Carbon Footprint Report: Baseline Council, Borough and Parish Emissions

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Report Author:

Sammy Gray,
Climate Change and Environmental Projects Officer

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1. Background

1.1. Wyre Borough

1.1.1. As part of the 2019 Climate Emergency Declaration, the council committed to reducing, as rapidly as possible, the carbon emissions resulting from the council's activities to net zero by 2050[1].

1.1.2. The declaration also included a commitment to measure a baseline carbon footprint, in order to understand the key areas where emissions are produced within the council to inform reduction targets.

1.2. Wyre Borough

1.2.1. The council's Climate Emergency Declaration also commits to supporting and working with all relevant agencies towards making the entire Wyre area zero carbon within 2050.

1.2.2. As a second-tier authority, the council does not have the level of direct control over the borough as it does over its own resources. However, analysis of borough emissions allows for the identification of key emitting sectors that the council can support to reduce carbon emissions locally.

1.3. Parish & Town Councils

1.3.1. In addition to the analysis of borough emissions, further information is available detailing the breakdown of borough-wide emissions by parish and town council in Wyre.

1.3.2. This highlights the emissions generated within each parish and town council, from sources such as industry, transport and housing. However it also provides an insight into carbon footprints at a household level, based on diet, travel and use of goods and services. This allows for a more targeted approach to reducing emissions across the borough.

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[1] The council committed to this target prior to the Government's announcement on new climate change targets in April 2021.

2. Methodology

2.1. Baseline Years

2.1.1. The 2018/19 financial year was chosen as the baseline for the council and borough carbon footprint. This was because data for this year was most readily available at the time of collection. Borough data is published with a two-year time lag, therefore 2018 is the most recent year for emissions analysis over Wyre as a whole.

2.1.2. In addition, council emissions data from 2019/20 has also been evaluated for comparison.

2.2. Carbon Dioxide Equivalent (CO_2e)

2.2.1. Emissions were determined by multiplying consumption data from the council with conversion factors set by the Department for Business, Energy & Industrial Strategy (BEIS). This accounts for the seven main Greenhouse Gases that contribute to climate change, as detailed in Table 1.

2.2.2. Each Greenhouse Gas varies in potency, which relates to their ability to trap heat in the atmosphere. For instance, F-gases can be 10,000 times more potent than carbon dioxide. Therefore, to standardise results, all the Greenhouse Gases are expressed collectively as one unit: 'Carbon Dioxide Equivalent' (CO_2e).

Table 1: Details of the seven main Greenhouse Gases (GHGs), expressed together as Carbon Dioxide Equivalent (CO_2e), and the main sources for these emissions.

Carbon Dioxide Equivalent (CO_2e)	Greenhouse Gases (GHG)	Main Sources of GHGs
	Carbon Dioxide (CO_2)	- Oil, coal and gas (fossil fuels); - Manufacture and cement; - Deforestation.
	Methane (CH_4)	- Organic waste; - Livestock.
	Nitrous Oxide (N_2O)	- Synthetic fertilisers.
	F-Gases (fluorinated gases): - Hydrofluorocarbons (HFCs); - Perfluorocarbons (PFCs); - Sulfur Hexafluoride (SF6); and - Nitrogen Trifluoride (NF3).	- Refrigeration; - Aerosols.

2.3. Council Emissions Analysis

Carbon Accounting Tool

2.3.1. One Carbon World (OCW), commissioned by the council in early 2020, initially provided carbon footprint data. However, since then the Local Government Association (LGA) have released a Carbon Accounting Tool. This is a freely available tool designed for local authorities to calculate their emissions in-house. It also allows for direct comparison between financial years, without commissioning external providers to calculate this each year.

2.3.2. As such, the data presented in this report is from the LGA Carbon Accounting Tool. It is important to note however, that whilst the same data was used for both the OCW and LGA calculations, separate results were provided. This highlights that a carbon footprint is a 'best estimate' calculation and, until tools are developed to include more detailed analysis, they will provide only an approximation of the council's emissions.

Emission Scopes

2.3.3. The Greenhouse Gas Protocol was used to gather and categorise the data. This is the most widely used tool to understand, quantify and manage greenhouse gas emissions internationally.

2.3.4. The protocol splits emissions into three Scopes, as detailed in Table 2. This accounts for both direct and indirect emissions, which occur from sources owned by the council or externally from within the council's supply chain.

Table 2: Details of GHG emission sources included in the LGA Carbon Accounting Tool.

GHG Emission Scopes		Activities
Scope 1	**Direct emissions** from sources owned or controlled by the organisation.	- Gas for **heating** council buildings; - Fugitive emissions from leaking **air conditioning** and refrigeration units; - Fuel consumption from council **vehicle fleet**.
Scope 2	**Indirect emissions (owned)** produced by consuming purchased energy from a utility provider.	- **Electricity** for building use and street lighting.
Scope 3	**Indirect emissions (not owned)** produced from council activities, but at sources not owned/controlled by the organisation. Described as 'upstream' and 'downstream' activities within the supply chain.	- Staff **business travel**; - **Transmission and distribution** losses within the supply chain; - **Water** supply and treatment.

Exclusions

2.3.5. The emissions calculation includes all assets and operations that fall under the council's core functions. This **includes subcontracted activities** that enable the council to continue to operate, covering YMCA leisure centres, Danfo public toilets, and Veolia waste collection.

2.3.6. The Commercially leased property, where tenants are responsible for utilities, were **not included** within the emissions calculation. Instead, current council policy requires a minimum Energy Performance Certificate (EPC) rating of E for tenanted buildings, which is addressed at the commencement of a new lease.

Missing Data

2.3.7. Whilst the majority of data was available for calculating the associated emissions for 2018/19, some data was unavailable for collection. Further details are listed within Table 3, alongside an outcome to explain any likely impact on the final emissions calculation for each year.

2.3.8. Additional data for indirect scope 3 emissions, such as employee commuting and council waste, are not currently measured using the Carbon Accounting Tool. Whilst this is unlikely to significantly affect results, as the tool is developed, future collection of this data will be necessary for a more accurate picture of the council's emissions.

Table 3: Missing data for the 2018/19 emissions calculations.

	Missing Data	Outcome
Scope 1	Four months of gas data was missing for the YMCA leisure centres due to a change in utility providers.	A figure for the missing months was calculated based on an average of the yearly totals.
	Details of any fugitive emissions from potential leaking air conditioning units for the YMCA leisure centres (if applicable).	**Excluded**. May not be applicable if no leaks occurred.
Scope 2	Electricity data for April 2018 was missing for the council buildings.	An average for April was calculated based on the other month's data.
	As above, four months of electricity data was missing for the YMCA leisure centres due to a change in utility providers.	A figure for the missing months was calculated based on an average of the yearly totals.
	Street lighting data for council owned car parks and footpaths.	**Excluded**. This is unlikely to be a large source of emissions and may be contained within building electricity supply. Clarification is to be sought.
Scope 3	Water supply and treatment data for YMCA leisure centres (due to staff constraints during the pandemic).	**Excluded**. This is likely to be a large figure for leisure centres with swimming pools and bathing facilities.
	Specific data on engine sizes for staff business travel was unavailable.	Data was included an as 'average medium car of unknown fuel type'. Future staff expenses will ideally include greater level of detail such as fuel type, car and engine size.

2019/20 Comparison Data

2.3.9. Data for the 2019/20 financial year has also been collected using the LGA Carbon Accounting Tool. The same methods and exclusions also applied to the data, in order to standardise results.

2.3.10. As above, some data was missing from the 2019/20 calculation. Whilst these are unlikely to have a large impact on the level of emissions, details of the missing data is displayed in Table 4.

Table 4: Missing data for the 2019/20 emissions calculation.

	Missing Data	Outcome
Scope 1	Details of any fugitive emissions from potential leaking air conditioning units for the council buildings and YMCA leisure centres (if applicable).	**Excluded**. May not be applicable if no leaks occurred.
Scope 2	Street lighting data for council owned car parks and footpaths.	**Excluded**. This is unlikely to be a large source of emissions and may be contained within building electricity supply. Clarification is to be sought.
Scope 3	Water supply and treatment data for YMCA leisure centres (due to staff constraints during the pandemic).	**Excluded**. This is likely to be a large figure for leisure centres with swimming pools and bathing facilities.
	Specific data on engine sizes for staff business travel was unavailable.	Data was included an as average medium car of unknown fuel type. Future staff expenses will ideally include greater level of detail such as fuel type, car and engine size.

2.4. Borough Emissions Analysis

BEIS Data

2.4.1. Each year, the Department for Business, Energy & Industrial Strategy (BEIS) produce estimates of carbon dioxide emissions at a local authority and regional level. These statistics provide the most reliable and consistent breakdown of CO_2e emissions across the country, using nationally available data sets.

2.4.2. The data provided covers estimated emissions for the period between 2005 and 2018. This is due to **a two-year time lag** between publishing figures, which are released annually in June.

2.4.3. The raw data is published on the GOV.UK website and is accessible via the following link: https://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics.

Sectors

2.4.4. The emissions sources for each local authority are split across three main end-user sectors: Industry and Commercial, Domestic and Transport. These are further broken down to individual subsectors, as detailed in Table 5 below.

*Table 5: Main sectors and subsectors representing emission sources across the borough. *Large industrial installations not applicable to Wyre.*

Industrial and Commercial	Domestic	Road Transport
• Electricity • Gas • Large Industrial Installations* • Other Fuels • Agriculture	• Electricity • Gas • Other Fuels	• A Roads • Minor Roads • Other

2.4.5. An additional sector is Land Use, Land Use Change and Forestry (LULUCF). This is omitted from the main dataset, as BEIS do not consider this sector to be within the scope of local authorities. Further information on LULUCF figures are detailed in Section 3.2.5 below.

2.5. Parish/Town Council Emissions Analysis

Impact Tool

2.5.1. In February 2021, the Centre for Sustainable Energy released the Impact Tool for community carbon footprints. This draws on more than 30 established datasets and demographics to model emissions at a parish level, enabling smaller communities to target their climate emergency efforts for greatest impact.

2.5.2. The data is freely available online, which is accessible via this link: https://impact-tool.org.uk/.

2.5.3. The tool represents an area's carbon footprint via two methods: territorial or consumption-based. The two methods cannot be directly compared, but provide useful information.

Territorial Footprints

2.5.4. Territorial footprints consider all emissions **generated** within a particular boundary. This is similar to the BEIS borough data provided above, and focuses on sectors including industrial, commercial, domestic, agricultural, transport and land use/land use change and forestry (LULUCF).

2.5.5. However, it is important to note that the territorial dataset can be largely skewed by local infrastructure. For instance, if a community contains a large farm or factory, territorial footprints would include these emissions, despite any produce from these being exported out of that community. It would also include a proportion of emissions

from a large A-road or motorway passing through a community, despite this being largely used by travellers and freight passing through the area.

2.5.6. This method is useful for identifying emissions produced within an area and subsequently targeting key emitting **sectors**, rather than communities, for reduction.

Consumption-Based Footprints

2.5.7. Consumption-based footprints reflect **individual behaviours** at a household level, which contribute to emissions within each parish/town council. This looks at how people live their lives and tends to reflect the relative affluence of a given area.

2.5.8. Included within this dataset is both 'upstream' and 'downstream' emissions from residents' consumption of goods and services, typical food and diet, energy used in housing, travel preferences and waste. These emissions may occur outside of the area, such as residents taking international flights, but they highlight areas in local people's lifestyles that significantly contribute to climate change.

2.5.9. This is a useful method of carbon footprint analysis as it is closely attributed to personal carbon footprint calculations. This allows for a more targeted approach for education and behaviour change strategies to enable residents to better understand and reduce their household emissions.

Limitations

2.5.10. The Impact Tool is a relatively new tool for analysing footprints which currently only reports on emissions for parish and town councils. Whilst this provides useful data to work from, it excludes areas that are not represented by a parish or town council. Within Wyre, areas such as Poulton-le-Fylde and Thornton-Cleveleys are therefore not included within this analysis.

2.5.11. In recognition of this limitation, the creators of the tool are developing it to include an analysis of ward areas in the future, to allow for better carbon footprint coverage of all areas.

3. Results

3.1. Council Emissions

2018/19 Baseline Data

3.1.1. Overall, the total emissions for the 2018/19 financial year was 2,726.62 tonnes CO_2e.

3.1.2. The distribution of emissions across each activity and subsequent scope is shown in Figure 1, Table 6 and

3.1.3. Figure 2. The three most significant sources of emissions were:

1. Gas heating, 35% of emissions (951 tonnes CO_2e).
2. Authority fleet, 30% of emissions (829 tonnes CO_2e).
3. Electricity, 29% of emissions (784 tonnes CO_2e).

3.1.4. It is important to note that a problem was identified with the heating at Fleetwood Market during 2018/19 and 2019/20. Therefore, the gas consumption data for both financial years may be artificially higher as a result of this and other factors.

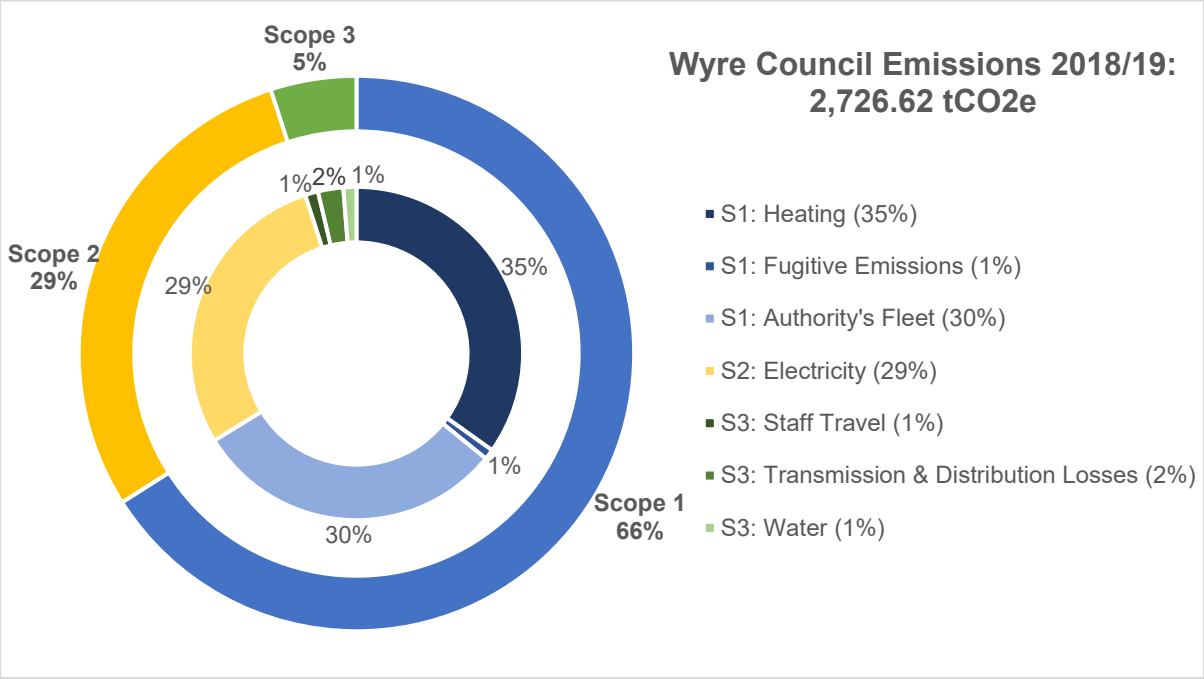

Figure 1: Wyre Council emissions (tCO_2e) for 2018/19 by GHG Protocol Scope.

Table 6: Wyre Council emissions (tCO_2e) details for 2018/19 by GHG Protocol Scope.

Scope	Description	tCO_2e	% of total
Scope 1 (66%)	Heating	950.49	35%
	Fugitive Emissions	27.14	1%
	Authority's Fleet	829.18	30%
Scope 2 (29%)	Electricity	784.11	29%
Scope 3% (5%)	Staff Travel	34.37	1%
	Transmission & Distribution Losses	66.83	2%
	Water	34.49	1%

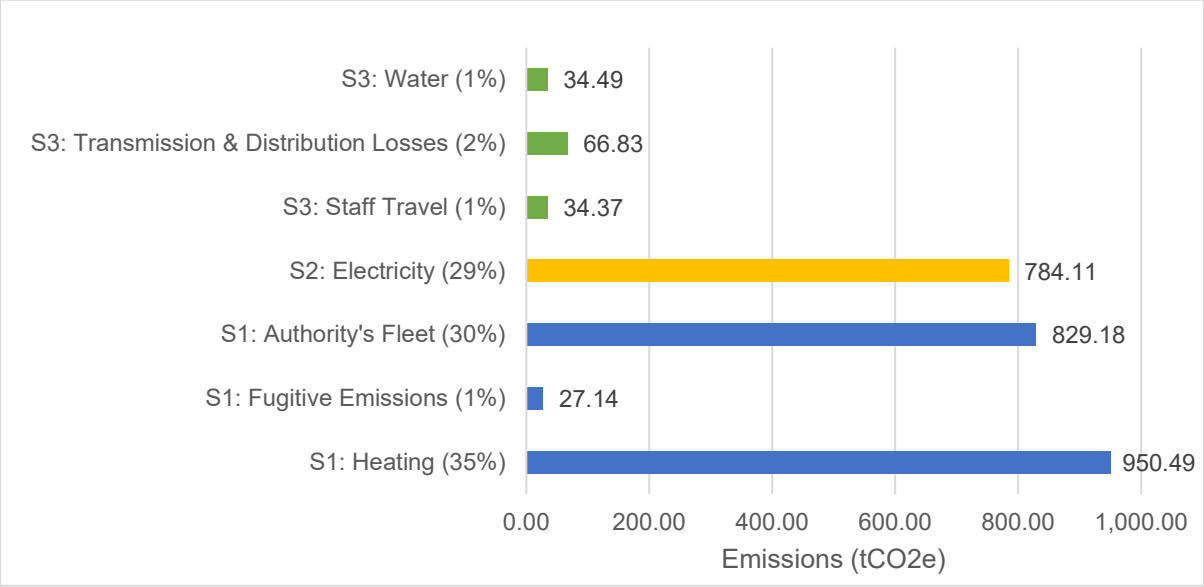

Figure 2: Sources of Wyre Council emissions (tCO_2e) for 2018/19.

2019/20 Comparison Data

3.1.5. Since the calculation of the 2018/19 baseline for the council's carbon emissions, it has been possible to collect and evaluate data for the 2019/20 financial year.

3.1.6. The total emissions for the 2019/20 financial year was 2,282.00 tonnes CO_2e. This represented a drop of 16% (444.62 tonnes CO_2e) from 2018/19 data.

3.1.7. The sources of emissions in 2019/20 were broadly similar to the baseline 2018/19 figures (see Figure 3 and Table 7). Although the order of the most emitting activities has changed, the largest source of emissions were still from the same sources:

1. Authority fleet, 37% of emissions (848 tonnes CO_2e);
2. Electricity, 29% of emissions (670 tonnes CO_2e);
3. Gas heating, 28% of emissions (644 tonnes CO_2e).

3.1.8. When comparing data, it is apparent that gas heating and electricity use dropped during the 2019/20 financial year (see Figure 4). The removal and replacement of gas boilers at Fleetwood Leisure Centre, which were out of use between October and March 2019, is likely to have contributed to this drop in gas use. Works on LED

lighting for the Civic Centre may have also influenced the small drop in electricity consumption.

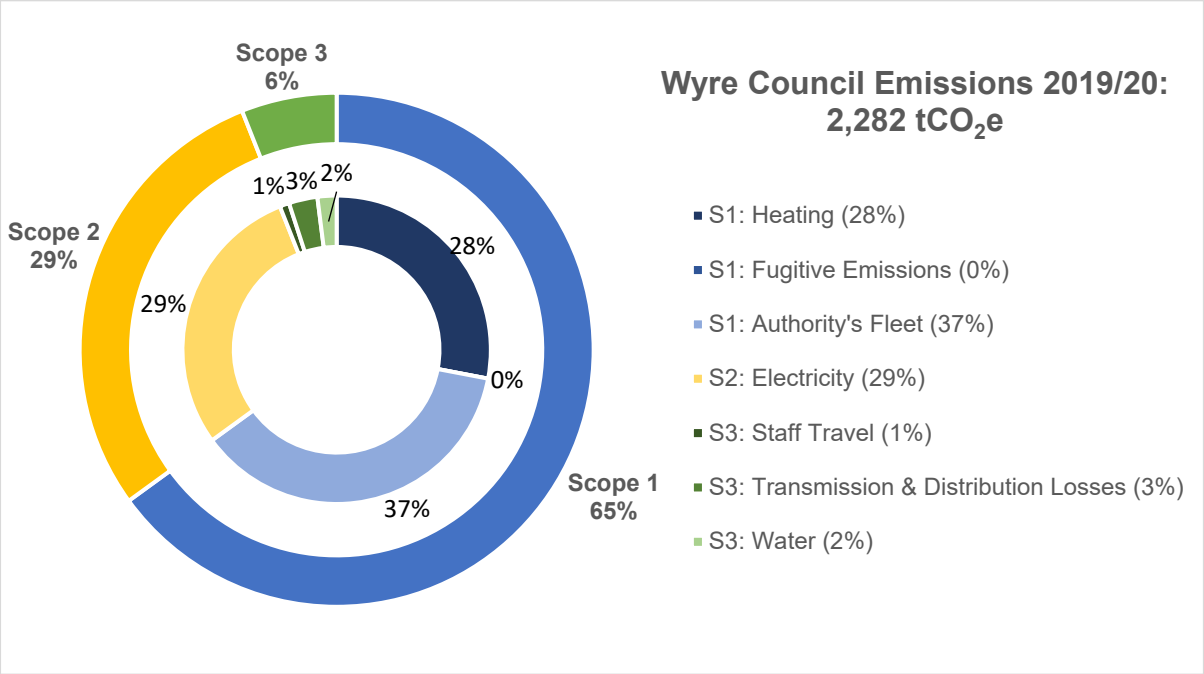

Figure 3: Wyre council emissions (tCO_2e) for 2019/20 by GHG Protocol Scope.

Table 7: Wyre council emissions (tCO_2e) details for 2019/20 by GHG Protocol Scope.

Scope	Description	tCO_2e	% of total
Scope 1 (65%)	Heating	643.55	28%
	Fugitive Emissions	0	0%
	Authority's Fleet	848.02	37%
Scope 2 (29%)	Electricity	670.67	29%
Scope 3% (6%)	Staff Travel	27.74	1%
	Transmission & Distribution Losses	56.94	3%
	Water	34.09	2%

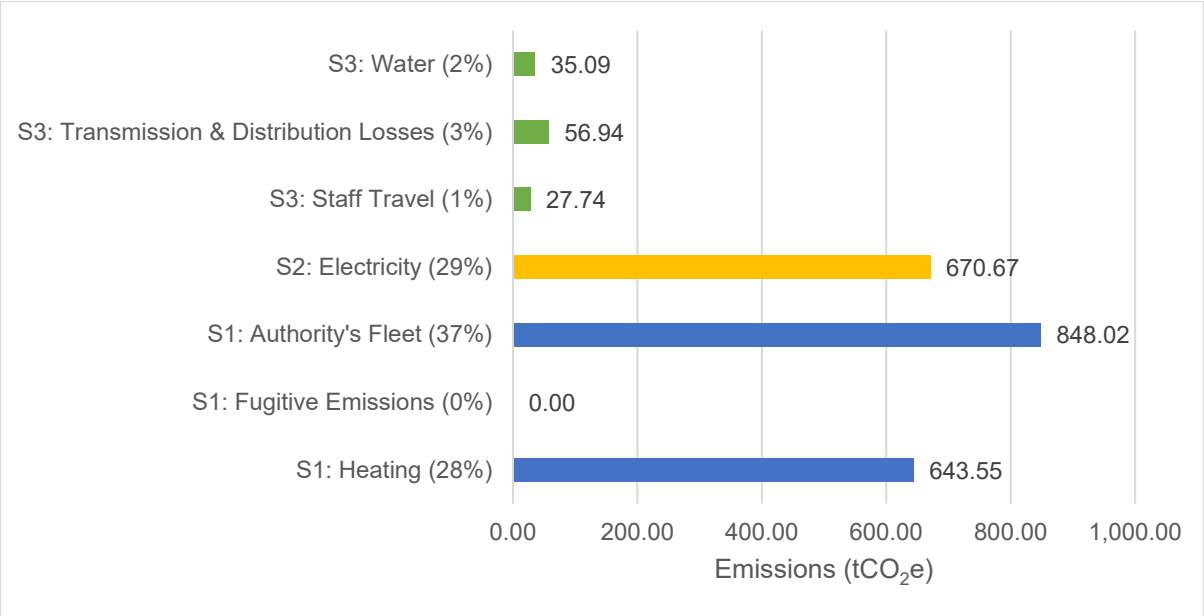

Figure 4: Sources of Wyre Council emissions (tCO_2e) for 2019/20.

3.2. Borough Emissions

3.2.1. Overall, estimated total emissions from Wyre Borough in 2018 were approximately 500,300 tonnes CO_2e. According to population statistics, the population of Wyre in 2018 was 111,223. This equates to approximately 4.50 tonnes CO_2e per person.

3.2.2. Emissions have been gradually decreasing in Wyre since 2005, with 2018 representing the lowest total so far (see Figure 5).

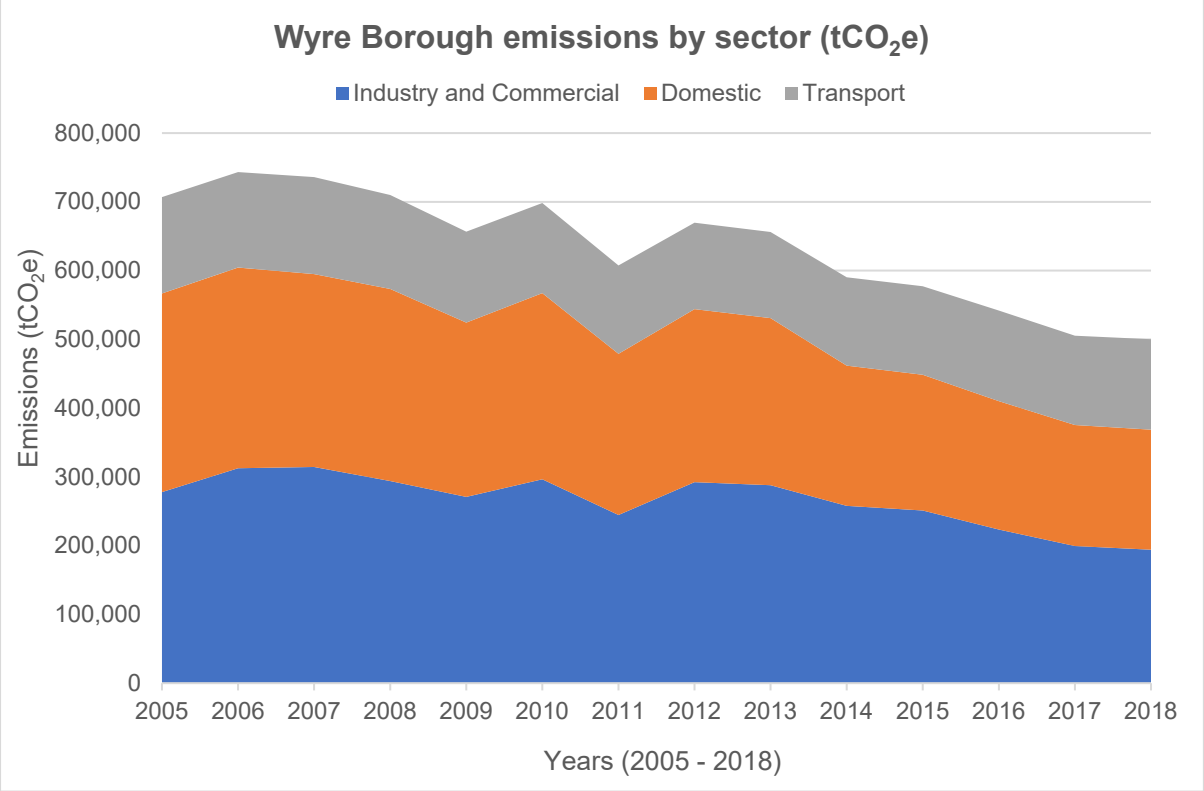

Figure 5: Wyre borough emissions estimates (tCO_2e) by sector from 2005 - 2018.

3.2.3. Figure 6 reveals the main sectors and subsectors contributing to these emissions. In 2018, the Industry and Commercial sector is the highest emitting, producing 39% of emissions, followed closely by the Domestic sector with 35% and finally Transport with 26%.

3.2.4. Of the main sectors, Figure 7 demonstrates that four key subsectors were responsible for the majority of 2018 emissions in Wyre. These were:

1. Domestic gas, 24% of emissions (118,300 tonnes CO_2e).
2. Industry & Commercial gas, 15% of emissions (73,600 tonnes CO_2e).
3. Industry & Commercial electricity, 14% of emissions (71,700 tonnes CO_2e).
4. Transport (minor roads), 14% of emissions (69,900 tonnes CO_2e).

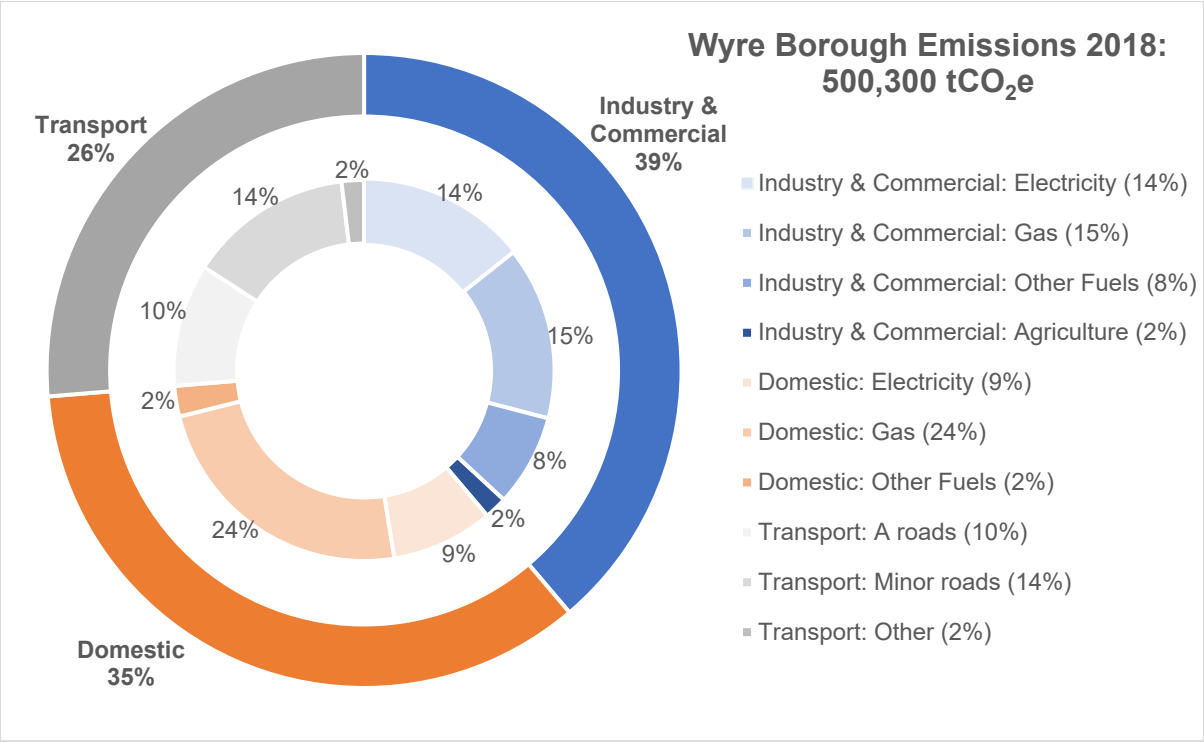

Figure 6: Wyre borough emissions estimates (tCO_2e) for the main end-user sectors in 2018.

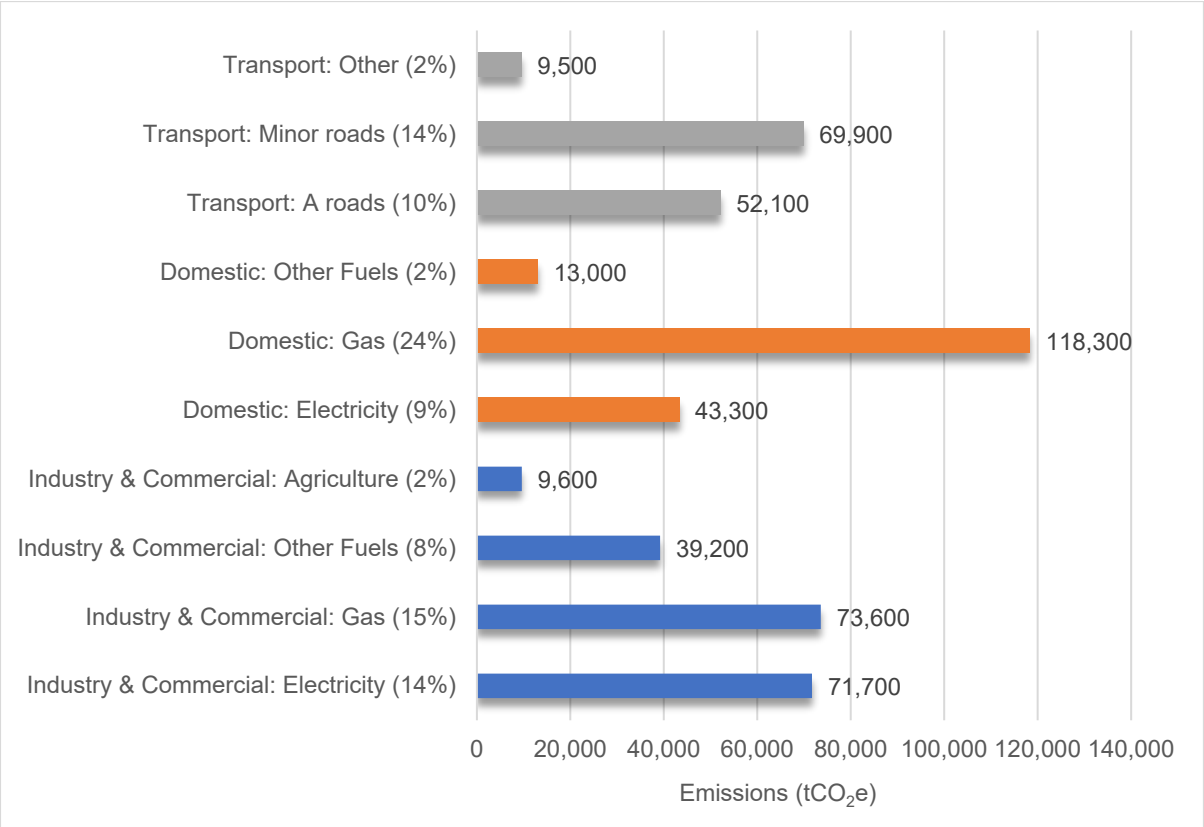

Figure 7: Wyre borough emissions estimates (tCO_2e) by subsectors in 2018.

LULUCF Data

3.2.5. Land Use, Land-Use Change and Forestry (LULUCF) data covers large industrial sites, railways, motorways and land-use such as agriculture. This is excluded from the main dataset as BEIS do not consider that this is within the scope of influence of local authorities.

3.2.6. However, Figure 8 gives an indication of the estimated emissions that are still produced within this sector. This highlights the importance of forest and grassland, which return negative figures as they remove carbon dioxide from the atmosphere.

3.2.7. When compared with the other main end-user sectors, LULUCF accounts for approximately 4% of the borough's emissions (see Figure 9).

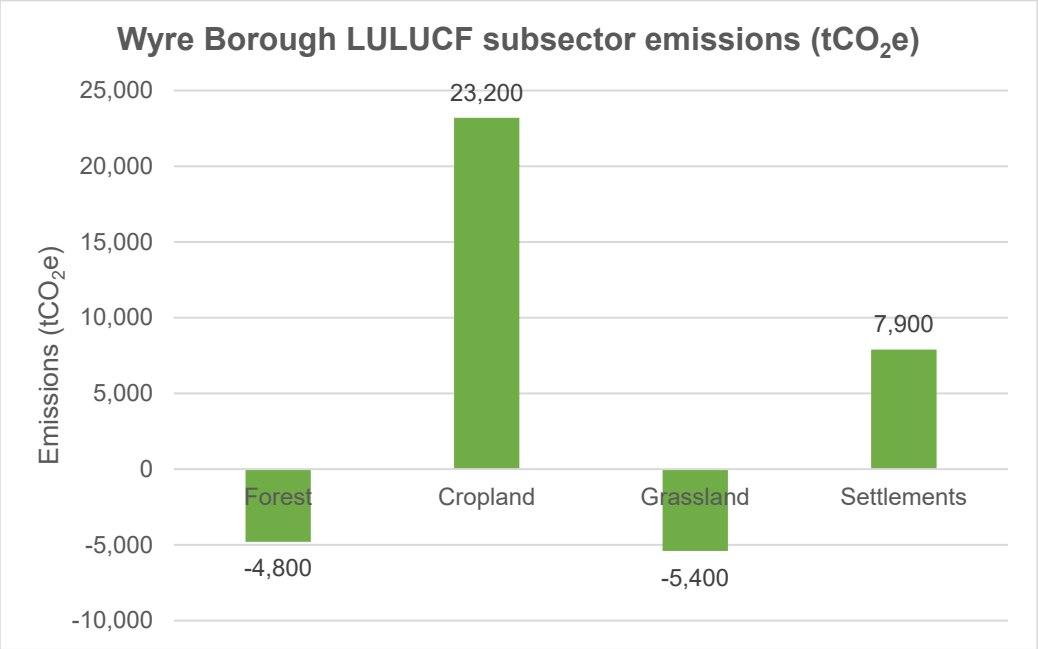

Figure 8: LULUCF subsector emissions (tCO_2e) in 2018.

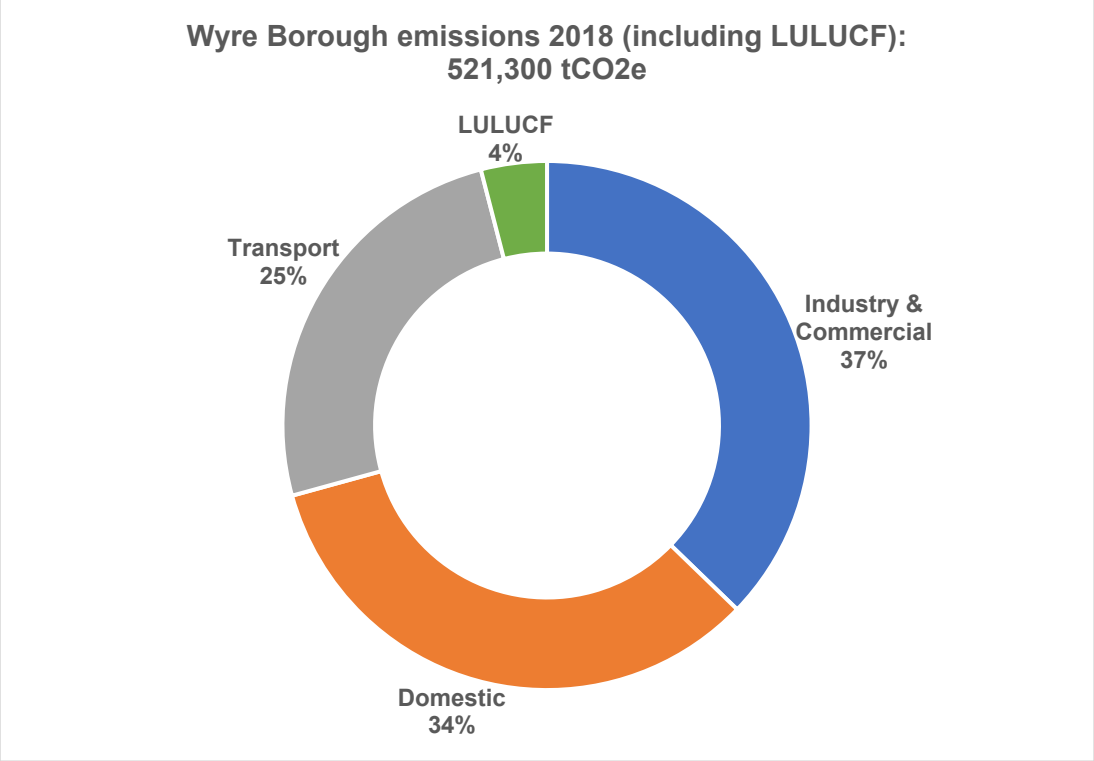

Figure 9: Wyre borough emissions estimates (tCO_2e) for the main end-user sectors in 2018, including LULUCF data – considered by BEIS to be outside the scope of the council.

3.3. Parish and Town Council Emissions

Territorial Footprint

3.3.1. The Territorial Footprint data highlights the main areas where most emissions are **produced** across the borough. Figure 10 and Table 8 reveals that the top three most emitting parish/town councils were:

1. Fleetwood Town Council (183,983 tonnes CO_2e);
2. Barnacre with Bonds Parish Council (76,701 tonnes CO_2e);
3. Claughton-on-Brock Parish Council (63,421 tonnes CO_2e).

3.3.2. This is due in part to the industrial and commercial sector, as highlighted in the borough emissions results, which is particularly high in Fleetwood due to the industrial estate located here. Housing is also a greater source of emissions for Fleetwood, due to the denser population in this area.

3.3.3. As mentioned above, the presence of the M6 Motorway accounts for a large proportion of emissions for parishes that it intersects. This includes Barnacre with Bonds, Nether Wyresdale, Claughton-on-Brock, Myerscough and Bilsborrow, and Forton. However, these emissions are largely out of the council's control.

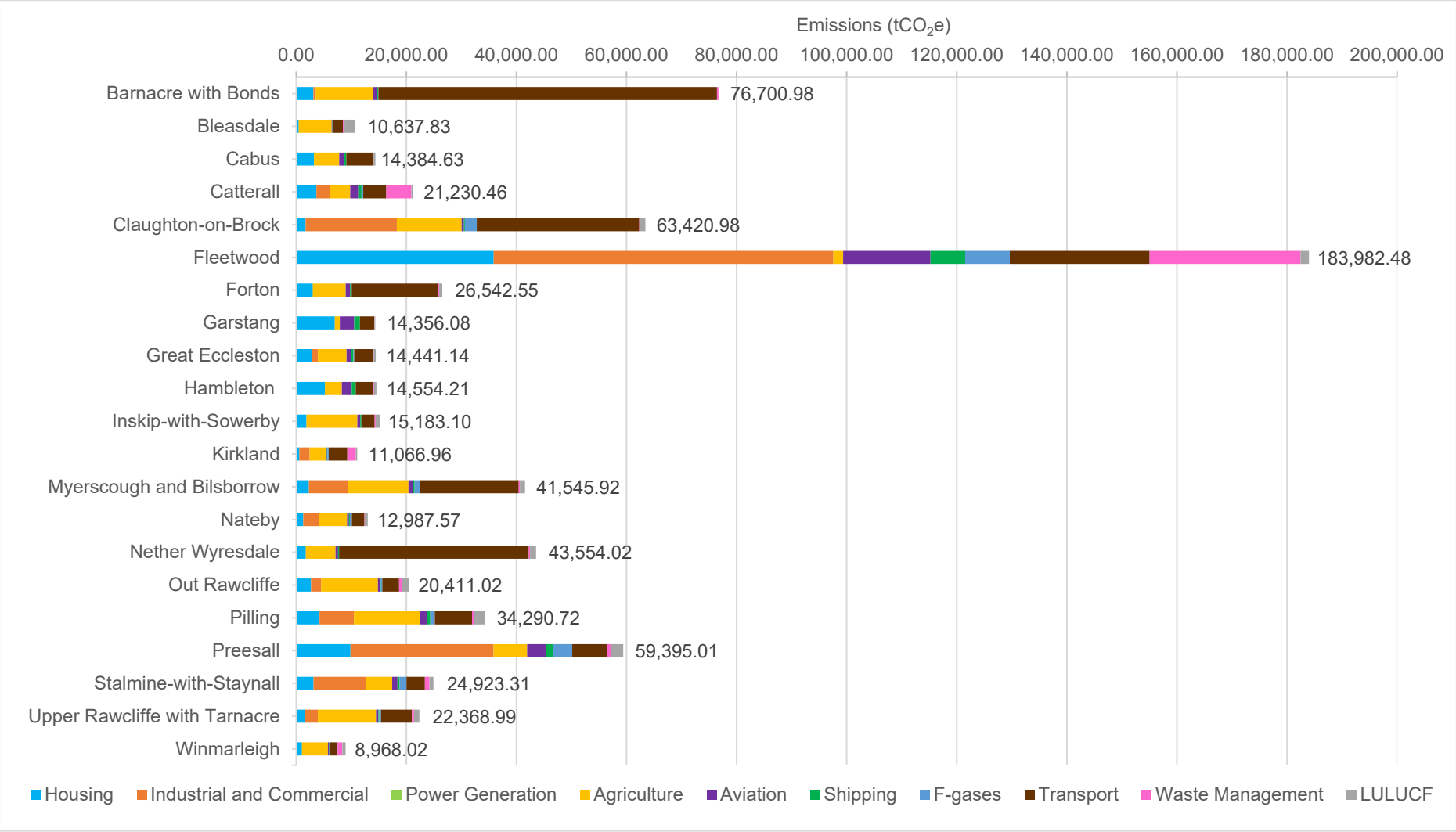

Figure 10: Territorial emissions by parish / town council (tCO_2e).

Table 8: Territorial emissions by parish / town council (tCO_2e).

Parish/Town Council	Housing	Industrial and Commercial	Power Generation	Agriculture	Aviation	Shipping	F-gases	Transport	Waste Management	LULUCF	Total
Barnacre with Bonds	3,117.99	417.16	0.03	10,364.55	678.89	270.40	63.97	61,510.72	290.47	-13.19	**76,700.98**
Bleasdale	433.01	0.00	0.26	6,004.41	101.74	40.52	0.00	1,892.80	280.77	1,884.30	**10,637.83**
Cabus	3,218.17	0.00	0.03	4,583.74	925.98	368.81	0.00	4,868.14	63.92	355.85	**14,384.63**
Catterall	3,648.47	2,528.62	0.02	3,628.40	1,457.10	580.35	331.96	4,175.58	4,549.36	330.60	**21,230.46**
Claughton-on-Brock	1,688.49	16,569.52	0.27	11,778.50	419.69	167.16	2,175.26	29,528.10	117.16	976.83	**63,420.98**
Fleetwood	35,854.92	61,712.71	0.07	1,784.75	15,857.92	6,316.07	8,101.68	25,416.15	27,411.08	1,527.13	**183,982.48**
Forton	3,010.72	0.29	0.05	5,973.81	783.05	311.88	0.04	15,737.19	146.64	578.87	**26,542.55**
Garstang	7,006.34	0.00	0.00	910.04	2,602.31	1,036.48	0.00	2,614.64	56.44	129.84	**14,356.08**
Great Eccleston	2,854.04	1,106.26	0.01	5,178.07	889.04	354.10	145.23	3,342.61	193.57	378.22	**14,441.14**
Hambleton	5,197.71	0.00	0.00	3,077.84	1,802.30	717.84	0.00	3,191.42	139.35	427.76	**14,554.21**
Inskip-with-Sowerby	1,850.81	0.00	0.03	9,251.21	510.53	203.34	0.00	2,431.75	165.56	769.87	**15,183.10**
Kirkland	552.52	1,868.98	0.02	2,966.56	185.32	73.81	245.36	3,382.77	1,539.42	252.20	**11,066.96**
Myerscough and Bilsborrow	2,292.75	7,137.96	0.07	10,958.73	792.14	315.50	937.08	17,973.01	219.44	919.24	**41,545.92**
Nateby	1,273.32	2,917.37	0.03	5,039.06	353.68	140.87	382.99	2,255.24	87.04	537.98	**12,987.57**
Nether Wyresdale	1,744.73	0.00	0.34	5,387.64	463.29	184.53	0.00	34,468.78	210.79	1,093.92	**43,554.02**
Out Rawcliffe	2,681.27	1,832.11	0.04	10,323.82	390.01	155.34	240.52	3,048.42	527.62	1,211.87	**20,411.02**
Pilling	4,223.62	6,262.76	0.03	12,006.97	1,319.02	525.35	822.18	6,762.43	327.50	2,040.85	**34,290.72**
Preesall	9,848.34	25,988.85	0.02	6,108.74	3,423.52	1,363.56	3,411.83	6,285.03	673.99	2,291.14	**59,395.01**
Stalmine-with-Staynall	3,121.08	9,556.12	0.01	4,757.04	948.99	377.98	1,254.53	3,347.89	826.65	733.02	**24,923.31**
Upper Rawcliffe with Tarnacre	1,563.49	2,354.59	0.04	10,561.12	431.80	171.98	309.11	5,623.05	361.67	992.12	**22,368.99**
Winmarleigh	1,030.74	0.00	0.08	4,709.14	247.09	98.41	0.00	1,405.07	873.92	603.58	**8,968.02**

Consumption-based Footprint

3.3.4. Figure 11 reveals that, on average, the average annual consumption footprint per household in Wyre was 15 tonnes CO_2e. Of the five main areas, consumption of goods and services accounted for the greatest amount of emissions (33%) across households in Wyre.

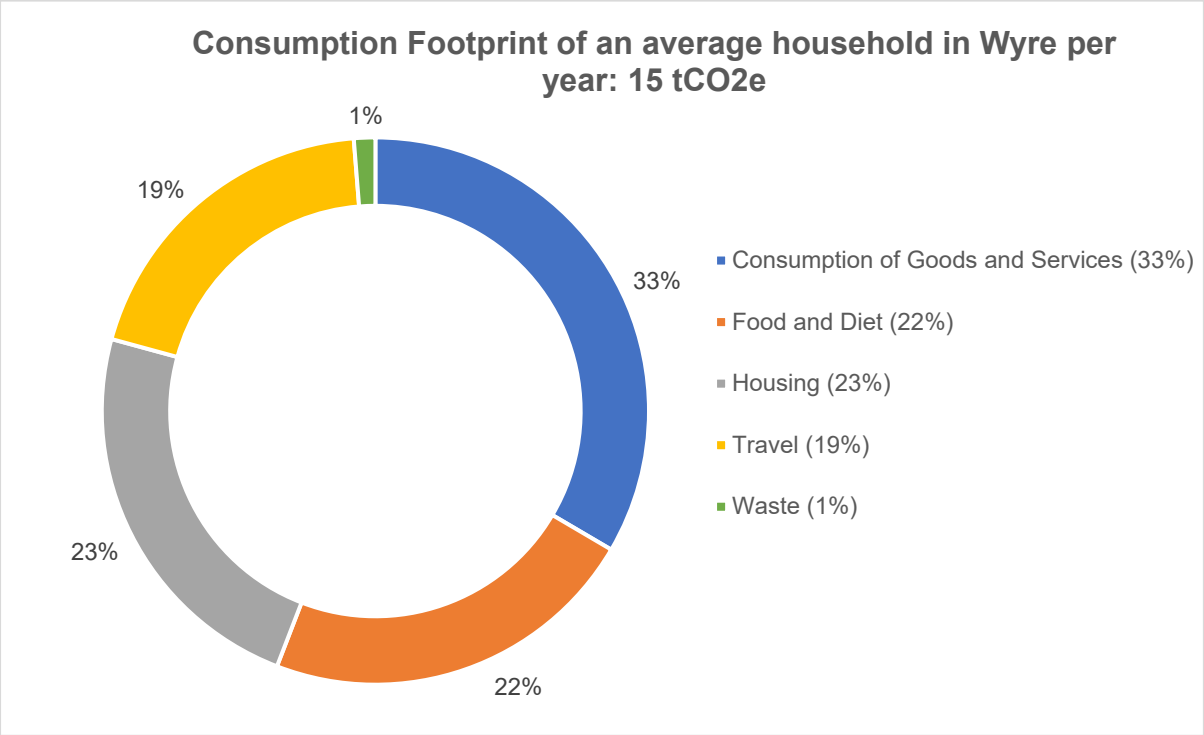

Figure 11: Average consumption footprint per-household in Wyre (tCO_2e).

3.3.5. Figure 12 and Table 9 shows that the parish and town council's with the highest consumption footprint per household were:

1. Winmarleigh Parish Council (26.45 tonnes CO_2e per household);
2. Out Rawcliffe Parish Council (25.02 tonnes CO_2e per household);
3. Bleasdale Parish Council (23.70 tonnes CO_2e per household).

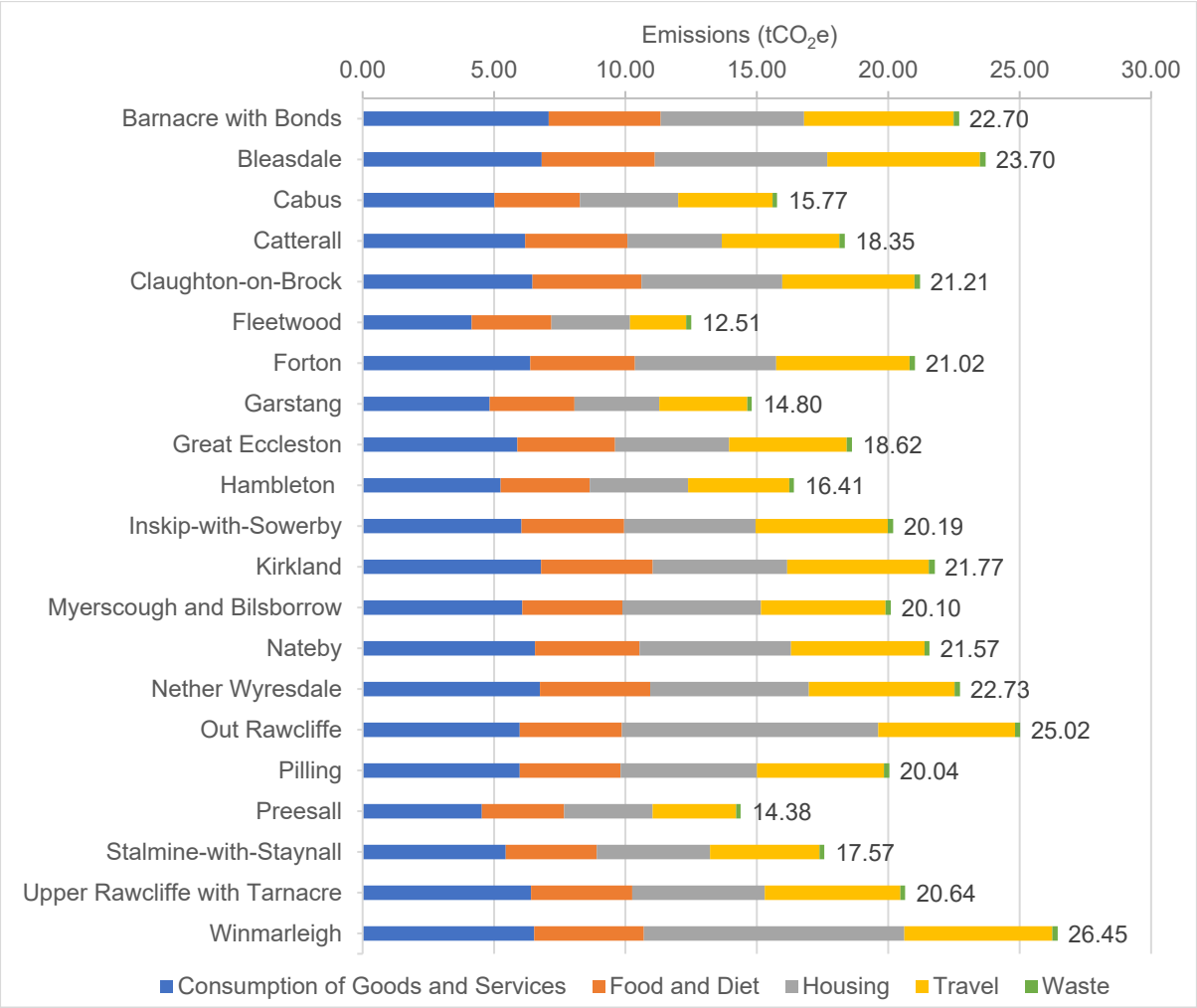

Figure 12: Per-household consumption footprint by parish / town council (tCO_2e).

Table 9: Per-household consumption footprint by parish / town council (tCO_2e).

Parish/Town Council	Consumption of Goods and Services	Food and Diet	Housing	Travel	Waste	Total
Barnacre with Bonds	7.08	4.27	5.45	5.69	0.22	**22.70**
Bleasdale	6.81	4.31	6.56	5.81	0.21	**23.70**
Cabus	5.02	3.25	3.75	3.59	0.17	**15.77**
Catterall	6.19	3.89	3.59	4.48	0.21	**18.35**
Claughton-on-Brock	6.46	4.14	5.36	5.03	0.21	**21.21**
Fleetwood	4.15	3.04	2.99	2.13	0.20	**12.51**
Forton	6.38	3.98	5.38	5.08	0.20	**21.02**
Garstang	4.83	3.23	3.23	3.34	0.17	**14.80**
Great Eccleston	5.89	3.72	4.34	4.48	0.20	**18.62**
Hambleton	5.25	3.39	3.74	3.85	0.18	**16.41**
Inskip-with-Sowerby	6.04	3.91	5.00	5.03	0.21	**20.19**
Kirkland	6.79	4.25	5.12	5.39	0.23	**21.77**
Myerscough and Bilsborrow	6.08	3.81	5.27	4.74	0.20	**20.10**
Nateby	6.56	3.98	5.76	5.08	0.19	**21.57**
Nether Wyresdale	6.75	4.20	6.04	5.54	0.21	**22.73**
Out Rawcliffe	5.98	3.89	9.75	5.21	0.20	**25.02**
Pilling	5.98	3.83	5.19	4.84	0.21	**20.04**
Preesall	4.54	3.13	3.36	3.18	0.17	**14.38**
Stalmine-with-Staynall	5.44	3.47	4.31	4.16	0.18	**17.57**
Upper Rawcliffe with Tarnacre	6.41	3.85	5.04	5.16	0.18	**20.64**
Winmarleigh	6.53	4.17	9.91	5.63	0.21	**26.45**

3.3.6. The size of these emissions, which are much higher than the average household footprint across Wyre, are mainly attributed to Winmarleigh and Out Rawcliffe having a higher percentage of households heated by oil. As a fossil fuel, this has significantly increased the footprint of these areas.

3.3.7. Bleasdale parish council, followed closely by Barnacre with Bonds and Nether Wyresdale, had a large proportion of emissions attributed to the consumption of goods and services. This includes household goods such as homeware, toiletries, furnishings, electricals and appliances, as well as services such as communications, banking and insurance. As suggested previously, the increased footprint of these areas is likely to be attributed to the relative affluence of residents these areas, whose lifestyles are generally more carbon intensive.

3.3.8. Despite Fleetwood producing the greatest amount of territorial emissions, largely due to its industry and commercial sector, the consumption footprint per household was the lowest across Wyre. This is likely to be due to the larger population across the area, as well as higher levels of poverty influencing lifestyles and emissions.

4. Comparisons

4.1. Council vs. Borough Emissions

4.1.1. Estimated baseline carbon emissions for the council and the borough in 2018 were compared, in order to understand the impact of the council activities in relation to emissions across Wyre.

4.1.2. Figure 13 demonstrates that the council's emissions amount to only 0.5% of emissions produced from the wider borough; approximately 2,726.62 compared to 500,300.00 tonnes CO_2e.

4.1.3. It is therefore crucial that the council not only acts to reduce emissions from council activities, but also prioritises utilising its position to influence the emissions produced across the wider area.

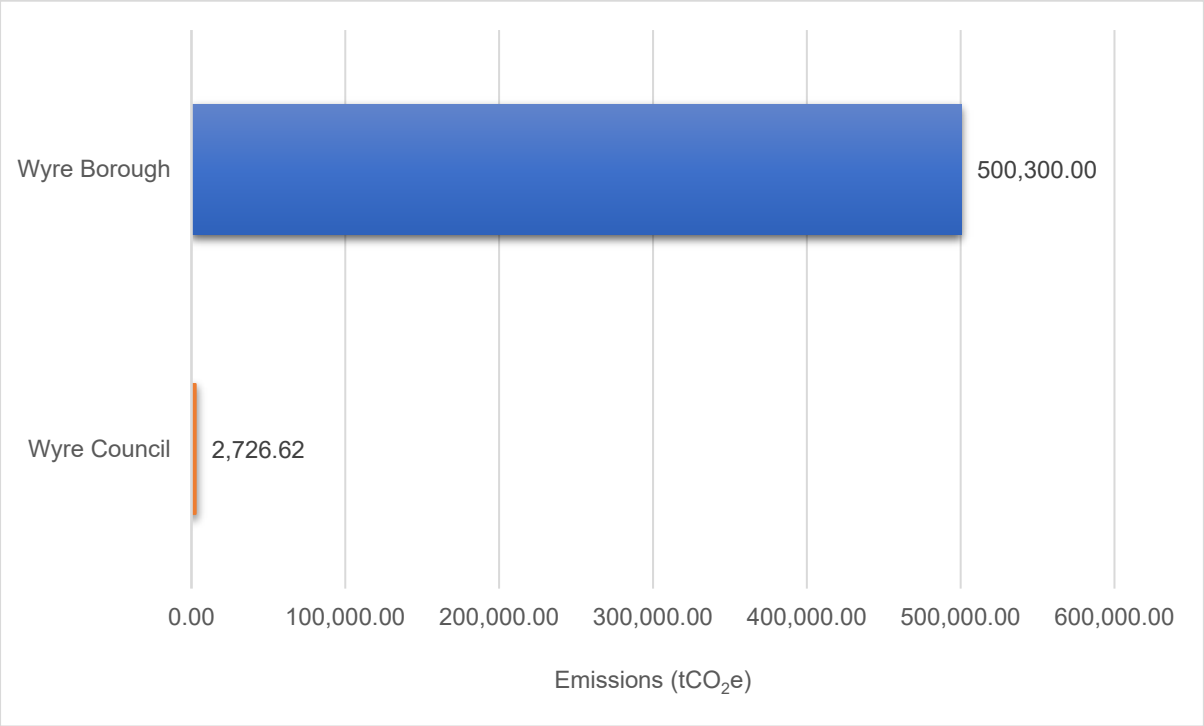

Figure 13: Emissions estimates (tCO_2e) for Wyre Borough and Wyre Council in 2018.

4.2. Family Group Comparisons

4.2.1. The council's carbon footprint was compared in the context of other similar 'family group' councils, for a better understanding of average council emissions.

4.2.2. The Chartered Institute of Public Finance and Accounting (CIPFA) list of family group councils was chosen, in order to benchmark the data among councils of a similar size and structure. Each council was individually contacted for data and the results of those who responded, or had data publicly available on their website, are listed in Table 10 below.

Table 10: CIPFA family group council carbon footprints for 2018/19 (tCO_2e).

Rank	Council	2018/19 Emissions (tCO_2e)
1	Lewes	1,590
2	**Wyre**	**2,727**
3	Adur	2,908
4	Tendring	4,552
5	King's Lynn & West Norfolk	4,709
6	Teignbridge	8,734

4.2.3. Of these six councils, the results of the carbon footprint assessments were split by the three main scopes, as shown in Figure 14 and Table 11. This highlighted the difference in methodologies for calculating data between each authority, which limits reliable comparison.

4.2.4. In particular, Teignbridge Council have a 2025 net zero target date and have therefore invested in a much more detailed analysis of their carbon footprint. This went into greater depth on Scope 3 emissions, known as indirect emissions located 'upstream' and 'downstream' of the council, such as staff commuting and emissions within the supply chain. However, Adur and Lewes Councils chose not to include these Scope 3 emissions and therefore have a reduced footprint as a result.

4.2.5. As previously stated, the LGA Carbon Accounting Tool only has a limited analysis of Scope 3 emissions at present. Until this is developed, our analysis of these will fall short of actual emissions produced in this area.

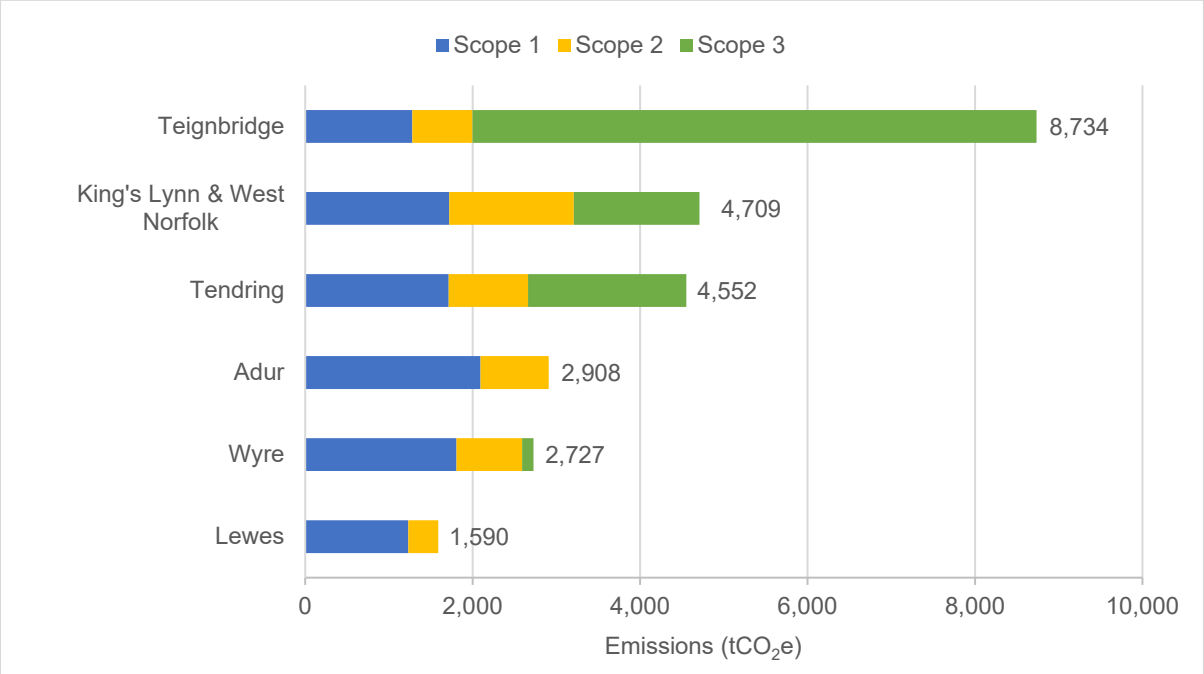

Figure 14: CIPFA family group council carbon footprints by Scope, for 2018/19 (tCO2e).

Table 11: CIPFA family group council carbon footprints by Scope, for 2018/19 (tCO2e).

Councils	Scope 1	Scope 2	Scope 3	Total (tCO2e)
Lewes	1,231	359	Not calculated	**1,590**
Wyre	**1,807**	**784**	**136**	**2,727**
Adur	2,094	814	Not calculated	**2,908**
Tendring	1,714	948	1,890	**4,552**
King's Lynn & West Norfolk	1,721	1,489	1,500	**4,709**
Teignbridge	1,280	719	6,735	**8,734**

5. Summary and Implications

5.1. Council Emissions

Summary

5.1.1. The council's baseline carbon footprint for the 2018/19 financial year was 2,726.62 tonnes CO_2e. The main source of emissions was from gas heating (35%), fuel use from the authority fleet (30%), and electricity (29%).

5.1.2. Emissions fell by 16% in 2019/20, to 2,282.00 tonnes CO_2e. Maintenance works on gas boilers at Fleetwood Leisure Centre were likely to have influenced a drop in gas use, which is expected to rise following reinstallation. A problem identified with gas heating at Fleetwood Market during both financial years may have also led to an artificially higher gas consumption figure, which is to be investigated.

5.1.3. In comparison to other 'family group' councils, Wyre produces a similar level of emissions from sources owned or controlled by the council (Scope 1 and 2 emissions). However, additional data from staff commuting and supply chain analysis is required to present a more accurate image of the council's footprint, which will improve as accounting tools develop to include this analysis.

Recommendations

5.1.4. As gas heating and electricity use accounted for approximately two thirds of the council's carbon footprint, it is recommended that details energy audits are carried out on all buildings within the council's estate. This would highlight areas potential areas to optimise and reduce energy use, improve building fabric to save energy, or alternative energy sources such as solar panels or heat pumps. The council can then evaluate these improvements based on costs and energy savings required to meet the agreed net zero target.

5.1.5. Thus far, the council has changed to a renewable electricity supply and commissioned energy audits for Fleetwood Market and Marine Hall. The government have recently announced a Public Sector Decarbonisation Scheme, where funding for public building projects is released in stages. Whilst the council were unsuccessful for the first stage, an application is in development for stage two. The council is also utilising its connections with the Local North West Energy Hub for impartial advice and local collaboration opportunities.

5.1.6. Fuel use accounted for a further 30-37% of emissions and it is therefore recommended that the authority fleet use is reviewed and greater emphasis is placed on supporting a rapid switch to electric vehicles. Currently five electric vehicles have been purchased, alongside the planned ongoing installation of charging points for the taxi trade and general use on council car parks throughout the borough.

5.1.7. To account for the lack of data in Scope 3 emissions, it is recommended that additional data from staff commuting and supply chain analysis should be collected. As accounting tools are developed, these can be analysed to gain a better understanding of indirect emissions occurring 'upstream' and 'downstream' of the council.

Milestones

5.1.8. In order to achieve the council's Climate Emergency commitments, a series of yearly emission reduction milestones are proposed for council review. The council's current target is to achieve net zero by 2050. Without intermediate reduction milestones, emissions would need to reduce on average by 3.2% a year. Alternative intermediate milestones are proposed to stimulate the rapid change required to tackle this emergency and limit the level of emissions emitted over time. This includes milestones in line with new Government targets, announced in April 2021.

5.1.9. Intermediate milestones are presented in Table 12 and Figure 15, alongside the council's actual emissions. It is worth noting that emissions have already dropped 16% from 2018/19 and 2019/20 financial years. The likely reasons for this are detailed above, however it suggests that higher yearly milestones for emissions reduction would be viable and present a necessary challenge for the council to strive towards.

Table 12: Proposed milestones for intermediate emissions reduction.

Intermediate Emissions Reduction Milestones		Intermediate Reduction Deadlines		Required Average Yearly Reduction	
		%	Date	%	tCO_2e
1.	To achieve net zero by **2050** *(no intermediate milestones)*.	100%	2050	3.2%	87.96
2.	To achieve net zero by **2030**.	100%	2030	9.1%	247.87
3.	To rapidly reduce emissions by **80%** in **2030**, then a further **20%** to achieve net zero by **2050**.	80%	2030	7.3%	198.30
		20%	2050	1.0%	27.27
4.	To reduce emissions incrementally by **50%** in **2030**, a further **30%** by **2040** followed by the remaining **20%** by **2050**.	50%	2030	4.5%	123.94
		30%	2040	3.0%	81.80
		20%	2050	2.0%	54.53
5.	To reduce emissions by 78% by 2035, in line with new Government targets, followed by the remaining 22% by 2050.	78%	2035	4.9%	132.92
		22%	2050	1.5%	39.99

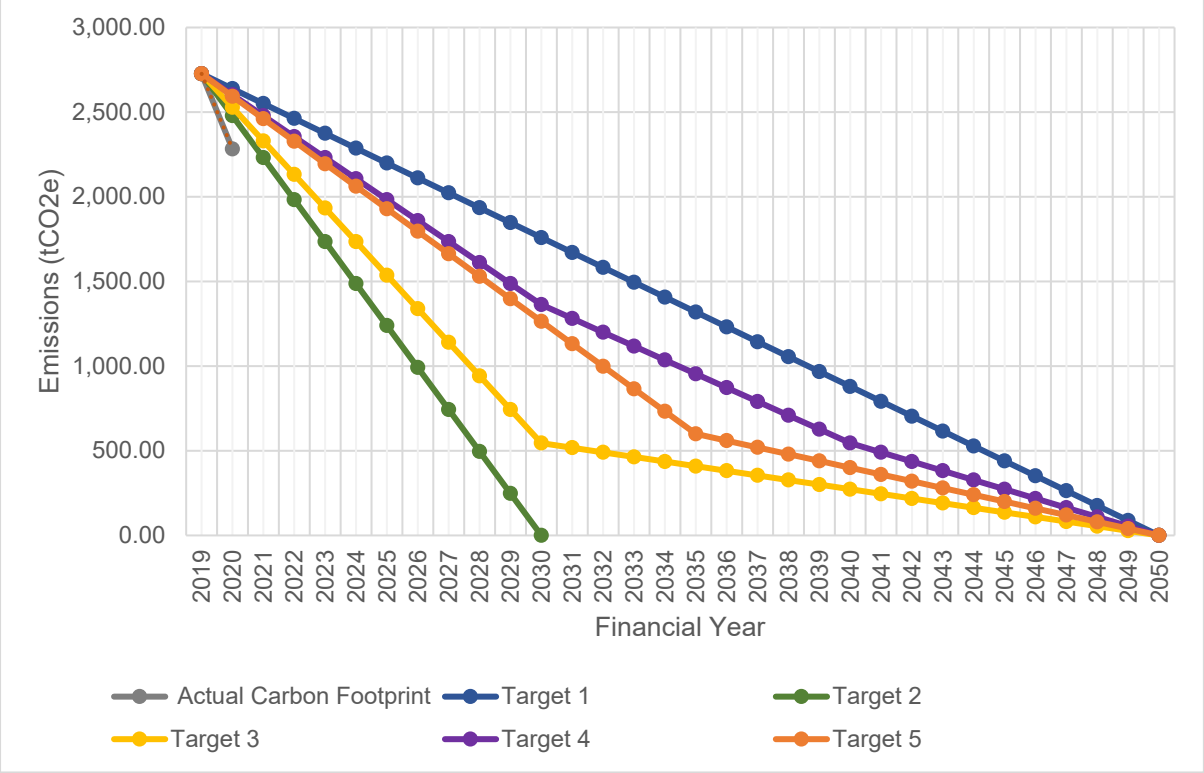

Figure 15: Proposed emissions reductions associated with the milestones presented in Table 12Table 12.

5.2. Borough Emissions

Summary

5.2.1. The carbon footprint for Wyre in 2018 was approximately 500,300 tonnes CO_2e, or 4.50 tonnes CO_2e per person. When compared, the emissions produced by the council amount to only 0.5% of emissions from the wider borough. It is therefore crucial that the council uses its position to influence emissions produced across Wyre.

5.2.2. The main sources of emissions across the borough was from domestic gas (24%), industry and commercial gas (15%), industry and commercial electricity (14%) and minor road transport (14%). These sectors must be targeted as a high priority to reduce emissions on a large scale.

5.2.3. Land Use, Land-Use Change and Forestry (LULUCF), although not included in the main figures, would account for 4% of emissions. Forest and grassland return negative figures as they absorb carbon dioxide, although this is outweighed by agricultural emissions.

Recommendations

5.2.4. As the industry and commercial sector produced the most emissions, the council must work closely with local businesses and established groups such as 'Wyred Up' and the Local Enterprise Partnership to encourage and support emissions reductions across the borough.

5.2.5. Domestic gas emissions present a key issue for carbon emissions across the UK, due to the scale of inefficient housing stock. Currently the council work in partnership with Cosy Homes in Lancashire (CHiL) to provide grants towards insulation and heating improvements. Grants are also available from the Local North West Energy Hub and Electricity North West for district heating projects, as alternatives to homes heated by fossil fuels, which should be promoted among communities in Wyre to encourage take up.

5.2.6. As the council has no control over road transport, the council must work alongside Lancashire County Council as the highways authority to reduce emissions via road transport. This involves encouraging greater levels of active travel among the public, as included in the Climate Change Action Plan.

5.3. Parish & Town Councils

Summary

5.3.1. Data from the Centre for Sustainable energy revealed the territorial and consumption-based footprints for each town and parish council.

5.3.2. Of the territorial footprints, which covers all emissions generated within each area, Fleetwood Town Council, Barnacre with Bonds and Claughton-on-Brock Parish Councils were responsible for most emissions. This was mainly due to emissions from the industry and commercial sector, as well as transport infrastructure such as the M6 motorway.

5.3.3. At a household level, the average annual consumption footprint of a household in Wyre was 15 tonnes CO_2e. Parish councils with the highest footprint were Winmarleigh, Out Rawcliffe and Bleasdale, which produced between 26.45 – 23.70 tonnes CO_2e per household. This was largely attributed to these areas having a higher percentage of households heated by oil.

5.3.4. The consumption of goods and services also accounted for a large proportion of emissions, which is associated to the relative affluence of residents in these areas, who generally lead more carbon-intensive lifestyles. Despite having the highest territorial footprint, Fleetwood had the lowest consumption footprint per household, at only 12.51 tonnes CO_2e. This is likely due to the larger population, as well as greater levels of deprivation in the area.

Recommendations

5.3.5. This data allows for a targeted approach to emissions reduction across the borough. As indicated above, it is recommended that the industry and commercial sector is targeted for emissions reduction initiatives. In this data shows that this is particularly relevant for businesses in Fleetwood, Preesall and Claughton-on-Brock.

5.3.6. The council should also seek to work with town and parish councils to educate residents on their carbon footprints, alongside advice and support for reducing emissions from the key sources of food and diet, consumption of goods and services, housing, travel and waste. Potential support and encouragement of district heating projects could also offer alternative energy sources for oil-reliant rural households.

5.3.7. At this time, the Impact Tool only provides data on parish and town councils, thereby excluding areas without this representation such as Poulton-le-Fylde and Thornton-Cleveleys. As the tool is developed, future analysis should include wards in order to get a better overview of the carbon footprint across Wyre.