Greenhouse Gas Emissions Report 2021 to 2022

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1.0 Introduction and strategic context

1.1 Woking Borough Council (WBC) was formerly required to record information on greenhouse gas (GHG) emissions from its own estate and operations and report these to the Department of Energy and Climate Change (DECC). This is no longer a statutory requirement and DECC became part of the Department for Business, Energy, and Industrial Strategy (BEIS) in July 2016.

1.2 Nonetheless, as in previous years, the Council continues to record and monitor energy use at, and resultant GHG emissions from, the following sources:

- Leisure pavilions
- New Vision Homes (NVH) managed housing (communal heat systems and electricity for communal areas) (transferred into WBC control in 2022)
- Residential and community centres supplied by Thameswey Combined Heat and Power (CHP)
- Staff transport (business mileage)
- Town centre and Woking Park assets.

1.3 The intention of collecting this information is to better understand the environmental impact of sites or vehicles integral to the public services that Woking Borough Council provides. By recording this data, we are able to monitor the progress of the Council's climate change strategy, Woking 2050.

1.4 On 25 July 2019, the Council declared a climate and ecological emergency and pledged to become carbon neutral by 2030 across its own estate and operations. A Climate Emergency Action Plan (CEAP) was approved by Council on 13 February 2020.

1.5 Energy use is the biggest contributor to the Council's carbon footprint. The CEAP includes actions around improving energy efficiency and decarbonising energy supplies.

1.6 This GHG report assists the Council in monitoring its commitment to reduce and eventually eliminate emissions against a baseline year of 2018/2019.

1.7 However, as noted last year, the previous reporting period (1 April 2020 to 31 March 2021) coincided with national lockdowns brought about by the Covid-19 pandemic. During the majority of this time, many sites remained closed to officers and the public, and a change in workstyle saw many staff working remotely. Business travel was also impacted with the majority of meetings moving online. As a result, energy consumption patterns across sites included in this report were significantly impacted. The major unprecedented changes seen during the reporting period had a significant impact on energy consumption and emissions. Comparisons in consumption year-on-year and against the 2018/2019 baseline were therefore not advisable. With the easing and eventual lifting of national lockdowns during the latter part of 2021/2022, workstyle patterns adjusted to a new normal with hybrid working, increased building occupation and a growth in business travel resulting in an increase in energy consumption patterns and therefore emissions. These fluctuations continue to make year on year comparison; and comparison with the baseline year difficult and caution should still be taken in reviewing this year's report.

1.8 Going forward, WBC will be strengthening its monitoring and assessment of the carbon footprint associated with its estate and operations. In June 2022, consultancy firm Anthesis was commissioned to undertake an independent carbon footprint assessment of the Council's corporate emissions. While this GHG report assists in monitoring our progress and shows general trends against the baseline year of 2018/2019, it is a representation rather than full footprint, covering only key operational buildings and business mileage by car. The independent assessment will improve the Council's knowledge of this footprint helping to further identify key areas of focus, particularly in reaching our net zero target by 2030. The assessment is scheduled to take three months with outputs including:

- Emissions trajectories and interim reduction targets demonstrating where the Council will be in 2030 and what it needs to do to reach net zero.

- Financial modelling of the actions WBC needs to take to reach net zero by 2030 with cost by action and total cost needed to reach net zero.

2.0 Methodology

2.1 This report uses the following documents as its methodological basis:

- Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions reporting guidance, Department for Business, Energy and Industrial Strategy, BEIS, March 2019.
- Government emission conversion factors for greenhouse gas reporting, BEIS: 2022 factors.

2.2 Energy use is recorded in kilowatt hours (kWh) for gas and electricity consumption and kilometres (km) for vehicle usage. The resultant GHG emissions are calculated using the government emission conversion factors (see above) and vehicle emissions ratings. The Council records GHG emissions in kilogrammes CO2 equivalent (kg CO2e) which, in line with BEIS guidelines, gives the global warming effect of the mass of GHG in terms of what mass of carbon dioxide would produce the same effect.

2.3 These emissions are recorded and categorised according to scope, which BEIS defines as follows:

“Scope 1 (Direct emissions): Emissions from activities owned or controlled by your organisation that release emissions into the atmosphere. They are direct emissions.

Scope 2 (Energy indirect): Emissions released into the atmosphere associated with your consumption of purchased electricity, heat, steam and cooling. These are indirect emissions that are a consequence of your organisation’s activities, but which occur at sources you do not own or control.

Scope 3 (Other indirect): Emissions that are a consequence of your actions, which occur at sources which you do not own or control and which are not classified as scope 2 emissions.

3.0 Energy consumption and analysis

3.1 The following table, Figure 1, details annual energy consumption for 2021/2022.

Figure 1: Annual energy consumption by source

Type of energy consumption	2018/2019 (baseline year) (kWh/km)	2019/2020 (kWh/km)	2020/2021 (kWh/km)	2020/2021 (kWh/km)	Difference (kWh/km) 2020/2021 to 2021/2022	Percentage change 2020/2021 to 2021/2022	Percentage change baseline year, 2021/2022
Leisure pavilions - gas consumption (kWh)	183,465	208,325	145,457	184,550	39,093	26.9	0.6
Leisure pavilions - electricity consumption (kWh)	246,669	232,688	204,459	195,992	- 8,467	-4.1	-20.5
Residential sites and community sites - gas consumption (kWh)	14,717,210	15,907,118	14,464,598	14,610,945	146,347	1.0	-0.7
Residential and community sites - electricity consumption (kWh)	1,938,313	1,739,113	1,369,673	1,940,300	570,627	41.7	0.1
Town centre sites - gas consumption (kWh)	3,063,346	2,407,324	1,631,660	1,819,299	187,639	11.5	-40.6
Town centre sites - electricity consumption (kWh)	4,039,353	4,067,994	192,180	278,495	86,315	44.9	-93.1
Woking park sites - gas consumption (kWh)	11,266,517	5,334,892	1,632,131	2,125,729	493,598	30.2	-81.1
Woking park sites - electricity import (kWh)	1,759,737	2,985,953	2,369,976	3,008,162	638,186	26.9	70.9
Vehicles (km)	124,614	102,109	35,642	53,592	17,950	50.4	-57.0

3.2 As expected, the table shows a general increase in energy consumption across all sites during the reporting year, except for a slight decrease in electricity usage at leisure pavilions.

3.3 Of these, the largest year on year increases can be seen across energy consumption at town centre, community/leisure sites and residential sites – particularly in electricity use – which is expected given the return to work and adjustment to a new normal following prolonged closures brought about by Covid-19. Residential increases could be attributed to people hybrid working and also improved data collection / more accurate meter readings.

3.4 Business mileage also saw a significant increase on the previous reporting year, which is in line with the gradual return to site visits etc.

3.5 However, as with the previous reporting year, these fluctuations continue to make year on year comparison; and comparison with the baseline year difficult and caution should still be taken in reviewing this year's report. As anticipated, despite the slight increase in consumption over 2021/2022, this remains markedly lower to pre-pandemic levels. These trends are explored further in section 4 of this report.

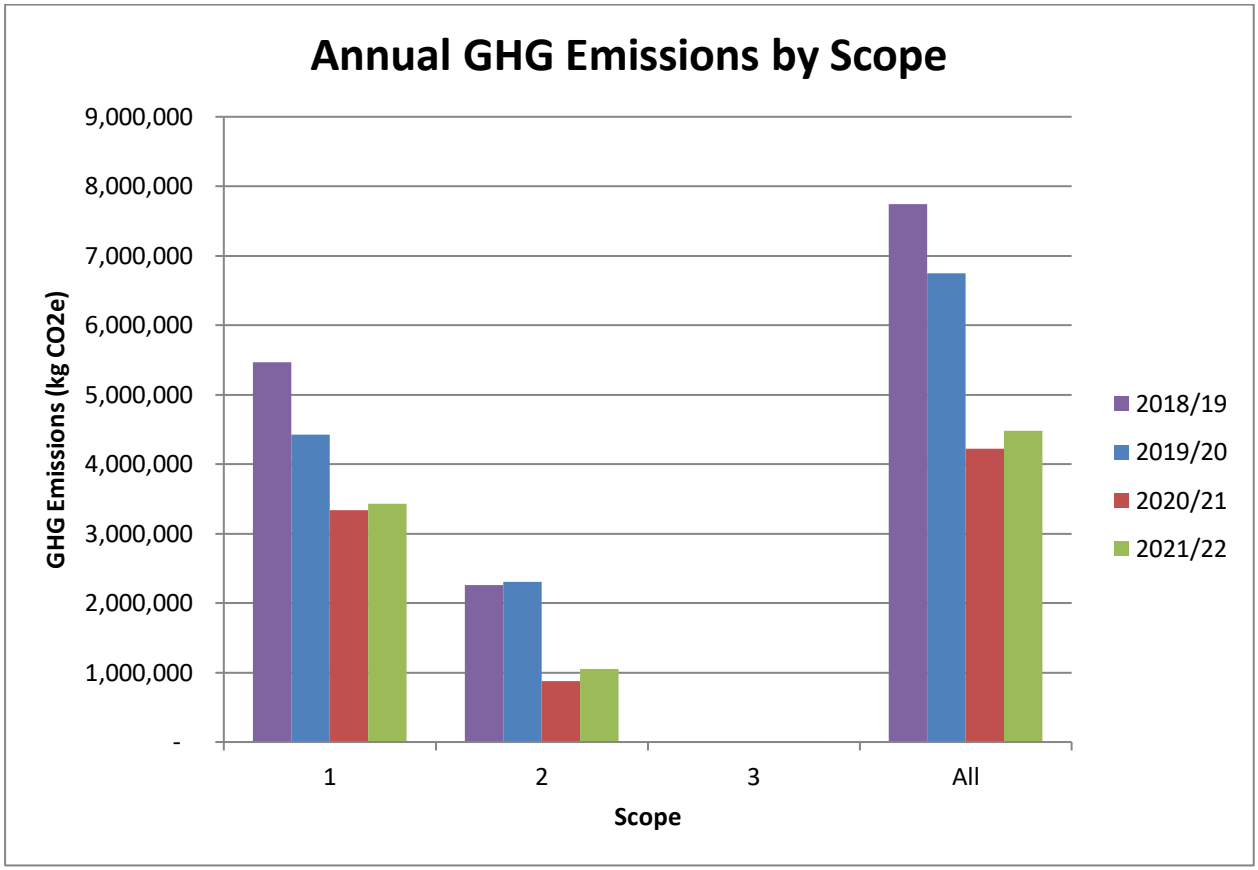
4.0 GHG emissions and analysis

4.1 The table and graph below, figures 2 and 3, record annual GHG emissions by scope.

Figure 2: Annual GHG emissions by scope (kg CO2e)

Scope	2018/2019 (kg CO2e)	2019/2020 (kg CO2e)	2020/2021 (kg CO2e)	2021/2022 (kg CO2e)	Difference (kg CO2e)	Percentage change 2020/2021 to 2021/2022	Percentage change baseline year, 2021/2022
1	5,466,736	4,428,016	3,340,911	3,428,958	88,046	2.64	-37.28
2	2,259,492	2,306,981	878,258	1,048,690	170,432	19.41	-53.59
3	13,826	11,149	4,182	6,253	2,071	49.53	-54.77
All	7,740,055	6,746,146	4,223,351	4,483,901	260,550	6.17	-42.07

Figure 3: Annual GHG emissions by scope



4.2 The slight increases in energy consumption and mileage are reflected in small increases across all scopes in the reporting year. The previous reporting year saw prolonged closure and low levels of usage of sites during the pandemic. The increases are to be expected in line with the easing of lockdown restrictions during the year with a return to work and gradual opening up of sites. The largest year-on-year increases were seen in Scope 2 (almost 20%) and Scope 3 (almost 50%) emissions.

4.3 Scope 1 emissions saw the smallest increase over the period which is to be expected as key sites such as the Civic Offices will have remained heated and cooled throughout the pandemic due to key workers being on site and a requirement for fresh air circulation in line with Government Covid-safe requirements. The impact on gas consumption into the new reporting period is therefore less significant.

4.4 The increase in Scope 2 emissions is linked to increases in electricity usage at all sites notably town centre; residential and community/leisure sites.

4.5 With the return to work and the increase in site visits and other business related mileage, Scope 3 emissions increased by almost 50% with total business travel increasing from 35,642km in 2020/2021 to 53,592km in 2021/2022. It is not surprising that pre-pandemic travel has not returned due to continuing use of hybrid working and online meetings into the reporting year.

4.6 As expected, all scopes continue to show a marked reduction compared to the baseline year of 2018/19. Whilst a continued reduction in emissions is welcome; it must be noted that no investment has been made in energy efficiency measures or renewables during the reporting period due to budgetary constraints. The reductions

compared to 2018/2019 levels are due to continued comparatively low levels of occupancy / usage of sites; continued flexible / hybrid working; and the impact of national Covid related restrictions.

5.0 Renewable energy: Photovoltaic (PV) electricity generation

5.1 The following table, figure 4, records electricity generated by PV panels on WBC assets:

Figure 4: PV electricity generation by site

	2018/2019 (kWh)	2019/2020 (kWh)	2020/2021 (kWh)	2021/2022 (kWh)	Difference (kWh)	Percentage change 2020/2021 to 2021/2022	Percentage change baseline year, 2021/2022
Residential sites	261,077	235,947	244,569	179,451	-65,118	-0.3	-31.3
Town centre sites	94,255	87,450	87,963	81,521	-6,442	-0.1	-13.5
Total	355,331	323,398	332,532	260,972	-71,560	-0.2	-26.6

5.2 PV generation across all sites for 2021/2022 totalled 260,972 kWh, recording a percentage decrease of 0.2% on the previous year. This decrease can be attributed to a degradation of the PV systems over time. This degradation is amplified over time with total PV generation decreasing by just over a quarter since the base year.

6.0 Conclusion

6.1 On the basis of the data collected for this report, WBC's greenhouse gas emissions (Scopes 1 to 3) **have increased by 6.2% between 2020/2021 and 2021/2022 and have decreased by 42.1% on the baseline year (2018/2019)**.

6.2 As explained in section 4, the slight annual increase can be attributed to the easing of lockdown restrictions during the reporting year with a return to work and gradual opening up of sites.

6.3 Caution should be taken in comparing this dataset with previous reporting years due to the unprecedented effect of national lockdowns brought about by the Covid-19 pandemic and the impact on workstyle and building usage.

Contact information

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Report completed in August 2022