



Gedling Borough Council Consultancy support – Carbon Footprint 2022/23

Report Rev A

Report produced in November 2023



APSE (Association for Public Service Excellence) is a not for profit local government body working with over 300 councils throughout the UK. Promoting excellence in public services, APSE is the foremost specialist in local authority front line services, hosting a network for front line service providers in areas such as waste and refuse collection, parks and environmental services, leisure, school meals, cleaning, housing and building maintenance.

APSE Energy is APSE's local authority energy collaboration. The vision for the collaboration is to form an "effective collaboration of a large number of local authorities to enable and facilitate the local municipalisation of energy services. By this we mean the public and community, as well as private, ownership and managerial control of local energy generation, supply networks and delivery of energy efficiency works. Local authorities working together in this way would have great influence and would be able to deliver economies of scale in green energy to promote economic growth and combat fuel poverty.

Association for Public Service Excellence
3rd floor Trafford House
Chester Road, Old Trafford
Manchester, M32 0RS
Telephone: 0161 772 1810
fax: 0161 772 1811
Email: enquiries@apse.org.uk
Web: www.apse.org.uk

GEDLING BOROUGH COUNCIL

CONSULTANCY REPORT – CARBON FOOTPRINT 2022/23

Contents

1 Introduction	4
2 Carbon Footprint.....	5
2.1 Carbon Reporting Boundaries	5
2.2 Emissions.....	5
2.3 Comparison Between Years.....	7
3 Notes and Observations.....	8
3.1 Scope 1 and 2 Emissions	8
3.2 Scope 3 Emissions.....	8
4 Conclusion and Recommendations	9
5 Glossary	10
Appendix A	11
Appendix B.....	11

1 Introduction

This report provides an update of the carbon footprint for Gedling Borough Council which can be used to monitor performance for emitting carbon in the Council's own operations. The carbon footprint has been undertaken in accordance with best practise guidance by the Greenhouse Gas Protocol and calculated using conversion factors for the carbon dioxide equivalent (CO₂e) published by Department for Energy Security and Net Zero (DESNZ).

This report was based on data covering the period August 2022 to July 2023 and compares emissions from calendar year of 2019.

The carbon footprint is categorised into scopes, which cover:

Scope 1 (direct) emissions are from activities owned or controlled by the Council. Examples of Scope 1 emissions include emissions from combustion in council owned or controlled boilers, furnaces and vehicles.

Scope 2 (indirect) emissions are associated with purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of the Council's energy use, but occur at sources that the Council do not own or control. Examples include grid supplied electricity and heat provided through a heat network.

Scope 3 (other indirect) emissions are a consequence of the Council's actions that occur at sources the Council do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions include business travel by means not owned or controlled by the Council (grey fleet), disposing of the Council's own waste and purchased goods in the supply chain etc.

2 Carbon Footprint

2.1 Carbon Reporting Boundaries

The organisational boundaries determine what emissions are the responsibility of the Council or others. This can be based on who owns, operates, or exerts control over certain assets. The buildings categorised under Scope 1 & 2 within this report are those where energy is purchased or acquired and consumed by the Council. The vehicles categorised under Scope 1 are vehicles that the Council own, lease and operate purely for the Council's own operations.

Scope 3 emissions are classified under 15 different categories as detailed under Appendix B. As Scope 3 emissions are under the influence of the Council, but not under its direct control, it can be difficult to obtain the necessary data to calculate the associated carbon emissions from some Scope 3 sources. One of the larger contributors to carbon emissions is purchased goods and services.

Emissions from assets a company owns and leases to another entity, but does not operate, can either be included in Scope 3 or excluded from the inventory.

The Council is just reporting on Scope 1 & 2 emissions and not Scope 3.

2.1.1 Out of Scope

Hydrotreated Vegetable Oil (HVO) is a biodiesel that is used in many of the council owned vehicles. HVO is considered as 'net zero' to account for the CO₂ absorbed by fast-growing bioenergy sources during their growth. However, CO_{2e} (see Glossary) emissions are still present in the form of N₂O and CH₄ emissions which are not absorbed during growth. These emissions are included in the overall carbon emissions.

Although the HVO Scope 1 conversion factors contain a 'zero' value for CO₂ emissions, the Council should account for the impact of the CO₂ released through combustion of the fuel. This is shown as 'outside of scope' and is shown separately. This ensures that the Council is being transparent with regard to all potential sources of CO₂ from its activities.

2.2 Emissions

The carbon footprint has been calculated using data that was available to the Council during the reporting year.

Data was provided for the period of August 2022 to July 2023. The carbon conversion factors used were taken from 2023 as more of the date range was within 2023.

Appendix A is an Excel spreadsheet that shows a breakdown of the emissions by source. This can be used to develop a carbon strategy by identifying and approaching sources with the highest emissions.

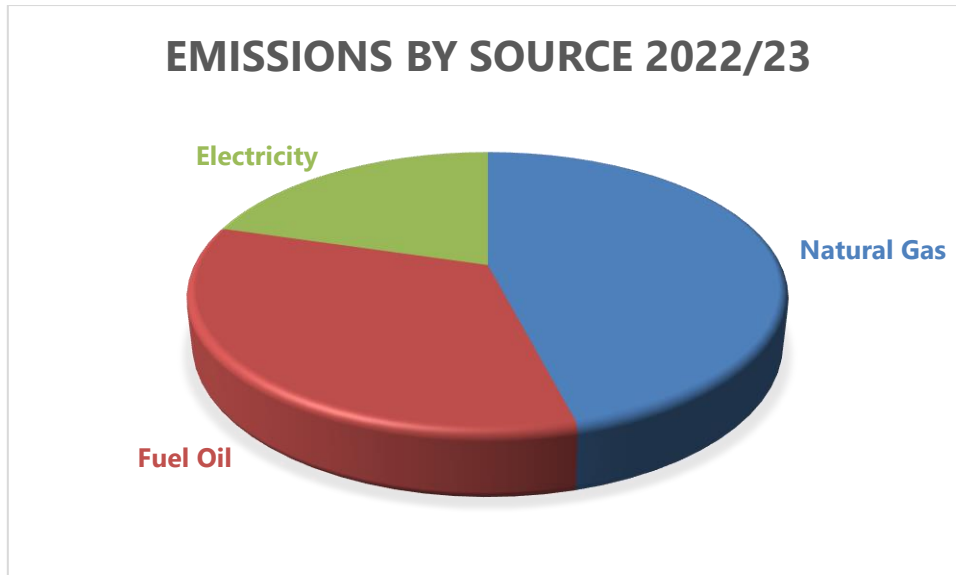
2.2.1 Emissions from the Councils operations

The figures below show the Scope 1 and 2 emissions from the Councils own operations for 2022/23.

Table 1: Carbon emissions by source for the Council operations in 2022/23

Emissions Source	Scope	% Split	Tonnes CO2e
Natural Gas	1	46%	599
Fuel Oil	1	34%	439
Electricity	2	20%	266
Total	-	100%	1,304
Outside of Scope			339

Chart 1: Carbon emissions by source for the Councils operations in 2022/23



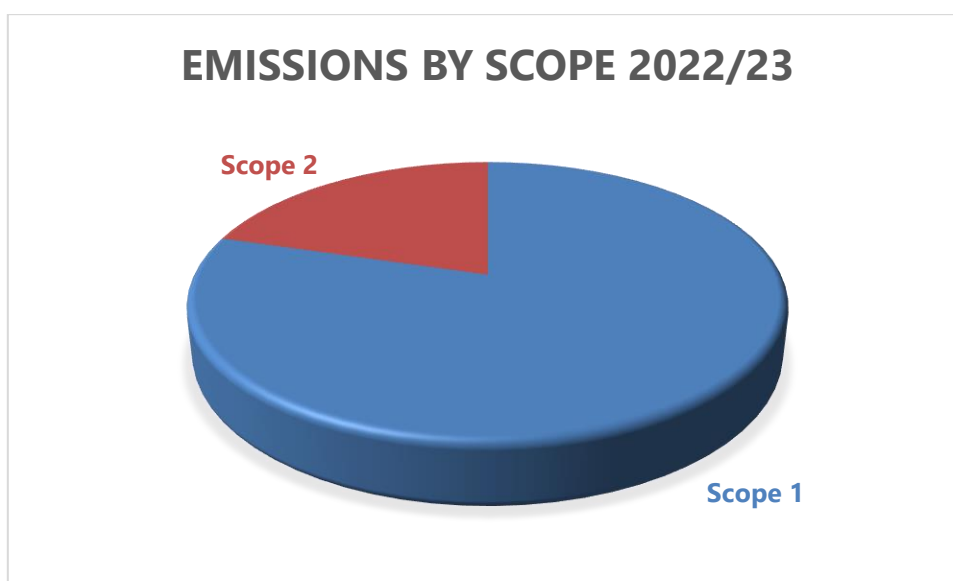
2.2.2 Emissions by Scope

The figures below show the split of Scope 1 and 2 emissions across the Council's operations:

Table 2: Carbon emissions by scope

Emissions Source	% Split	Tonnes CO2e
Scope 1	80%	1,038
Scope 2	20%	266
Total	100%	1,304

Chart 2: Carbon emissions by scope



2.3 Comparison Between Years

The table below shows a comparison of the emissions between the calendar year of 2019 and August 2022 to July 2023:

Emissions Source	Scope	2019 Tonnes CO2e	2022/2023 Tonnes CO2e	Difference
Natural Gas	1	499	599	20%
Vehicles	1	813	439	-46%
Electricity	2	363	266	-27%
Total	-	1,675	1,304	-22%

The table shows that overall emissions have reduced by 22%.

In 2022/23 there are 38 electricity meters and 14 gas meters, whereas in 2019 there are 7 electricity meters and 9 gas meters. It is normal for more assets to be identified in later years as the quality of data improves.

However, the largest energy users are Arnold Leisure Centre, Richard Herrod Leisure Centre and the Civic Centre collectively making up 84% of the total gas and 71% of the total electricity in 2022/23. The additional meters make up a marginal amount of energy.

The volume of fuel used in vehicles is very similar across the two years, but the large reduction in carbon emissions is due to the use of HVO.

3 Notes and Observations

3.1 Scope 1 and 2 Emissions

Appendix A shows a separate tab for the fuel consumed in council owned vehicles and separate data was provided for the volume of fuel used at the depot. To calculate the overall emissions the total volume of fuel was used and not the fuel used in individual vehicles as it would be double counting to use both. The volume of fuel for individual vehicles is still shown in Appendix A so that the Council can monitor which vehicles use the most fuel and contribute towards the highest emissions.

Data was provided for the volume of engine oil and hydraulic oil. The carbon conversion factor for 'lubricants' was used for both sources.

The Council should develop a procedure for gathering and storing data as it is made available. The benefit of this is that the carbon reporting process is streamlined and progress towards targets can be tracked.

3.2 Scope 3 Emissions

Scope 3 emissions are separated into 15 different categories as shown in Appendix B which includes waste, staff travel and the purchased goods in the supply chain. Scope 3 emissions can amount to a higher proportion of total emissions than Scope 1 and 2 combined and represent the most significant opportunity to reduce carbon emissions and the impact to climate change. Understanding these risks through accurate and consistent measurement, evaluation and reporting should improve both resilience and reputation.

ASPE Energy can provide further guidance on how to gather Scope 3 data from third parties.

3.3 Exclusions

The Council has stated that the sites below have been excluded from the reporting:

Killisick Community Centre – There is one meter for both the community centre and the pavilion. This has been included and listed as Killisick pavilion.

Richard Herrod pavilion – This was previously tenanted and the tenant paid the bills so will not be able to provide usage figures for the period. The pavilion has been back under the Council's control for 6 months.

Breckhill Pavilion – This building was cut off and a new meter was installed. Cannot provide readings for the period.

The sites below are assets the Council own but are leased out and the tenant pays the utility bills. These should be included under Scope 3.

- Retail units; 20
- Industrial units; 23
- TA's; 16 properties
- Bestwood Lodge Hotel
- Mapperley Golf Club
- Carlton Cemetery Lodge (tenanted part)
- Redhill Cemetery Lodge (tenanted part).

4 Conclusion and Recommendations

- Use carbon footprint data and Appendix A to develop a strategy to become net zero carbon. APSE Energy can provide a desktop investigation to provide a trajectory up to the zero carbon target year and give an indication of what measures could be taken and their potential capital cost and cost/carbon savings.
- Sense check all data to confirm accuracy.
- Develop policies and processes for capturing data going forward and report on Scope 3 emissions.
- Develop policies to request emissions data from suppliers to gather Scope 3 data.
- Commission detailed energy audits of each site to identify what projects can be delivered to reduce carbon emissions and calculate the estimated cost can carbon savings.

5 Glossary

Term	Definition
Carbon dioxide equivalent (CO ₂ e)	The carbon dioxide equivalent (CO ₂ e) allows the different greenhouse gases to be compared on a like-for-like basis relative to one unit of CO ₂ and includes the six greenhouse gases with the greatest global warming potential (GWP).
Carbon footprint	A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product. A carbon footprint is measured in tonnes of carbon dioxide equivalent (tCO ₂ e).
Council Vehicles	Vehicles that are owned or controlled by the Council. This does not include employee-owned vehicles that are used for business purposes.
Electricity	Electricity used at sites owned/controlled by the Council. This is reported as Scope 2, indirect emissions. The conversion factors used are for the electricity supplied to the grid that the Council purchase - they do not include the emissions associated with the transmission and distribution of electricity.
Gas	Primary fuel sources combusted at a site or in an asset owned or controlled by the Council.

Appendix A – A separate Excel spreadsheet showing a breakdown of the emissions by source.

Appendix B – Data that should be gathered to report on Scope 3 emissions.

The reporting of Scope 3 emissions is discretionary. The table below provides further guidance on the information required to calculate emissions from Scope 3.

Item	Category	Details Required
1	Purchased goods and services	<p>This category includes all upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by the Council in the reporting year. Products include both goods (tangible products) and services (intangible products).</p> <p>This category includes emissions from all purchased goods and services not otherwise included in the other categories of upstream scope 3 emissions (i.e. category 2 through category 8 below).</p> <p>Cradle-to-gate emissions include all emissions that occur in the life cycle of purchased products, up to the point of receipt by the Council. Cradle-to-gate emissions may include:</p> <ul style="list-style-type: none"> • Extraction of raw materials • Agricultural activities • Manufacturing, production, and processing • Generation of electricity consumed by upstream activities • Disposal/treatment of waste generated by upstream activities • Land use and land-use change • Transportation of materials and products between suppliers • Any other activities prior to acquisition by the reporting company <p>Relevant purchases to the Council may include capital goods, such as office supplies, office furniture, computers, telephones, travel services, IT support, outsourced administrative functions, consulting services, janitorial, landscaping services, maintenance, repairs and operations.</p> <p>For accurate carbon reporting emissions, the Council should request cradle-to-gate emission factors for materials used by suppliers to produce purchased goods such as Environmental Product Declarations (EPDs). It is likely that many suppliers will not be able to provide all the emission data.</p>

		<p>If an EPD cannot be provided, supplementary information required includes the volume of product (kg) and the carbon emission factor (kg CO₂e).</p> <p>A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract, where the volume of goods is noteworthy.</p>
2	Capital goods	<p>Capital goods are final products that have an extended life and are used by the Council to manufacture a product, provide a service, or sell, store, and deliver merchandise. Capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include equipment, machinery, buildings, facilities, and vehicles.</p> <p>The required information is the same as Category 1 above.</p> <p>A policy should be developed so that suppliers in the supply chain are required to provide this data as part of the contract.</p>
3	Fuel- and energy related activities (not included in Scope 1 or Scope 2)	<p>Transmission and distribution (T&D) losses have been included and calculated from the data provided in Scope 2.</p>
4	Upstream transportation and distribution	<p>Category 4 includes emissions from:</p> <ul style="list-style-type: none"> • Transportation and distribution of products purchased in the reporting year, between suppliers and its own operations in vehicles not owned or operated by the Council. • • Third-party transportation and distribution services purchased by the Council in the reporting year (either directly or through an intermediary), including inbound logistics, outbound logistics (e.g. of sold products), and third-party transportation and distribution between the Council's own facilities.

		<p>The Council requires data on:</p> <ul style="list-style-type: none"> • Quantities of fuel (e.g., diesel, petrol, jet fuel, biofuels) consumed • Amount spent on fuels • Distance travelled • Vehicle type <p>This may include managed assets - Vehicles that are used by the Council but are not owned by the organisation and generally do not appear on the organisation's balance sheet, for example, maintenance contractor vehicles, outsourced refuse and recycling trucks, road sweepers, grounds maintenance mowers etc.</p> <p>A policy should be developed so that suppliers using their own vehicles are required to provide this data as part of the contract.</p>
5	Waste generated in operations	<p>This includes emissions from third-party disposal and treatment of waste generated in the Councils owned or controlled operations in the reporting year. This category includes emissions from disposal of both solid waste and wastewater.</p> <p>The Council should request volume and emissions data from the waste treatment company applicable to its own waste stream. If this cannot be provided, the emissions can be calculated by requesting the volume of waste, type and disposal method:</p> <p>Example of data required:</p> <p>Total weight (kg) of waste type and disposal method e.g.</p> <ul style="list-style-type: none"> • 5,000kg municipal waste to landfill • 500kg organic garden waste to composting • 1,000kg metal recycled • 1,000kg plastic recycled • 1,000kg paper recycled <p>Data is required for the volume of supply and wastewater in cubic metres (m³) from water bills.</p>

		<p>Local authorities have an important role in waste prevention and sustainable waste management through awareness-raising campaigns, providing separate collection for recycling and food waste, and implementing waste-to-energy schemes. It is therefore voluntary on whether the Council choose to include the emissions from waste associated with the whole borough, or just the Council's own operation.</p>
6	Business travel	<p>Travel for assets not owned or directly operated by the Council. This includes mileage for business purposes in cars owned by employees, public transport, hire cars etc.</p> <p>Require details for:</p> <p><u>Vehicle</u></p> <p>Fuel type, size of vehicle and distance for:</p> <ul style="list-style-type: none"> • Car • Motorbike • Taxis • Bus • Rail <p><u>Flights</u></p> <ul style="list-style-type: none"> • Airport travelled to/from • Number of passengers • Class type • Distance <p><u>Ferry</u></p> <ul style="list-style-type: none"> • Foot or car passenger • Distance
7	Employee commuting	<p>This category includes emissions from the transportation of employees between their homes and their worksites.</p> <p>Emissions from employee commuting may arise from:</p> <ul style="list-style-type: none"> • Car • Bus • Rail

		<ul style="list-style-type: none"> • Other modes of transportation <p>Staff would be required to provide method of transport and distance travelled. It may be difficult and time consuming to collect accurate data.</p>
8	Upstream leased assets	<p>This category is applicable from the operation of assets that are leased by the Council.</p> <p>If the Council procures the energy then this should be considered as Scope 1 and 2.</p> <p>If the landlord is responsible for the Scope 1 and 2 emissions, the Council should include the reporting under Scope 3. An example may include an office that the Council lease from a private landlord. All energy bills may be included as part of the lease and the energy contract is under the name of the landlord. The Council should therefore request the energy data from the landlord and include this under Scope 3.</p> <p>Data required include the Scope 1 and 2 data from the leased asset.</p>
9	Downstream transportation and distribution	<p>This category includes emissions that occur in the reporting year from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the Council in the reporting year.</p> <p>It is assumed that this category is not applicable to the Council as it does not manufacture and sell products.</p>
10	Processing of sold products	<p>It is assumed that this category is not applicable to the Council as it does not manufacture and sell products.</p>

11	Use of sold products	It is assumed that this category is not applicable to the Council as it does not manufacture and sell products.
12	End-of-life treatment of sold products	It is assumed that this category is not applicable to the Council as it does not manufacture and sell products.
13	Downstream leased assets	<p>This category is applicable where the Council is the landlord to a lessee.</p> <p>If the Council procures the energy on behalf of a lessee then this should be considered as Scope 1 and 2. An example of this is where the Council may lease a premises to a lessee and include all energy costs as part of the lease. The energy contract is under the name of the Council and is therefore reported under Scope 1 and 2.</p> <p>If the lessee is responsible for the Scope 1 and 2 emissions, the council should include the reporting under Scope 3. An example of this is a shop that the Council own and the occupant pays for the energy bills and the contract is under their name. The Council should request the energy data from the shop occupier and report this under Scope 3.</p> <p>Data required include the Scope 1 and 2 data from the leased asset.</p>
14	Franchises	It is assumed that this category is not applicable to the Council as it does not operate any franchises.
15	Investments	<p>This category includes scope 3 emissions associated with the Council's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e. organisations that make an investment with the objective of making a profit) and organisations that provide financial services. This category also applies to investors that are not profit driven (e.g. multilateral development banks). Investments are categorised as a downstream scope 3 category because providing capital or financing is a service provided by the organisation.</p>

Category 15 is designed primarily for private financial institutions (e.g., commercial banks), but is also relevant to public financial institutions (e.g., multilateral development banks, export credit agencies) and other entities with investments not included in scope 1 and scope 2.

The Councils scope 3 emissions from investments are the scope 1 and scope 2 emissions of investees.

For purposes of greenhouse gas accounting, this standard divides financial investments into four types:

- Equity investments
- Debt investments
- Project finance
- Managed investments and client services

An example of the information required is the Scope 1 and 2 emissions from the bank where an investment is in place. This is based on the Council's proportional share of investment in the investee. If the Council has £1million invested in the bank and the banks total investments amount to £100million, the Council should report on 1% of the banks Scope 1 and 2 emissions.

It is assumed that this information will be difficult to collate from third parties and that the total emissions will be proportionally small compared to other emission sources and these emissions could be excluded from the reporting.

NEW MUNICIPALISM

Delivering for local people and local economies