

# Woking Borough Council Greenhouse Gas Emissions Report 2018 – 2019

## 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);
  - Residential and community centres supplied by Thamesway Combined Heat and Power (CHP);
  - Staff transport (business mileage); and
  - 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.
- 1.4 By recording this data, we are able to monitor the progress of Action 35 of the Council's climate change strategy – [Woking 2050](#): "continue to work with partners to improve the energy efficiency and reduce the energy consumption of Council owned buildings and housing stock."
- 1.5 Additionally, the reporting process provides officers with the opportunity to collect data on renewable energy, recording photovoltaic (PV) electricity generation at Council assets. The report therefore enables us to monitor the progress of Action 36 of the Woking 2050 strategy: "continue to work with partners to increase the proportion of renewable and sustainable energy consumption of Council owned buildings."
- 1.6 This report covers the period 1 April 2018 to 31 March 2019.

## 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 Environment, Food and Rural Affairs (DEFRA): June 2013.
  - *Government emission conversion factors for greenhouse gas company reporting*, BEIS: 2018 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 CO<sub>2</sub> equivalent (kg CO<sub>2</sub>e) which, in line with DEFRA guidelines, “gives the global warming effect of the mass of GHG in terms of what mass of carbon dioxide would produce the same effect.”<sup>1</sup>
- 2.3 These emissions are recorded and categorised according to scope, which DEFRA 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.”<sup>2</sup>

### **3.0 Energy consumption and analysis**

- 3.1 The table overleaf, Figure 1, details annual energy consumption to 2018-19.

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<sup>1</sup> *Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions reporting guidance*, Department for Environment, Food and Rural Affairs (DEFRA): June 2013, p.35-6

<sup>2</sup> *Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions reporting guidance*, Department for Environment, Food and Rural Affairs (DEFRA): June 2013, p.36

**Figure 1: Annual energy consumption by source**

Type of energy consumption	2015/16	2016/17	2017/18	2018/19	Difference (kWh/km)	% change
Leisure pavilions - gas consumption (kWh)	140,000	136,707	247,181	183,465	- 63,716	- 25.78
Leisure pavilions - electricity consumption (kWh)	259,018	237,639	250,431	246,669	- 3,762	- 1.50
Residential sites and community sites - gas consumption (kWh)	14,217,299	11,262,794	14,931,333	14,717,210	- 214,123	- 1.43
Residential and community sites - electricity consumption (kWh)	810,393	1,601,481	2,285,392	1,938,313	- 347,079	- 15.19
Town centre sites - gas consumption (kWh)	3,994,039	4,101,045	3,508,640	3,063,346	- 445,294	- 12.69
Town centre sites - electricity consumption (kWh)	3,686,875	3,520,836	3,408,597	4,039,353	630,756	18.50
Woking park sites - gas consumption (kWh)	16,787,418	13,026,909	13,973,000	12,449,468	- 1,523,532	- 10.90
Woking park sites - electricity import (kWh)	1,530,658	1,545,103	1,298,000	1,007,646	- 290,354	- 22.37
Vehicles (km)	126,415	133,531	212,548	100,305	- 112,244	- 52.81

- 3.2 The table shows a decrease in energy consumption between 2017-18 and 2018-19 across all uses except electricity consumption at town centre sites.
- 3.3 This increase appears to be due to a change in meters associated with Town Centre car parks and the Peacocks during the reporting period. In previous reports, we reported on consumption associated with the Shopper Car Parks (Red, Blue and Yellow) and the Control Room. It appears that the same meter number now records consumption for seven submeters including the car parks, control room and three other sites. The meter readings are not broken down by location. This no doubt results in larger consumption than recorded before. The change, and increase in consumption, could also be attributed to the Town Centre redevelopment works – a significant proportion of which has affected the car parks.
- 3.4 Reductions in energy use can be attributed to a number of factors:
- Continuing programme of improvements across the Civic Offices, Leisure Centre and Pool in the Park to improve the thermal performance of buildings including new roofs and insulation; replacement doors and windows (leisure centre and pool only).
  - Continuing programme of improvements to replace lighting with more efficient LED lights across communal areas in the Civic Offices and in the sports hall at the Leisure Centre. The systems have presence detectors and therefore switch off when the facilities are not in use. At the sport hall there is also the ability to adjust lighting levels depending on the activity.
  - Replacement boilers at the Leisure Centre and Pool in the Park resulting in improved efficiencies.
  - Improved accuracy of meter readings across New Vision Homes (NVH) residential properties.
  - During 2018-19, NVH invested £5.7m into the existing housing stock as part of the asset management programme. £500,000 of this investment was focussed on improving the energy efficiency of blocks through external wall and cavity wall insulation and loft insulation programmes. £2.1m of the investment was to protect the housing stock from Decent Homes and Housing Health and Safety Rating System (HHSRS) failures by renewing key property components such as doors, windows, boilers, roofs, kitchens and bathrooms. With the boiler upgrade programme, green initiatives are being undertaken such as ensuring all installations are Solar PV compatible in the future. A roofing programme includes new loft insulation as standard and all materials for all projects must be sustainably sourced.
  - As well as planned improvements, a separate budget of £455,000 will be used to refurbish void properties up to a higher standard and this year, those works included replacing loft insulation and installing energy efficient light bulbs as standard.
  - Reduced business mileage through improved efficiencies by staff in planning appointments or avoiding travel to meetings which can be conducted over the phone.
- 3.5 There are GHG emissions associated with the use of a water supply. However, water usage and its associated GHG emissions are not within the scope of this report.

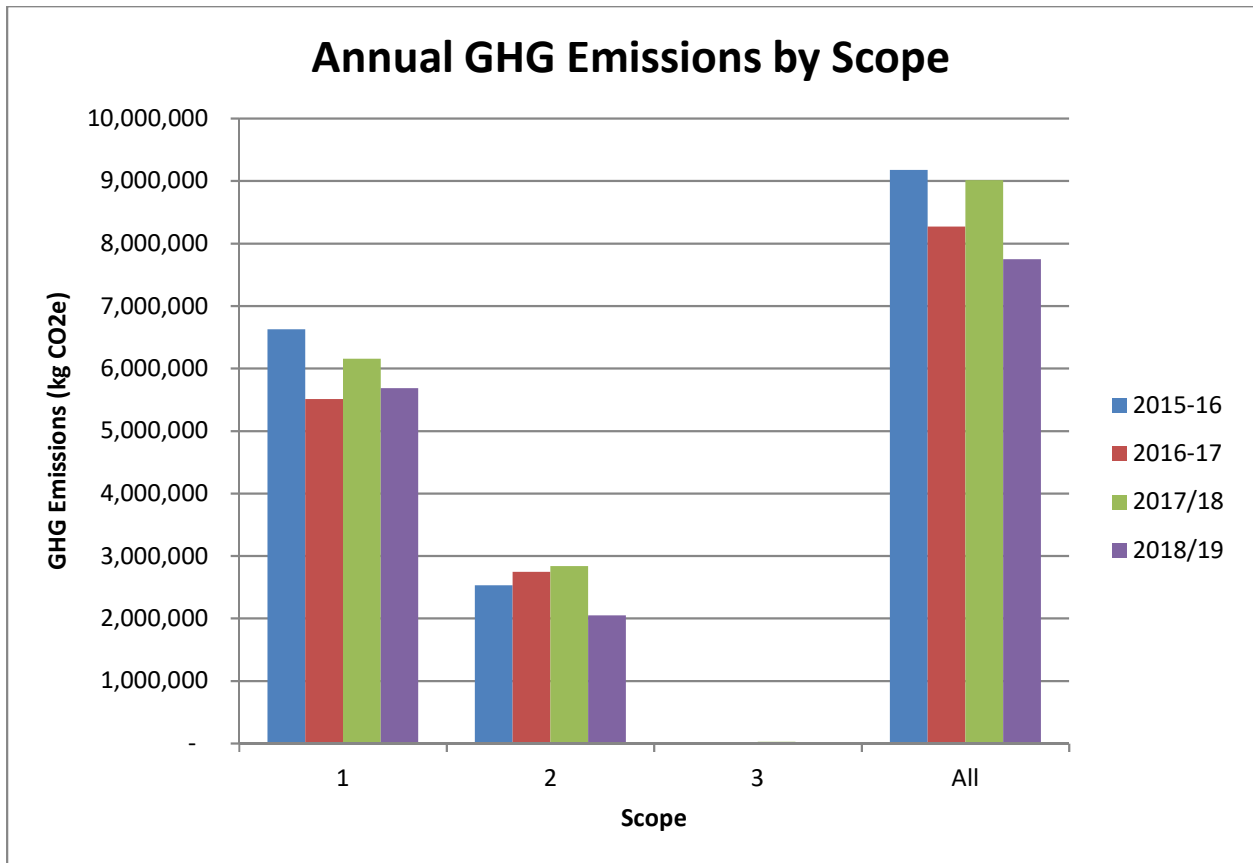
#### **4.0 GHG emissions and analysis**

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

**Figure 2: Annual GHG emissions by scope**

GHG Emissions by Scope	2015-16	2016-17	2017/18	2018/19	Difference (kg CO2e)	Percentage change (%)
1	6,623,925	5,508,727	6,152,635	5,684,396	- 468,240	-7.61
2	2,530,201	2,742,914	2,835,782	2,046,651	- 789,131	-27.83
3	22,419	15,715	23,633	13,826	- 9,807	-41.50
All	9,176,545	8,267,356	9,012,050	7,744,872	- 1,267,178	-14.06

**Figure 3: Annual GHG emissions by scope**



- 4.2 Scope 1 emissions have decreased by 7.6%. This is due to decreased gas consumption at all sites.
- 4.3 Scope 2 emissions have decreased by 27.8%. This is due decreased electricity consumption across leisure pavilions and NVH residential sites. Scope 2 shows an overall decrease despite an increase in electricity consumption at Town Centre sites (see section 3.3).
- 4.4 Scope 3 emissions have decreased by 41.5% with total business travel decreasing from 212,548km to 100,305km.

## 5.0 Renewable energy: Photovoltaic (PV) electricity generation

5.1 The below table, Figure 4, records electricity generated by PV panels on WBC assets:

**Figure 4: PV electricity generation by site**

	PV electricity generated 16/17 (kWh)	PV electricity generated 17/18 (kWh)	PV electricity generated 18/19 (kWh)	% change
Residential sites	224,455	241,285	261,077	8.2
Town centre sites	52,112	93,048	94,255	1.3
Total	276,566	334,333	355,331	6.3

5.2 PV generation across all sites for 2018-19 reached 355,331 kWh seeing a percentage increase of 6.3% on last year.

## 6.0 Conclusion

6.1 On the basis of the data collected for this report, WBC's greenhouse gas emissions (Scopes 1-3) have **decreased by 14%** between 2017-18 and 2018-19. The reasons for this increase can be attributed to a combination of factors as described in section 3.4, including:

- Reduced energy consumption recorded across the majority of sites.
- Improved quality of data i.e. increasing number of actual meter readings as opposed to estimated meter readings particularly across NVH properties.
- Continuing investment and improvement across NVH residential properties improving their thermal insulation and energy efficiency.
- Continuing improvements to the Council estate in terms of thermal insulation and lighting upgrades.
- Significantly reduced business mileage.

## Contact Information

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