



Guildford Borough Council

2020/21 Scope 1, 2 and 3 Carbon Emissions

Report
Revision A.

This report has been prepared in
July 2022



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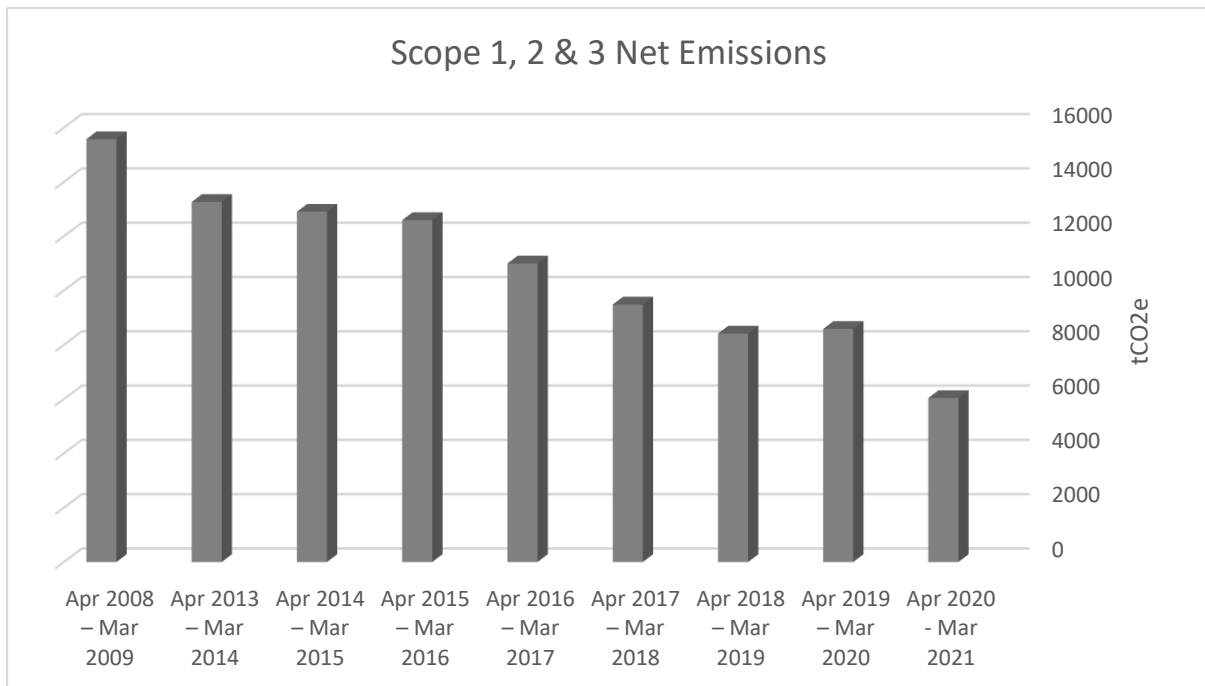
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Executive Summary

This report compares the scope 1, 2 and 3 carbon emissions of the Council. The 2020/21 net carbon footprint from Scope 1, 2 & 3 emissions within Guildford Borough Council's operations is 6,057 tCO₂e.

The chart below shows the comparison of carbon emissions from 2008/09 to 2020/21 where the emissions have reduced by 9,519 tCO₂e

Chart showing the Council net carbon emissions from 2008/09 to 2020/21.



Note. This is Revision A of the original report produced in March 2022.

Guildford Borough Council Carbon Emissions

1 Introduction

This report provides the findings of the carbon footprint calculations and trajectory towards net zero carbon for Guildford Borough Council which can be used as a benchmark to record current emissions and to track performance against future emissions. The carbon footprint has been undertaken in accordance with best practise guidance by the Greenhouse Gas Protocol and calculated using 2020 conversion factors for the carbon dioxide equivalent (CO₂e) published by the Department for Business, Energy & Industrial Strategy (BEIS).

The council has been recording its carbon emissions since 2008/09, which is the baseline year used as a reference point to track performance.

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.

Note – we will use the term 'electric vehicles' throughout this report. However there are alternative fuels especially for heavier vehicles such as hydrogen and CNG for those who wish to invest in them. When using the term 'electric vehicles' we are also referring to alternatives which are likely to develop over the period to 2030.

2 Carbon Footprint

2.1 Carbon Reporting Boundaries

The organisational boundaries determine what emission 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 reporting 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 C. 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.

Based on the data available in 2020, the emissions involved in this reporting include:

Scope 1 - Direct Emissions
Natural gas used in buildings
Transport fuels (Council owned vehicles)
Scope 2 – Indirect Emissions
Electricity used in buildings
Scope 3 – Other Indirect Emissions
Gas – transmission emissions
Fuels – transmission emissions
Electricity – transmission
Biomass – transmission
Water Supply
Water Treatment
Business Travel by car
Waste from Council operations
Recycling from Council operations

The emissions from the above sources represents a good data set for a council, as it is not uncommon for councils to only have data available for electricity and gas.

There are sources that are missing from the reporting and the largest contributor is likely to be from purchased goods and services, which is generally very difficult to gather data and calculate emissions. 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).

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. 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.

The Council should set up procedures to record all emission sources related to its operations for future reporting.

2.2 Carbon Emissions

Appendix A is an Excel spreadsheet that shows a breakdown of the emissions by source. The Council has been calculating its carbon emissions inhouse from 2008/09 (the baseline year) and 2013/14 to 2015/16. APSE Energy have calculated the carbon emissions from 2016/17 to 2020/21. Appendix A shows a summary for the emission for all years and separate tabs showing a breakdown for each source in the most recent year (2020/21).

Emissions are calculated as carbon dioxide equivalent (CO₂e), which is a term used to combine the seven most threatening gases that have the highest Global Warming Potential. This includes carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and nitrogen trifluoride.

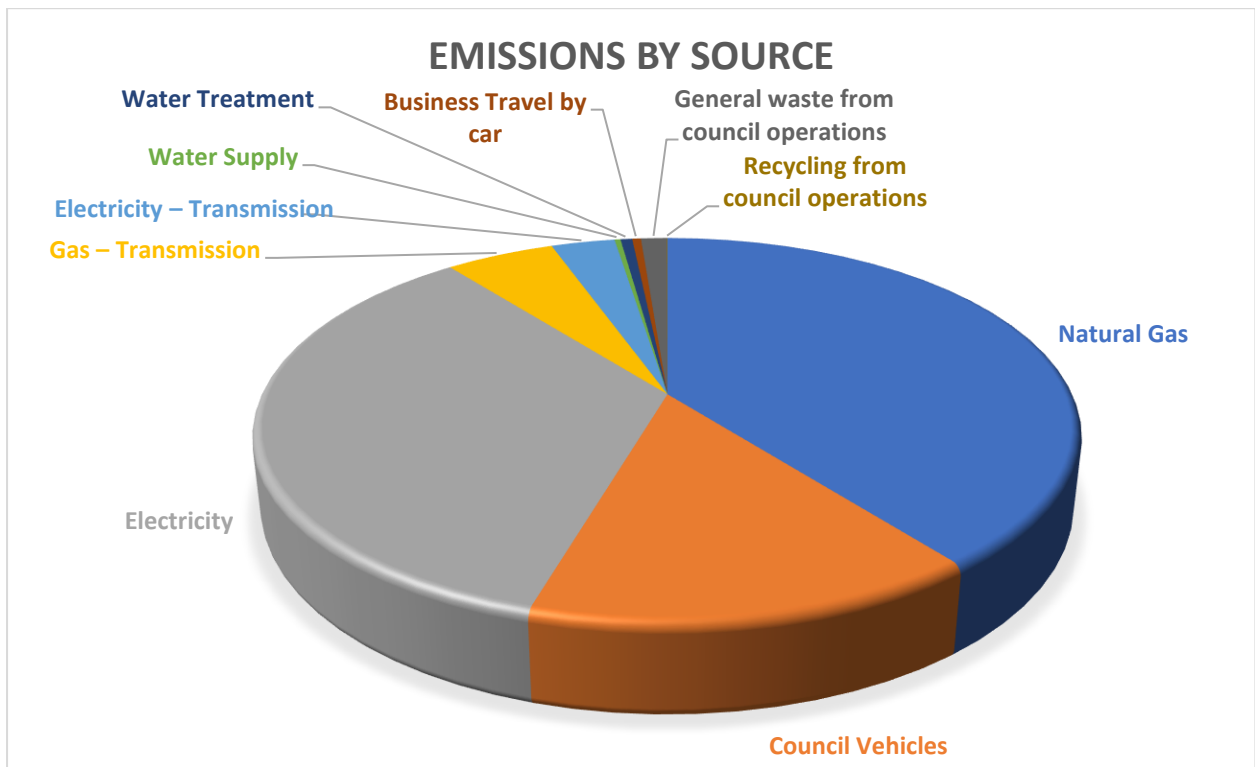
The carbon footprint has been calculated using the best data that was available to the Council during the reporting year and it is the Council's responsibility to confirm the accuracy.

2.3 Emissions for 2020/21

Scope 1, 2 & 3 carbon emissions by source for 2020/21

2020/21			
Emissions Source	Scope	% Split	TonnesCO2e
Natural Gas	1	39%	2,393
Council Vehicles	1	15%	920
Electricity	2	35%	2,116
Gas – Transmission	3	5.1%	311
Electricity – Transmission	3	3.0%	182
Water Supply	3	0.3%	17
Water Treatment	3	0.5%	33
Business Travel by car	3	0.4%	25
General waste from council operations	3	1.2%	74
Recycling from council operations	3	0.02%	1.4
Total	-	100%	6,073

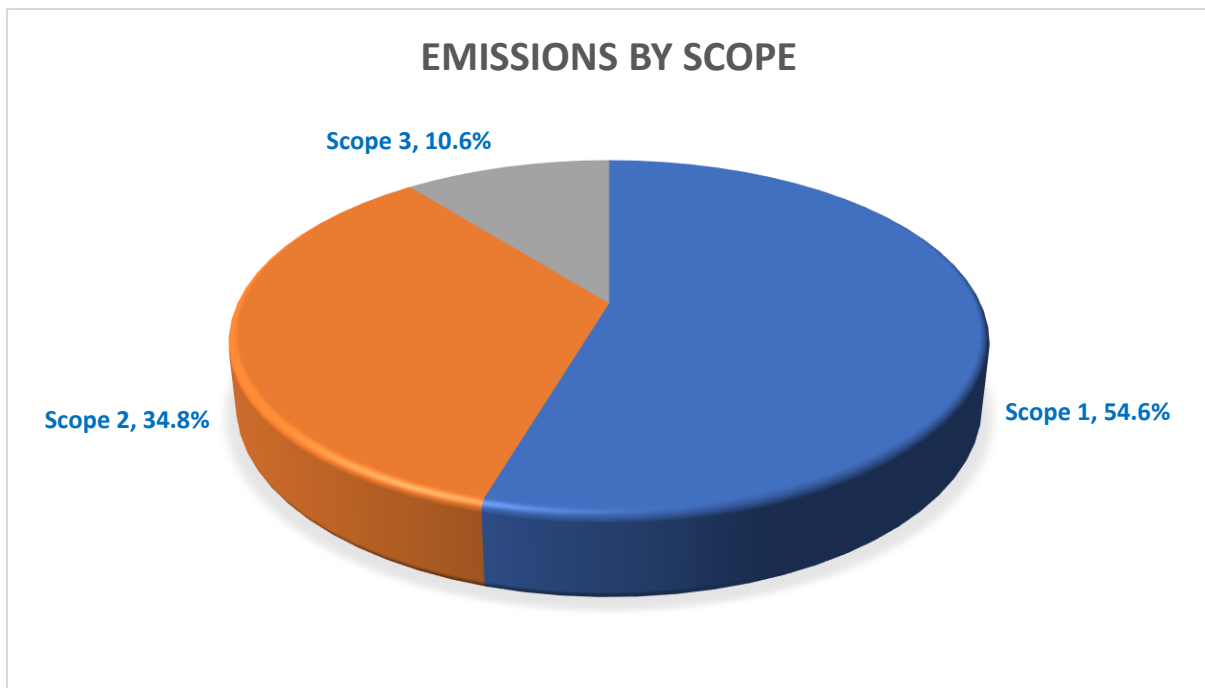
Carbon emissions by source for 2020/21



Carbon emissions by scope for 2020/21

2020/21		
Emissions Source	% Split	TonnesCO2e
Scope 1	54.6%	3,313
Scope 2	34.8%	2,116
Scope 3	10.6%	644
Total	100%	6,073

Carbon emissions by scope for 2020/21

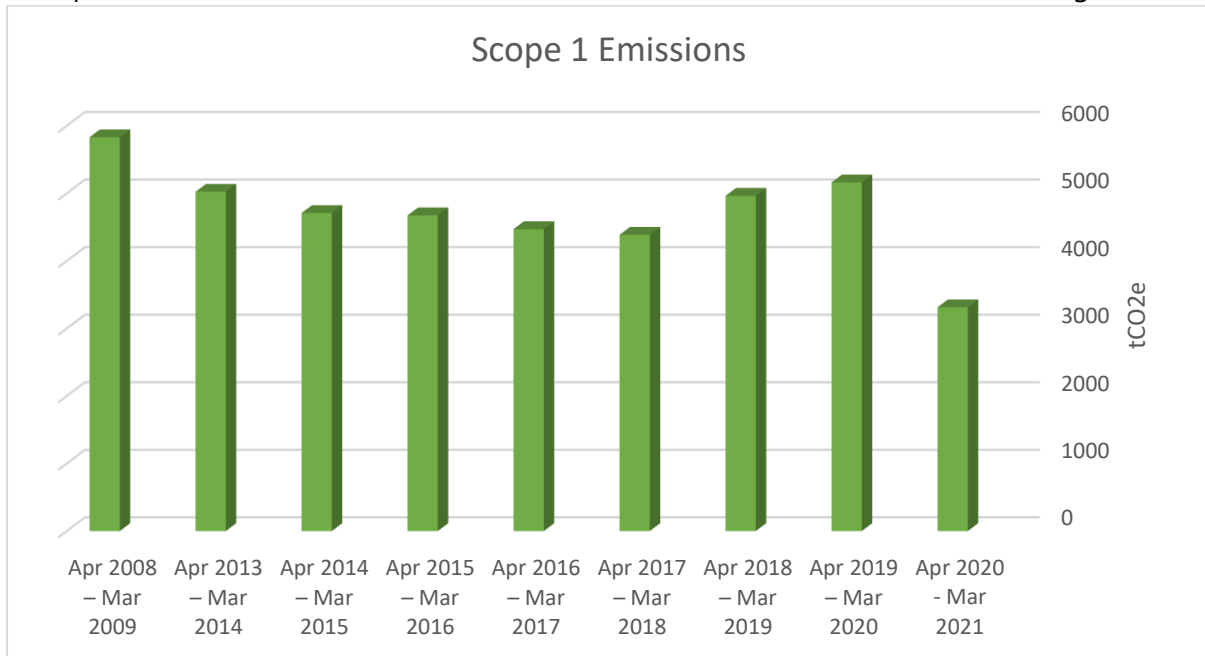


2.4 Carbon Emissions Performance

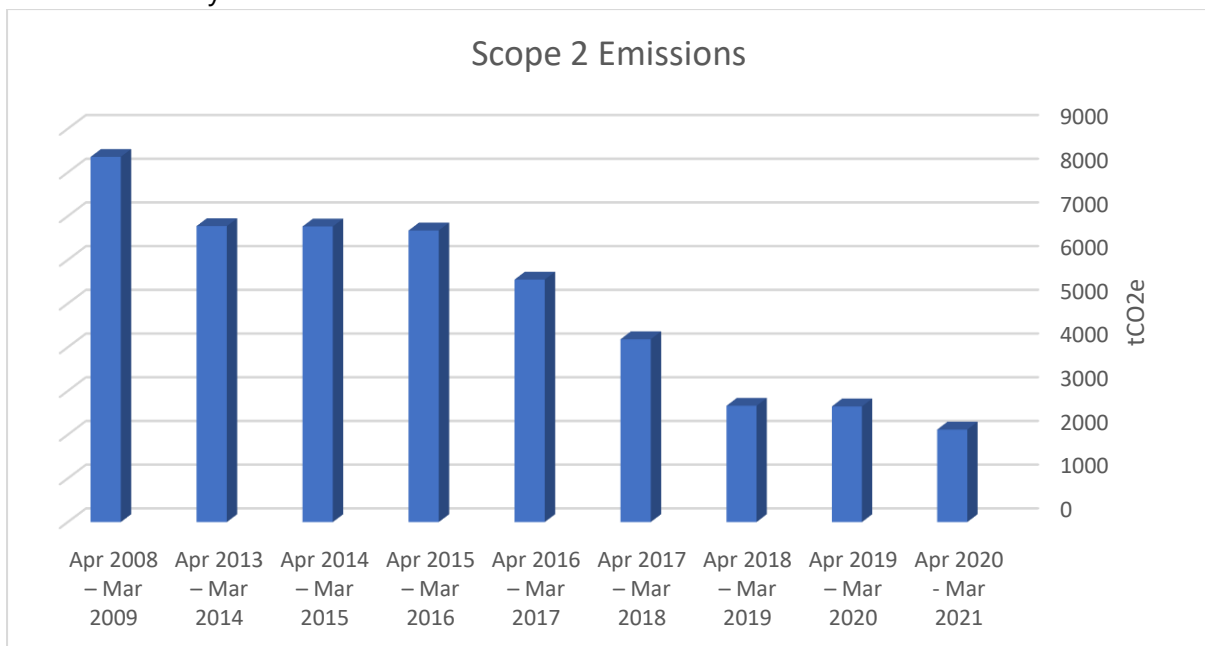
Emissions	Tonnes CO ₂ e								
	Reporting Year								Baseline Year
	Apr 2020 - Mar 2021	Apr 2019 - Mar 2020	Apr 2018 - Mar 2019	Apr 2017 - Mar 2018	Apr 2016 - Mar 2017	Apr 2015 - Mar 2016	Apr 2014 - Mar 2015	Apr 2013 - Mar 2014	Apr 2008 - Mar 2009
Scope 1 - Direct Emissions	3312.9	5161.6	4963.0	4385.7	4468.8	4673.1	4707.3	5022	5829
Natural Gas	2,393.1	3606.7	3378.2	2780.9	2811.2	3051.7	3052.8	3340.3	4161.1
Transport Fuels (operational)	919.8	1554.9	1565.2	1584.5	1631.1	1499.1	1535.3	1549.9	1595.3
Biomass (CO ₂ outside of scope)	Decommissioned	Decommissioned	Decommissioned	2.2	5.0	2.3	1.7	4.5	0
Other Fuels	Decommissioned	Decommissioned	19.5	18.1	21.5	120	117.5	127.3	72.6
Refrigerant	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	0	0	Not Available
Scope 2 - Electricity Emissions	2115.9	2645.7	2660	4182.3	5548.05	6671.6	6763.4	6771.5	8354.9
Total Scope 1 & 2 Emissions	5,429	7,807	7,623	8,568	10,017	11,345	11,471	11,793	14,184
Scope 3 - Indirect Emissions	644	806	859	991	1,080	1345.9	1489.4	1556.9	1510.6
Gas - transmission emissions (WTT)	311	469	443	421	382	414.3	409.8	448.4	363.4
Fuel Oil - transmission emissions	Decommissioned	Decommissioned	5.0	4.1	3.9	313.5	364.8	369.9	319.6
Electricity - transmission	182	225	240	391	502	500.9	591.4	592.1	601.6
Biomass - transmission	Decommissioned	Decommissioned	Decommissioned	1.4	3.1	1.4	2.3	6.1	Not Installed
Water Supply	17	14	31	30	27	57	60.6	58.1	115
Water Treatment	33	26	60	58	53				
Business Travel by car	25	49	55	61	64	45	47	67	111
Business Travel by Train	Not Available	1.31	2.12	2.22	1.60	2.1	1.9	1.8	Not Available
Business Travel by Underground	Not Available	0.17	0.33	0.32	0.34	0.3	0.3	0.2	Not Available
Waste from Council operations	74.35	20.87	20.88	20.94	41.40	8.5	8.5	recycling & waste 13.3	Not Available
Recycling from Council operations	1.43	1.13	1.13	1.15	1.11	2.9	2.8	As above	Not Available
Total Gross Emissions	6,073	8,613	8,482	9,559	11,096	12,691	12,960	13,350	15,694
Carbon offset									
Hydro generated and exported	15.9	12.0	47.7	59.7	74.6	95.7	55.8	86.7	118.5
Total Net Emissions	6,057	8,601	8,435	9,499	11,022	12,595	12,904	13,264	15,576
Further Information									
Out of Scope									
Biomass (outside of scope)	Decommissioned	Decommissioned	Decommissioned	60.1	134.6	62.9	51	133.9	Not Installed
Renewable/CHP CO₂ avoided									
Generated electricity & consumed (CHP)	1.6	625	754	CHP not operational	CHP not operational	0	101	531	486
Biomass CO ₂ offset						27.4	21.7	56.9	0
Solar PV generated and consumed on site	15.1	15.4	17.6	14.1	23.6	35	37	40	Not Installed
Degree Days at 15.5 °C <i>(an indicator of heat demand)</i>	1875	1856	1757	1950	1974	1792.7	1885.7	1941.9	2016.8
Summary of energy usage									
Total electricity kWh	9,075,558	10,350,984	9,396,811	11,885,691	13,464,504				
Total gas kWh	13,014,903	19,617,366	18,374,817	15,099,950	15,278,504				
Conversion Factors used above									
Electricity kWh to kgCO ₂ e	0.23314	0.2556	0.28307	0.35156	0.41205	0.49636	0.49426	0.49426	0.543
Gas kWh to kgCO ₂ e	0.18387	0.18385	0.18396	0.18416	0.184	0.18407	0.184973	0.184973	0.206
Diesel litres to kgCO ₂ e						2.661163	2.6024	2.6024	2.63
Gas transmission factor kgCO ₂ e (WTT)	0.02391	0.02391	0.02413	0.02785	0.02499	0.02499	0.02483	0.02483	0.1799
Electricity transmission factor kgCO ₂ e	0.02005	0.0217	0.02557	0.03287	0.03727	0.03727	0.04322	0.04322	0.039082
Fuels - transmission factor kgCO ₂ e (litres)	N/A	N/A	0.60122	0.60061	0.58484				
General Refuse to landfill to kgCO ₂ e	458.2	99.8	99.8	100.1	199.0				
General Refuse to combustion to kgCO ₂ e	21.3	21.4	21.4	21.8	21.0				
Biomass woodchip to kgCO ₂ e	N/A	N/A	N/A	6.1	13.5				

*An Excel version of this table is in Appendix A

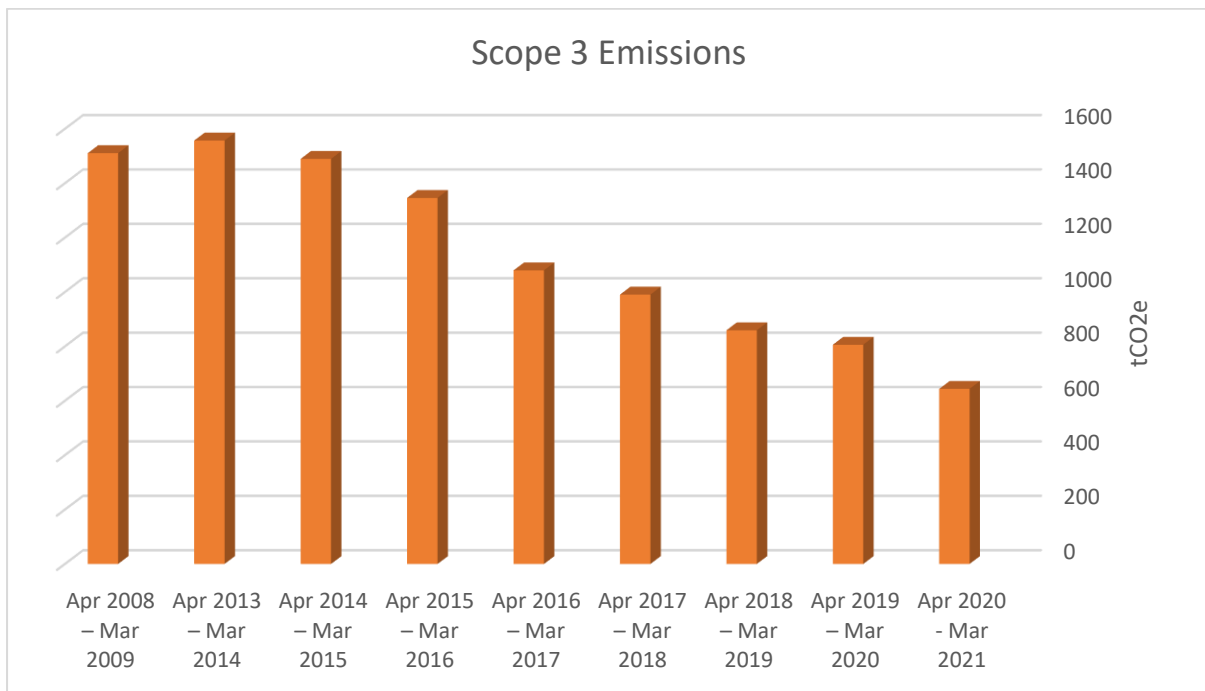
Graph showing Scope 1 emissions between 2008/09 and 2020/21 – This graph shows that there has been an overall reduction in emissions since 2008/09 and emissions have reduced by 43%. There was a significant decrease in Scope 1 emissions in 2020/21 due to covid restrictions causing a decreased usage of the Combined Heat and Power (CHP) plant at the Spectrum Leisure Centre as well as reduced use of other council owned buildings.



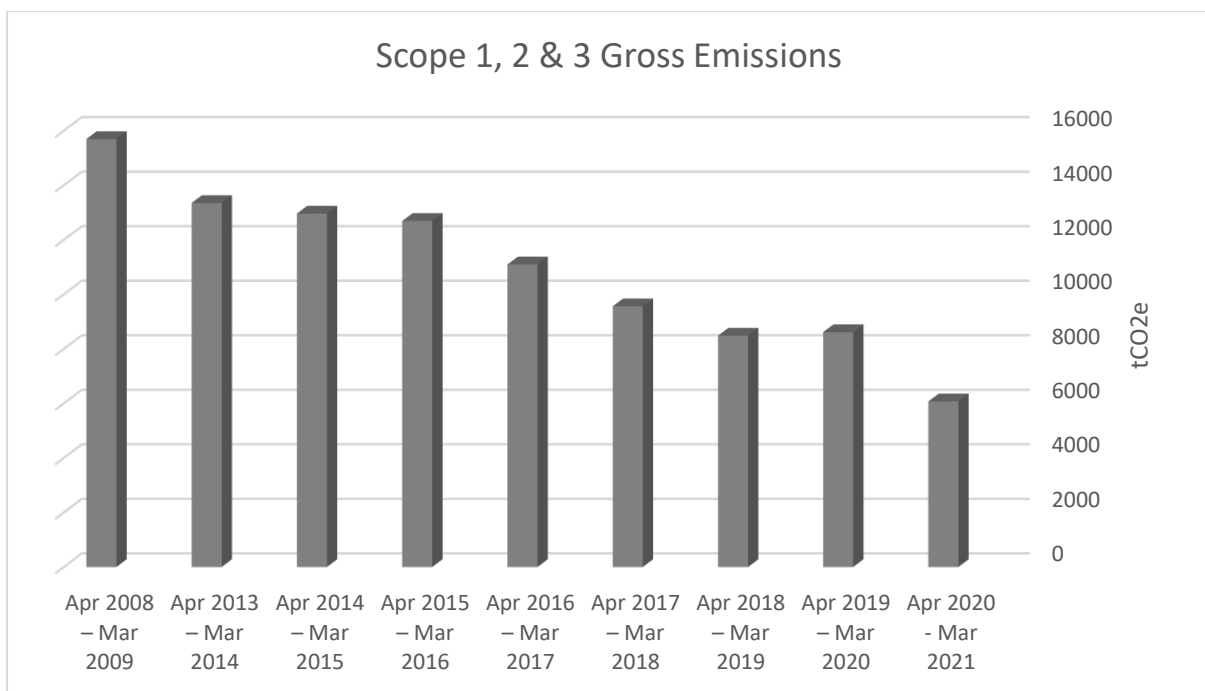
Graph showing Scope 2 emissions between 2008/09 and 2020/21 – This graph shows that there has been a steady decrease in emissions since 2008/09 and emissions have reduced by 75%. The emissions carbon factor of grid supplied electricity has decreased by 57%, so if the electricity usage had stayed the same over the term, the carbon emissions would reduce by this value.



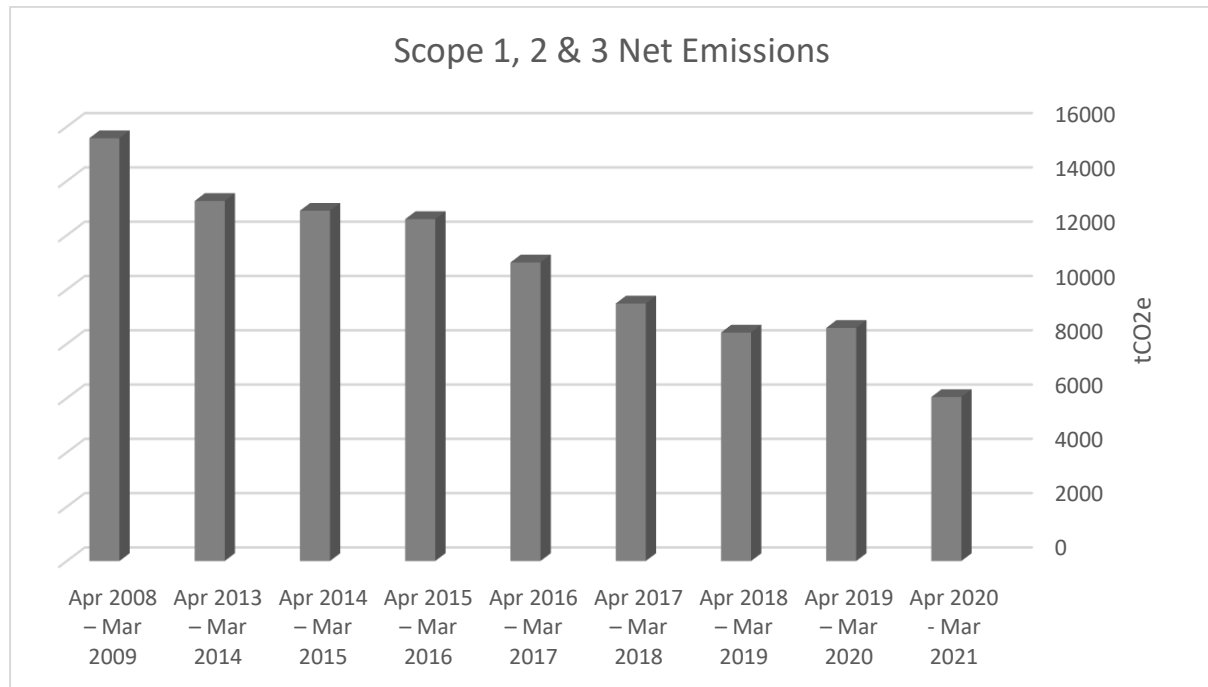
Graph showing Scope 3 emissions between 2008/09 and 2020/21 – This graph shows that there has been a steady decrease in emissions since 2008/09 and emissions have reduced by 57%.



Graph showing Scope 1, 2 & 3 gross emissions between 2008/09 and 2020/21 – This graph shows that there has been a steady decrease across Scope 1, 2 & 3 emissions since 2008/09 where emissions have reduced by 61%.



Graph showing Scope 1,2 & 3 net emissions between 2008/09 and 2020/21 – This graph shows that there has been a steady decrease across Scope 1, 2 & 3 net emissions since 2008/09 where emissions have reduced by 61%. The net emissions are the gross emissions minus the carbon offset measures.



Comparisons made against the 2020/21 year may skew data as this was a non-standard year for energy consumption. It would be advisable to compare 2021/22 data to the 2019/20 year for a more accurate representation of energy reductions/increases.

3 Notes and Observations

Scope 1

Mains Gas

Gas usage data has been provided by Total Gas and Power, EDF, British Gas and LASER.

Biomass

Biomass fuels are often referred to as being carbon neutral because the amount of carbon emitted during combustion is equivalent to the amount of carbon that is absorbed as part of photosynthesis during the lifetime of the plant.

Within the Scope 1 conversion factors for biofuels, the CO₂ emissions value is set as net '0' to account for the CO₂ absorbed by fast-growing bioenergy sources during their growth. The Scope 1 conversion factors presented in this listing contain values for nitrous oxide (N₂O) and methane (CH₄) emissions (which are not absorbed during growth).

The biomass boiler was decommissioned in 2018.

Council Owned Vehicles

The fuel usage for refuse and waste vehicles is much higher than the rest of the fleet combined. The distance travelled, and fuel consumed is expected to be high for these vehicles, and this makes up 68% of the total fuel used across all vehicles.

Scope 2

Electricity

Carbon emissions were calculated from the electricity usage data as provided by LASER, who procure the Council's energy on their behalf. There are selected sites where a pro rata calculation has been applied to account for apparent missing dates. The Council should confirm that these sites are missing data rather than a contract has started/ended.

Scope 3

Water

Consumption data has only been provided for the water supply and not the Return to Sewer (water treatment) element. The volume of water that is supplied and returned to the sewer is typically estimated to be 95%. However, this is not always the case if the premises uses water for other purposes such as irrigation, etc.

As water treatment data was not available an assumption has been made that this element is 95% of the water supply volume. For future reporting, the Council should source data directly from the wastewater company to get more accurate data. This is particularly prominent, as the carbon emissions associated with wastewater are twice as high as water supply.

Emissions from water consumption is not included within the GHG Protocol, but emissions from wastewater are. Following the principle that as much data should be collected as possible, APSE Energy recommends that emissions from water should be included within the reporting for the Council as water consumption has associated carbon emissions and an environmental impact. Including water consumption helps to keep it on the environmental agenda and prioritise it with other categories by converting usage into a standardised unit of CO₂e.

Business Travel by Staff Owned Car

Two vehicles have been recorded as using 'Euro IV Diesel'. For carbon conversion purposes, this has been recorded as Urea, also known as AdBlue.

Business Travel by Rail

Data for business travel by rail has not been provided, however it is assumed that any travel by rail would be very limited due to covid restrictions.

Waste

Specific waste data is not available from 2016 to 2020 and an average and equal volume of waste has been applied across all years based on a sample of weekly collection figures. The carbon emissions of waste across years changes because of the carbon emissions factor, rather than the volumes of waste.

The carbon conversion factor for General Refuse to landfill is twice as high in 2016/17 compared to the other reporting years. BEIS were contacted to query this, and the response stated that 'Jumps in the Conversion Factors for waste disposal can occur between years due to more relevant/up to date/accurate data becoming available'. However, this does not explain why there is such a high variation. In 2020/21 the carbon conversion figure jumps up by a very significant amount, hence the reasoning why the carbon emissions for waste landfill have almost quadrupled.

Refuse waste has been categorised under 'Commercial and Industrial Waste' for carbon conversion purposes. This has been assessed assuming that 5% of the refuse waste goes to an Energy from Waste facility and the remaining 95% goes to landfill.

The waste associated with sites managed by Freedom Leisure have not been included as this is managed by the third party. However, the electricity and gas from these sites is included under Scope 1&2 as the Council pay for the fuel.

Carbon Offsetting

Electricity that is generated locally and exported to the grid is considered a carbon offset as the Council do not directly benefit from using the electricity onsite. Power generation would be a direct carbon saving if it were used on site as this will mean that less grid supplied electricity will be used.

Exported electricity is accounted as an emissions reduction against the gross figure to report a net figure in tonnes of CO₂e. This net figure is additional to the gross figure and does not replace it.

Hydroelectric

All the electricity generated from the hydro-electricity plant is exported to the grid. The grid average emissions factor is used to calculate the emissions which are considered as an offset as the generated electricity is not used by any Council owned assets. It is understood that consideration is in place to provide a private wire to connect the hydroelectricity to Council owned buildings which should reduce electricity costs and carbon emissions. The carbon offset was higher than last year but still significantly lower than prior years, this will be due to the plant not producing any electricity for 5 months of the year.

Solar Photovoltaics (PV)

The total generation from solar panels includes sheltered housing blocks. It was highlighted that these sites were excluded from previous GHG (CRC) reporting as these are classed as domestic.

The Solar PV information was downloaded from the Council's solar PV portal. There was a slight discrepancy to this data and the data supplied by the Council and the portal data was chosen to base the carbon calculations on.

In a typical setup where PV is installed on the roof of a building, the generated power would be used by the buildings day-to-day operations and any excess generated electricity (when the generated electricity is higher than the building load) is exported to the grid. For most commercial premises, the exported electricity is minimal or nothing as the building typically uses more electricity than is generated.

If 100% of the electricity is used on site, and not exported to the grid, then this is not counted as a carbon offset and should not contribute towards the net emissions as this is already taken into account from the buildings electricity usage and this would be double counted.

A line is on the Carbon Summary table under 'Renewable/CHP CO₂ avoided' which shows the carbon emissions that have been avoided by having PV generated electricity on site.

There is no evidence that an export meter is present at these sites to record how much electricity is exported. Based on the size and age of the PV it is assumed that a payment is made under the Feed in Tariff (FiT) for a 'deemed export' payment. Deemed export payments are part of the FiT scheme where it is assumed that 50% of the generated electricity of systems under 30kWp is exported regardless of whether it is or not. This means that export meters were not normally installed so the actual export is unknown. For the purpose of the carbon reporting it assumed that no electricity is exported.

Further Notes and Observations

The bottom section of the Carbon Summary shows further information that was used in each reporting year such as a summary of annual energy usage (kWh), avoided CO₂ from renewables, degree days (see Glossary) in each year and a summary of conversion factors.

The carbon savings associated with the CHP at The Spectrum are taken from the offset of producing electricity on site and does not include the heat. This is because the heat produced is associated with the gas used by the CHP. The CO₂ savings are shown for information and have not been included separately under the gross or net emissions as this is already accounted for under the sites main metering consumption.

Degree day data has been sourced from a weather station located at Gatwick Airport.

Billing from Npower, Opus Energy, British Gas, EDF, Eon, Southern Electric and LASER shows that the Council are responsible for 331 electricity meters, which provides a reasonable representation of how many assets the Council operate. A review should be carried out of each asset to determine if the Council are responsible for paying the

electricity and gas usage and taking ownership for the associated carbon emissions. It is not uncommon for assets to be sold, leased or decommissioned yet the Council continue to pay for the utilities.

There is a line in the Carbon Summary table for 'Biomass CO₂ Offset', which has been populated between 2008/09 and 2015/16. After much deliberation with the Council, it was inconclusive about what this was reference to as emissions from biomass are identified under Scope 1 and the Council has not engaged in any planting schemes that could be considered an offset.

4 Recommendations for Gathering Data Going Forward

4.1 Scope 1 and 2 Emissions

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. The Council already has SystemsLink software in place which should be utilised to store all energy data so it is readily accessible.

4.2 Scope 3 Emissions

Scope 3 emissions can account for 70-80% of a council's total footprint (Carbon Trust), given the use of contractors for waste collection, construction, social services and other services.

Appendix C shows the 15 different categories of Scope 3 emissions and what data should be gathered to report on emissions in future years. Where applicable, the Council should develop policies/procedures to gather the data from third parties. This should be incorporated into the procurement process and contracts with suppliers.

It is discretionary for an organisation to report on Scope 3 emissions. It should be explained and documented in subsequent carbon reports if the Council is unable to obtain data for any of the items below as it is deemed financially impractical or not significant. The reporting principles should be based on:

- Relevance;
- Completeness;
- Consistency;
- Transparency;
- Accuracy.

Emissions data that should be improved in subsequent years includes waste. Policies should be put in place to start recording waste data. This could be through contractual changes i.e. waste contractor weighing and recording waste type, or the Council can measure its own waste. There are tracking sheets from WRAP to monitor

waste streams and these could be used in the short term until the waste contractor can record it.

Purchased goods and services could also be included under Scope 3 as this will represent a high level of emissions down the supply chain. However, obtaining this data from third parties may prove difficult and the Council should assess what relevant goods and services could be recorded in subsequent years.

5. Glossary

Term	Definition
BMS	Building Management System – Automated control for building services.
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.
Degree Day	A heating degree day (HDD) is a measurement designed to quantify the demand for energy needed to heat a building. It is the number of degrees that a day's average temperature is below a baseline temperature, which is the temperature below which buildings need to be heated.
Electricity	Electricity used at sites owned/controlled by the Council. This is reported as a Scope 2, indirect emission. The conversion factors used are for the electricity supplied by the grid that the Council purchase - they do not include the emissions associated with the transmission and distribution of electricity.

Employee Vehicles	Travel for business purposes in 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.
[Natural] Gas	Primary fuel sources combusted at a site or in an asset owned or controlled by the Council.
MPAN & MPR	The MPAN (Meter Point Administration Number) and MPRN (Meter Point Reference Number) are unique numbers assigned to the electricity and gas supplies. This information has been provided as a reference and can be used to identify each meter.
Solar PV	Solar Photovoltaic panels to generate renewable electricity from the sun.
Transmission and Distribution	Transmission and distribution (T&D) factors are used to report the Scope 3 emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the premises).
TRV	A Thermostatic Radiator Valve is a self-regulating valve which is fitted to radiators to control localised temperatures.
Wastewater	Water returned into the sewage system through mains drains.
Water Supply	Water delivered through the mains supply network.

Appendix A – Carbon Footprint Calculations

Appendix B – Local Government Carbon Calculation Tool

The above appendices are provided separately as spreadsheets.

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

The reporting of Scope 3 emissions is discretionary.

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,</p>

		<p>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</p>

		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.
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> 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 • 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	It is assumed that this category is not applicable to the Council as it does not manufacture and sell products.
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>

		Data required include the Scope 1 and 2 data from the leased asset.
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> <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.</p> <p>The Councils scope 3 emissions from investments are the scope 1 and scope 2 emissions of investees.</p> <p>For purposes of greenhouse gas accounting, this standard divides financial investments into four types:</p> <ul style="list-style-type: none"> • Equity investments • Debt investments • Project finance • Managed investments and client services <p>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.</p> <p>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.</p>