbon sequestration figure from its organisational carbon footprint. Carbon sequestration should always be presented separately from carbon emissions.

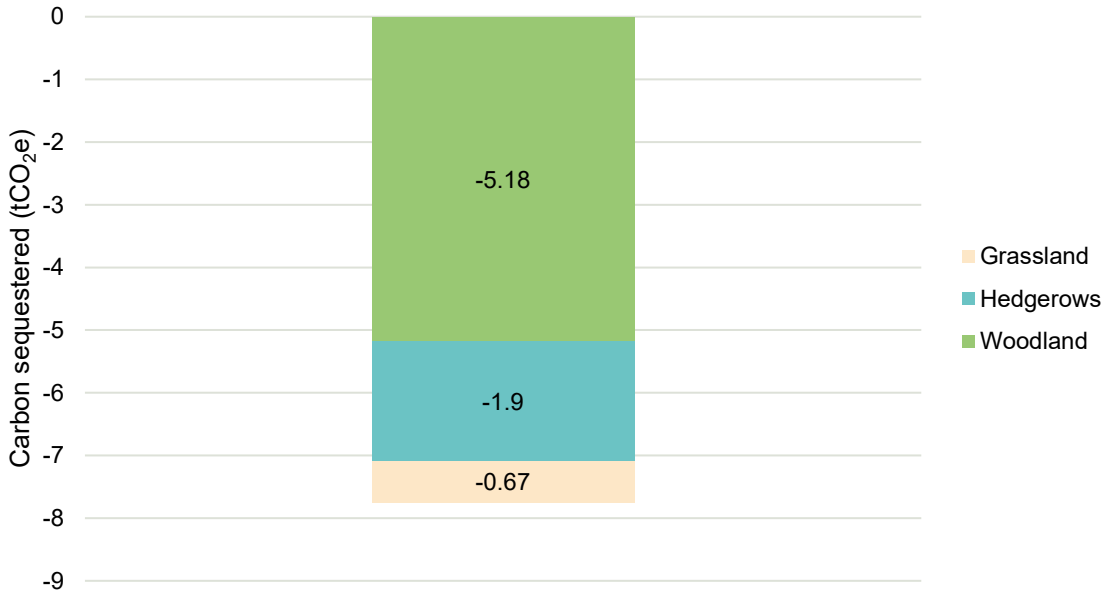


Figure 5: Estimated carbon sequestered in 24-25 by Ulverston Town Council's allotments.

How to use your carbon footprint

1. Act

The primary purpose of carbon footprinting should always be to inform the action you will take to reduce your emissions. Your footprint can be used to help you consider the steps you need to take to reduce emissions and to inform the priority you will attach to those steps. You may well have an environmental policy and action plan in place through Green Business. Delivery of the action plan should be a priority for the organisation and will contribute to reducing your emissions.

2. Set targets

You may wish to consider setting targets for reducing your carbon emissions. You could do so by joining one of the many initiatives which are aligned with the UN's Race to Zero campaign. There may be an initiative which is specific to your sector, or you could consider joining Business Declares.

Such initiatives typically require the setting of targets which align with the global trajectory of emissions reductions which is needed in order avoid the worst effects of climate change, i.e. halving emissions by 2030 and reaching net zero by 2050 at the latest. Net zero is achieved by offsetting the 'unavoidable' emissions from your organisation once all feasible emissions reduction action has been taken.

3. Publish your footprint and update it annually

Carbon footprints should be updated on an annual basis, and we recommend that you keep the organisation accountable to clients/customers and other stakeholders by publishing your footprint on your website.

4. Should you offset your carbon emissions?

Our recommendation: Don't use the term 'offset' and don't make any claims about offsetting your carbon, even using sequestration from your own land. Focus on reducing your carbon and financially supporting the best environmental projects.

In this section we will go through some of the key definitions and issues associated with carbon offsetting.

There are two types of carbon offsetting:

1. **Emissions removals:** Projects which remove carbon from the atmosphere. These can be nature-based solutions such as tree planting and peat bog restoration or technological solutions such as Direct Air Capture technologies.

2. **Avoided emissions:** Projects which prevent emissions which would otherwise have been released. Examples include renewable energy projects (which are assumed to displace fossil fuels), provision of efficient cooking stoves in developing countries and initiatives to protect existing rainforests.

Such projects are vitally important in efforts to tackle climate change. However, the following should be considered, prior to their use as carbon offsets:

1. ‘Offsetting’ as a concept has been subject to increasing scrutiny in recent years. These questions typically revolve around the uncertainty, the speed and the permanency of the carbon removal which is achieved via offsetting projects. Furthermore, given that the amount of carbon removed or avoided is imprecise and uncertain, that it may only be removed over multiple years and that it may not be permanently removed (e.g. if trees are damaged, the carbon stored could be lost), the concept of using such projects to offset emissions which have already been released to the atmosphere is somewhat questionable. It may also infer that technological solutions such as Direct Air Capture are preferable as an offsetting tool because of the speed and permanency of removal and the greater certainty about the quantity of carbon being removed.
2. Carbon footprinting involves significant uncertainty and all organisation footprints probably represent significant under-estimates of the real carbon footprint of the organisation. Terms such as ‘carbon neutral’, ‘climate positive’ etc are therefore likely misleading.
3. Offsetting or ‘neutralisation’ should only be used as a tool to address emissions which cannot be eliminated, i.e. the focus of the organisation and any investment should first be on how emissions can be reduced. This helps to explain why many companies set future targets for net zero, rather than simply investing in offsetting projects straight away. A growing number of companies have been attracting negative press for making claims of carbon neutrality or net zero, whilst continuing to pursue operations which generate significant emissions which could be reduced or avoided altogether.
4. Only emissions removals projects (type 1 above) can count towards a net zero target. This is one of the key differences between the concepts of ‘carbon neutral’ and ‘net zero’.

We love 9Trees. Their vision is to tackle climate change by restoring new woodland habitats, promote biodiversity, create jobs within the countryside sector and connect more people to nature.

They won’t sell you carbon offsets, but they will plant trees on your behalf and in the best way possible. They only plant trees in the UK and they continue to look after your trees, so they store as much carbon as possible.

Their specialist knowledge in conservation means they're able to create woodlands that support local wildlife and improve biodiversity. They work with local authorities and organisations to plant on carefully selected land, not destroying vital flower meadows, peat land or other Special Sites of Scientific Interest.

They work directly within communities, using local specialists to give your trees the very best start in life.

All their trees are native and grown in the UK, with the species of tree chosen to suit each site.

Some landowners will even allow you to visit your trees!

They are also a Community Interest Company, ploughing any profits back into good schemes, training and education.

5. How does my organisation's carbon footprint compare to others?

We advise you to exercise extreme caution if looking to compare your organisation' carbon footprint with the carbon footprint of other companies.

Because carbon footprint standards are voluntary and allow varying levels of exclusions, particularly for scope 3, this could mean that you are comparing footprints with different boundaries. There is currently not one global, standardised calculation methodology to follow or standard set of emissions factors, so every company will be approaching their footprint differently.

Until a standardised methodology has been set, organisation carbon footprints should be used primarily as an internal management tool to understand your impacts, act, monitor decarbonisation progress, and communicate with stakeholders.

It may be possible to compare with other companies working with Green Business, because as far as possible we will follow the same footprinting approach with all clients. However, emissions intensity will vary depending on industry sector.

How your carbon footprint was calculated

1. We scoped your emissions sources

Prior to us preparing your baseline carbon footprint, you completed our online scoping questionnaire. This allowed us to determine which sources of carbon emissions were relevant to your organisation and what data you held that would allow us to measure the carbon from those sources.

2. You supplied data from your organisation

Having provided you with a spreadsheet to capture the relevant data, you then collated the data and sent it to us for processing.

3. We converted the organisation data to carbon

We used greenhouse gas conversion factors to convert the data from your organisation into carbon emissions.

3.1 ORGANISATIONAL OPERATIONS AND SUPPLY CHAINS

The principal source of conversion factors is those published annually by the UK Government[1]. In line with the guidance that accompanies the factors, if your reporting period straddles more than one calendar year, we use the factors from the calendar year in which the greatest portion of your data falls.

These conversion factors allow us to convert organisation 'activity' (e.g. electricity consumption, miles travelled by train etc) to carbon (expressed in CO_2e).

Other conversion factors are used in some cases. For example:

- where a organisation consumes large quantities of materials (e.g. as part of a production process), there are conversion factors for broad categories of materials in the Government conversion factors referred to above. However, it is sometimes possible to utilise more specific conversion factors from other sources, such as:
    - Environmental Product Declarations for specific products
    - Embodied carbon factors for specific material types, such as those in the Inventory of Carbon and Energy (also known as the Ice Database)[2]
- the principal cloud computing providers (Google Cloud, AWS and Microsoft) provide tools which allow the emissions from a client's use of their services to be estimated

Where there are gaps in activity data, alternative approaches sometimes have to be adopted, at least in the short term. For example:

[1] 'Government conversion factors for company reporting of greenhouse gas emissions

[2] Available from Circular Ecology

- if data on business travel (i.e. modes, distances) cannot be secured, an expenditure-based approach may be used (see below)
- if data on transportation of goods or materials (i.e. modes, distances and weights of shipments) cannot be secured, an expenditure-based approach may be used (see below)
- if utilities data cannot be secured, benchmarks for energy and water use can be applied to fill the data gap[3]

To estimate the emissions from the purchasing of other goods and services by the organisation, supply chain emissions factors published by the UK Government, from 2022[4], adjusted for inflation, are commonly used. These allow the conversion of expenditure in different sectors of the economy (advertising, accountancy etc) to carbon emissions.

There is considerable uncertainty associated with the emissions estimates that rely on an expenditure-based approach, largely because of the broad categorisations used for the calculations. However, they are utilised so that a full carbon footprint for each organisation can be estimated.

Wherever possible, activity data is utilised because this approach provides more precise estimations and responds better to changes in organisation practice, e.g. in taking action to reduce emissions.

3.2 CARBON SEQUESTRATION FROM LAND

Estimates of carbon sequestration from the Council's land assets were calculated by Becky Willson of Farm Carbon Toolkit, using the Farm Carbon Calculator.

Land data provided to Farm Carbon Toolkit is shown in Table 1. Sequestration is calculated within the calculator tool using a modelled approach based on the user characterising the habitats and landscapes being entered. Assumptions of each model are detailed below:

- **Woodland**: Values within the calculator are based on the methodology within the woodland carbon code. Users input the species, age range and area of woodland. Assumptions of average yield class, average spacing, and no thinning is applied. For individual trees, assumptions have been made regarding canopy area based on the supplied age range. For trees that are 30 years old or older a canopy area of 80 m^2 has been used, and for trees in the 10–20-year age range a canopy area of 40 m^2 has been used.
- **Hedgerows:** Based on the length and width of managed hedges – i.e. those cut on a regular basis. Sequestration factors are based on averages from peer-reviewed studies.

[3] The Real Estate Environmental Benchmarks, published by the Better Buildings Partnership, are commonly used.

[4] UK and England's carbon footprint to 2022 - GOV.UK, published by Defra

- **Grassland**: Based on habitat values from Natural England data.

Table 1: Land data used to estimate the Council's carbon sequestration via Farm Carbon Toolkit.

Total land area	7.6 ha (allotments)
Grassland area	1.9 ha (assumed that 25% of total land area is grassland around growing beds)
Number of individual trees	135 individual trees of varying age and species
Length of hedgerows	460 m of hedge

Some disclaimers about the potential uses of the carbon footprint data

Green Business

Green Small Business Ltd T/A Green Business accepts no liability, without limit, for direct, indirect or consequential loss or damage, business interruption, loss of profits, production, contracts, goodwill or anticipated savings resulting from the use of the carbon footprint calculations.

Although the calculations made follow Greenhouse Gas (GHG) Protocol[5] guidance, in some cases the outputs are estimates based on simplified approaches. Where there are data gaps and benchmarks or proxies must be utilised, these would not always be consistent with Protocol methodologies. The outputs should therefore not be considered to have been assured for conformance with the GHG Corporate Accounting and Reporting Standard.

Our footprint calculations are often used for the purposes of completing Carbon Reduction Plans, for B Corp applications and other uses. Where benchmarks or data proxies have had to be relied upon, we cannot guarantee that the footprint will be considered to have met the requirements of such processes. This often depends on the interpretation of the requirements by the individual(s) involved.

For application to programmes such as the Science Based Targets Initiative, further documentation will be required alongside the carbon footprint. We would be happy to assist with this and with the application process. Please contact us to discuss your requirements.

Farm Carbon Toolkit

Please note that these results are an estimate of the major greenhouse gas emissions resulting from the organisation based on the data provided. The accuracy and completeness of the calculations cannot be guaranteed and only a limited verification of the source data was undertaken.

The Farm Carbon Toolkit makes every effort to support an accurate calculation of greenhouse gas emissions, however there can be an inherent degree of inaccuracy due to (a) the quality and accuracy of users' data, including the level of completeness; (b) inaccurate emission factors provided by studies and whether they are actual or proxy values and (c) the variable nature of biological emissions and sequestration, in particular, for example from livestock, soils, and hedges. A judgement on inaccuracy is reflected in the 'Confidence level' column within the detailed results table of the full farm carbon report.

Any claims made by a person or organisation regarding the results from the Farm Carbon Calculator (and any subsequent analysis) are made at your own risk.

[5] the most widely-used international carbon accounting standard.

Annex A: Summary of Scope 3 Categories

Category	Summary of what's included
1 - Purchased goods and services	Emissions from the products and services a company buys from other businesses.
2 - Capital goods	Emissions associated with the production and disposal of equipment, buildings, and other physical assets.
3 - Fuel and energy related activities	Emissions from the extraction, production, and transportation of fuels and energy that a company uses. The emissions which stem directly from the use of the fuels are included in other categories.
4 - Upstream transportation and distribution	Emissions from transporting and distributing products to the company from tier 1 suppliers and to customers in third party-owned vehicles, when paid for by the reporting company.
5 - Waste generated in operations	Emissions from waste generated during a company's operations, such as solid waste, wastewater, or hazardous waste.
6 - Business travel	Emissions from employee travel in vehicles not owned by the organisation, including flights, train rides, and rental cars for business purposes. Emissions from travel in vehicles which are owned by the organisation are included in Scope 1.
7 - Employee commuting	Emissions from employees' daily travel to and from work, such as driving personal vehicles or using public transportation. Emissions from any commuting in vehicles which are owned by the organisation are included in Scope 1.
8 - Upstream leased assets	Emissions which have not been included in Scope 1 and 2 from leased assets like buildings, vehicles, or equipment used by a company but owned by someone else. We usually encourage clients to include emissions from leased assets in Scope 1 and 2, as it implies taking a greater sense of responsibility for them.
9 - Downstream transportation and distribution	Emissions from transporting and distributing a company's products to customers in third party-owned vehicles, when not paid for by the reporting company.
10 - Processing of sold products	Emissions resulting from activities associated with the processing or use of a company's products after they are sold, such as customer use of appliances or vehicles.
11 - Use of sold products	Emissions resulting from the use of a company's products, such as the energy consumed by customers when using appliances or vehicles.
12 - End of life treatment of sold products	Emissions from activities related to the disposal or recycling of a company's products after they are used by customers.

13 - Downstream leased assets	Emissions resulting from the use of leased assets by customers or other end-users.
14 - Franchises	Emissions associated with the activities of franchisees that are directly linked to the company's brand.
15 - Investments	Emissions resulting from the investments made by a company, such as funds invested in projects or companies that contribute to greenhouse gas emissions.