Appendix 2

Organisational Carbon Emissions Summary Report December 2022

Warwick District Council

1. Aims and Purpose

This report has been developed to outline Warwick District Council's carbon emissions data and is structured in line with Defra's 'Guidance on how to measure and report your greenhouse gas emissions' document.

2. Types of Emissions - Scopes

There are three types of emissions, referred to as Scopes 1, 2 and 3 - these categorise emissions into three different types as follows.

Scope 1 - Direct emissions. These emissions relate to activities that are owned or controlled by the organisation and involve the release of emissions straight into the atmosphere. Examples include combustion emissions from gas boilers in council buildings and emissions from council owned vehicles.

Scope 2 - Energy indirect emissions. These emissions are associated with the consumption of purchased electricity, heat, steam and cooling. These emissions arise as a consequence of the organisation's activities but are not owned or controlled by them as they are released at power stations where the electricity is generated.

Scope 3 - Other indirect emissions. These are emissions that are a consequence of the organisation's actions that occur at sources that are not directly owned or controlled. Examples for the council include outsourced activities, business travel by staff using their own vehicles at work and also outsourced activities.

3. Reporting Period

The reporting period is for the financial years 2018-19, 2019-20, 2020-21 and 2021-22. The carbon footprint baseline year is currently 2018/19. Updates for 2022-23 will be collated during the summer of 2023.

4. Measuring and Reporting Approach

A number of gases contribute to climate change and six main greenhouse gases (GHGs) are covered in the Kyoto Protocol: carbon dioxide (CO2), methane (CH4), hydrofluorocarbons (HFCs), nitrous oxide (N2O), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6) 19. Different activities emit different gases; for example, burning fossil fuels releases carbon dioxide, methane and nitrous oxide into the atmosphere. It is standard practice to report GHGs in tonnes of CO2 equivalents (CO2e). In order to achieve this, conversion factors are used that are located on the GOV website and are produced by Defra on an annual basis.

Conversion factors help organisations convert their activities into equivalent carbon emissions. The conversion factors change annually taking into account a number of influences including fuel mix, consumption from UK power generation along with imports and exports in relation to gas and electricity. It is best practice to use the conversion factors from the calendar year in which the greatest portion of your data falls, therefore for 2020-21 reporting year, the 2021 conversion factors have been used.

The emissions are calculated as follows: Activity Data x Emission Factor = Carbon dioxide equivalent (CO2e)

5. Organisational Boundary

All areas of the council's operations have been considered.

6. Operational Scopes

The Scope 1 emissions include the gas emissions from the council's buildings, council owned vehicles and all business lease vehicles such vans and pool cars. Fugitive emissions relating to air conditioning and refrigeration units have been excluded because it has been considered too complex to calculate at the current time.

The Scope 2 emissions are those associated with the mains electricity consumption from the council's buildings.

The Scope 3 emissions include the gas and electricity consumption from outsourced activities, the business mileage from private and leaseholder vehicle use. Rail, bus and air travel where appropriate would usually be included but were not available at the time of reporting. Buildings that are managed by outsourced contracts are also included where the contractor is responsible for bill payments. Data on refuse and recycling trucks, road sweepers, grounds maintenance mowers and vans used by for the Neighbourhood Services contract are also included. Emissions from commuter travel have been excluded due to this not being available at the time the Self Serve system with Coventry City Council was in place but it will be explored as to whether the data from iTrent could be obtained going forwards. The emissions arising from water use from supply and distribution also fall into Scope 3 along with biomass pellets used for heating some buildings.

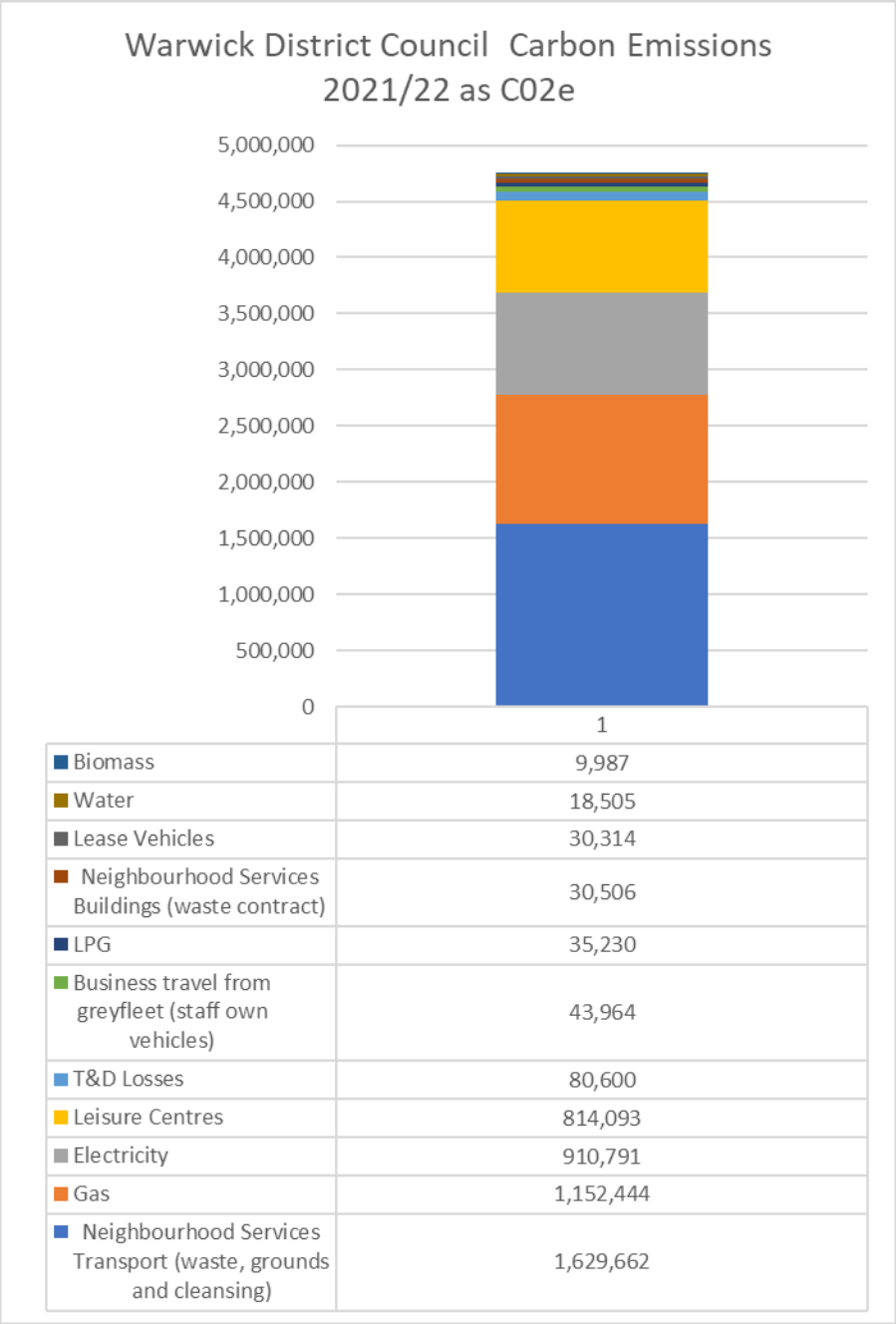
7. Carbon Emissions Data

Figure 1 – Warwick District Council Top Level Data Summary

WDC Carbon Emissions Summary Table				
Scope / Activity	**2018/19**	**2019/20**	**2020/21**	**2021/22**
	(base year)			
	Kg CO2e	Kg CO2e	Kg CO2e	Kg C02
Scope 1				
Gas	1,251,217	1,249,158	1,200,938	1,152,444
LPG	36,760	32,774	35,229	35,230
Lease Vehicles	21,002	14,980	13,204	30,314
Total (Scope 1)	**1,308,978**	**1,296,912**	**1,249,370**	**1,217,989**
Scope 2				
Electricity	1,260,865	1,280,251	874,164	910,791
Total (Scope 2)	**1,260,865**	**1,280,251**	**874,164**	**910,791**
Scope 3				
Biomass	4,248	4,426	14,050	9,987
Water	11,767	13,980	4,202	18,505
T&D Losses	107,470	108,691	75,178	80,600
Neighbourhood Services Transport (waste, grounds and cleansing)	1,703,971	1,682,688	1,651,509	1,629,662
Neighbourhood Services Buildings (waste contract)	37,092	34,543	32,470	30,506
Business travel from greyfleet (staff own vehicles)	53,599	54,427	33,665	43,964
Leisure Centres	805,945	1,717,232	598,506	814,093
Total (Scope 3)	**2,724,091**	**3,615,988**	**2,409,580**	**2,627,317**
Total Gross Emissions (kg)	**5,293,934**	**6,193,152**	**4,533,115**	**4,756,096**
Total Gross Emissions (t)	**5,294**	**6,193**	**4,533**	**4,756**

From the summary data in *Figure 1* for Warwick District Council, the Scope 3 emissions account for half of all emissions and the emissions from Scope 3 transport account for approximately a third of total emissions. Emissions overall have increased from 2020/21 which was not wholly representative because of the Covid lockdown restricted some council operations (such as Leisure Centres). The table does demonstrate, however, that emissions for 2021/22 are still lower than 2019/20 and 2018/19 although to some extent, this may still be down to Covid Restrictions which were in force for the early part of the most recent period of measurement.

Figure 2 – Warwick District Council Carbon Emissions 2021/22 KGC02e



	1
Biomass	9,987
Water	18,505
Lease Vehicles	30,314
Neighbourhood Services Buildings (waste contract)	30,506
LPG	35,230
Business travel from greyfleet (staff own vehicles)	43,964
T&D Losses	80,600
Leisure Centres	814,093
Electricity	910,791
Gas	1,152,444
Neighbourhood Services Transport (waste, grounds and cleansing)	1,629,662

Figure 2 highlights that of the overall emissions by type. After neighbourhood services transport, Gas and Electricity are the next largest contributors to organisational emissions.

7.2 Warwick District Council Buildings

Figure 3 Council Buildings Energy Consumption KG C02e

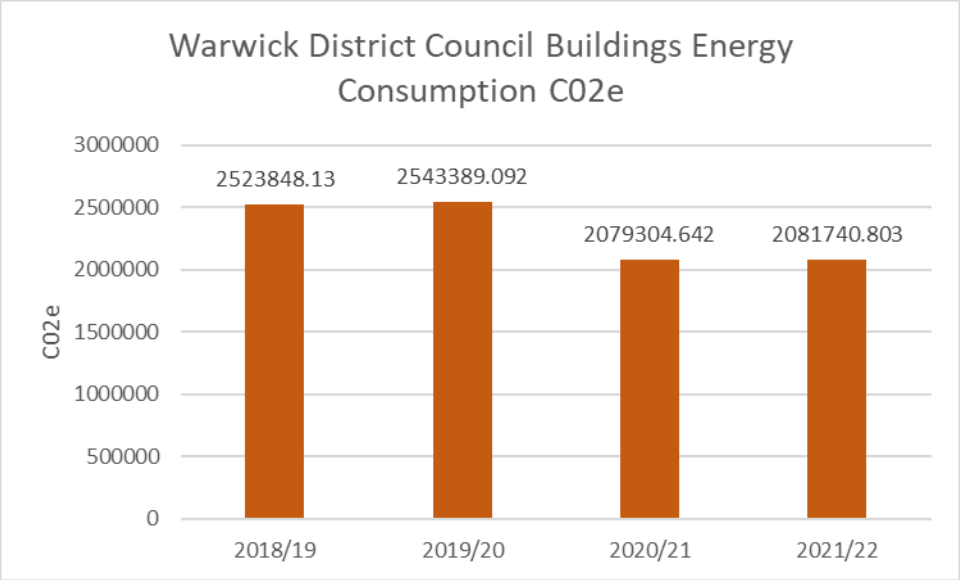


Figure 3 There has been no significant rebound in consumption in council buildings from 2020/21.

8. Summary

The four-year carbon emissions data is useful in understanding Warwick District Council's own carbon emission sources and help focus the carbon reduction work. Whilst there are some conclusions to be drawn from the data, much of it remains unclear due to the pandemic and some data inaccuracies/gaps where estimates have been used.