

# Summary of CO<sub>2</sub> emissions in Gosport 2019

## Introduction

The UK Government has passed into law targets to achieve at least a 78% reduction in greenhouse gas emissions from 1990 levels by 2035, and then to reach net-zero emissions by 2050. Local authorities have a role to play in achieving these reductions in emissions in their areas, to help the UK as a whole meet its targets. The Council's Climate Change Strategy therefore sets out an aim to support residents and businesses to work towards becoming carbon neutral.

BEIS publishes annual emissions estimates for each local authority area, which allow progress towards achieving carbon neutrality in Gosport to be tracked and can help to identify actions where the Council's actions could have the most impact. This briefing note summarises the latest available figures, which cover emissions up to 2019. The full data set can be found at <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019>.

## Emissions included

### Scopes

Emissions are classed into three scopes for reporting purposes. While the definitions of these scopes relate to emissions from organisations, they can be adapted to apply to emissions from a geographical area, as follows.

- Scope 1 emissions are those released within the area.
- Scope 2 emissions are those released when generating electricity and other energy used within the area, where the emissions from generating the energy occur outside the area.
- Scope 3 emissions cover all other emissions generated outside the area, to provide goods or services consumed or used within the area.

### Omissions

Scope 3 emissions are not included in the BEIS estimates. While this avoids double counting (since one area's scope 3 emissions may also be another area's scope 1 and 2 emissions), and therefore allows the total of all local authority area emissions to be reconciled against UK emissions data, it means that the full emissions for which Gosport is responsible are not calculated.

Scope 1 and 2 emissions are included, with the following exceptions.

- Emissions from energy generation are only included as scope 2 emissions for the area using the energy, not as scope 1 emissions for the area generating the energy. This is also to avoid double counting, and has no impact on Gosport's emissions figures since there are no energy generation sources in Gosport that create emissions.

- Emissions from shipping and aviation (international and domestic, including military) are excluded. Scope 1 and 2 emissions from these sources are likely to be small.
- The BEIS data only covers emissions of carbon dioxide, which accounted for approximately 80% of the UK's total greenhouse gas emissions in 2019.

### Alternative methodologies

An initiative funded by BEIS called SCATTER (Setting City Area Targets and Trajectories for Emissions Reductions) has developed an alternative methodology for estimating emissions. This methodology makes use of the BEIS data but supplements it with data from other sources to address some of the limitations described above. As a result, emissions reporting using the SCATTER data has some important advantages over the BEIS data. It includes some (but not all) scope 3 emissions, and it covers emissions of all greenhouse gases.

However, there are also significant disadvantages to using the SCATTER data. Firstly, it is less up to date than the BEIS data, with the latest available information covering 2018. Secondly, the SCATTER reporting tool only provides data for a single year, so it is not possible to analyse how emissions are changing and identify trends. While it would be possible to build up an archive of SCATTER data over time to achieve this, any changes to methodology would invalidate comparisons with previous years. This contrasts with the BEIS data, which provides emissions estimates from 2005 and for which all results for previous years are recalculated to account for methodology changes.

This report is therefore based on the BEIS data. Comparing the BEIS results for 2018 with those provided by SCATTER gives some indication of the scale of the omissions from the BEIS data. The 2018 emissions reported in the BEIS data are approximately 85% of the 2018 scope 1 and 2 emissions according to the SCATTER data. This indicates the impact of including greenhouse gases other than carbon dioxide in the calculations. According to the SCATTER data, scope 1 and 2 emissions make up 79% of the total 2018 emissions. In combination, these two differences result in the total emissions according to the BEIS data being approximately two thirds of the total according to the SCATTER data.

It should be noted that the SCATTER data also considerably underestimates the full emissions for which Gosport is responsible. While it includes some scope 3 emissions, those from industrial processes and agriculture are not covered. No detailed analyses of these are available but they are likely to be significant. For example, the total 2018 emissions using the SCATTER data equate to 3.86 tCO<sub>2</sub>eq per person, whereas the average UK carbon footprint taking into account all consumption has been estimated to be as high as 12.7 tCO<sub>2</sub>eq per person per year.<sup>1</sup>

## **Results**

### Total emissions

The BEIS estimate of emissions in Gosport in 2019 is **202.207 ktCO<sub>2</sub>**, or **2.383 tCO<sub>2</sub> per capita**.

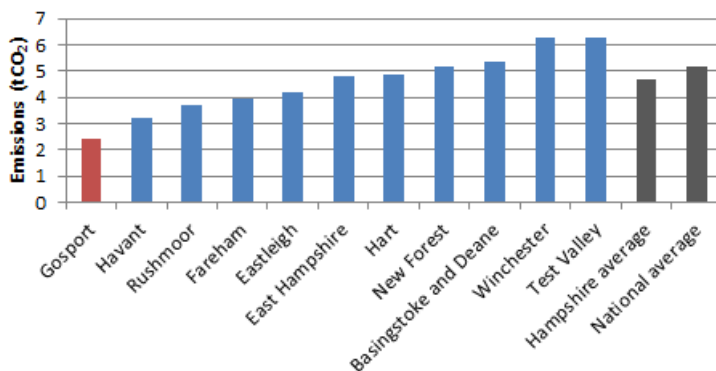
The per capita figure allows for comparison between local authorities, as shown below. However, this comparison should be treated with caution since scope 3 emissions are not included. This means that in an area such as Gosport with few large emissions sources, the per capita figure is significantly lower than for areas with large emissions sources from which Gosport residents would

---

<sup>1</sup> Source: <https://www.pawprint.eco/eco-blog/average-carbon-footprint-uk> [accessed 27/7/21]

benefit. For example, the high emissions in Winchester and Test Valley are accounted for by the presence of large industrial sites, motorways and trunk roads.

### 2019 per capita emissions



### Analysis of emissions by category

The BEIS estimates break down the total emissions into several categories, as shown below.

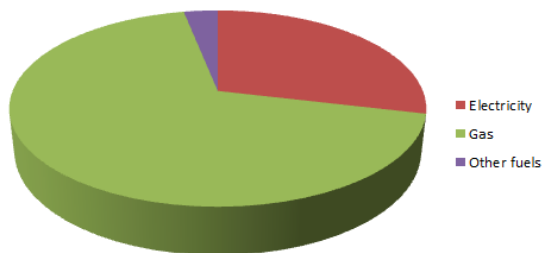
Category	2019 emissions (ktCO <sub>2</sub> )	Sub-category	2019 emissions (ktCO <sub>2</sub> )
Domestic	94.355	Electricity	27.082
		Gas	64.325
		Other fuels	2.985
Transport	56.420	A-roads	11.251
		Motorways	0.000
		Minor roads	44.855
		Diesel railways	0.000
		Other	0.314
Industry	22.392	Electricity	12.112
		Gas	2.115
		Other fuels	7.754
		Large industrial installations	0.125
		Agriculture	0.286
Commercial	21.482	Electricity	12.318
		Gas	9.093
		Other fuels	0.072
Public sector	9.420	Electricity	4.177
		Gas	5.234
		Other fuels	0.010
LULUCF (net emissions) <sup>1</sup>	-1.863	Forest land	-2.621
		Cropland	0.810
		Grassland	-1.011
		Wetlands	0.000
		Settlements	0.959
		Harvested wood products	0.000

<sup>1</sup> LULUCF stands for Land-Use, Land-Use Change and Forestry. The net LULUCF emissions are the emissions of CO<sub>2</sub> due to carbon sinks being degraded or lost, minus CO<sub>2</sub> absorbed from the atmosphere by carbon sinks.

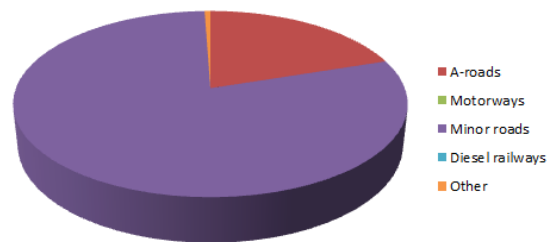
## All Gosport emissions 2019 (excluding LULUCF)



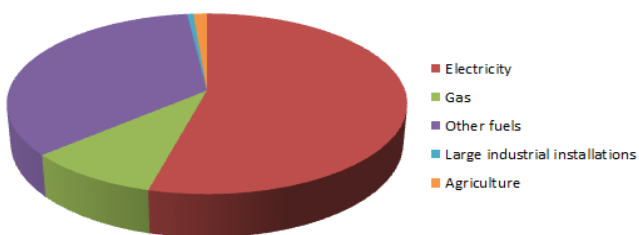
### Gosport domestic emissions 2019



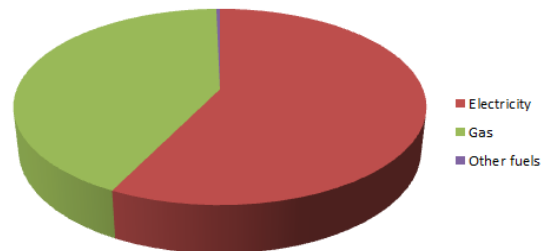
### Gosport transport emissions 2019



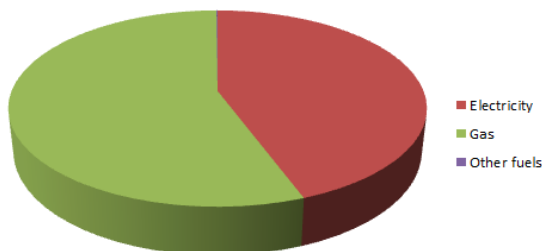
### Gosport industry emissions 2019



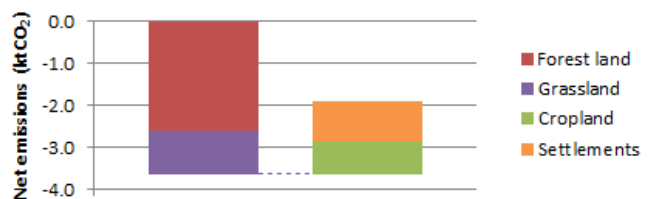
### Gosport commercial emissions 2019



### Gosport public sector emissions 2019



### Gosport LULUCF net emissions 2019

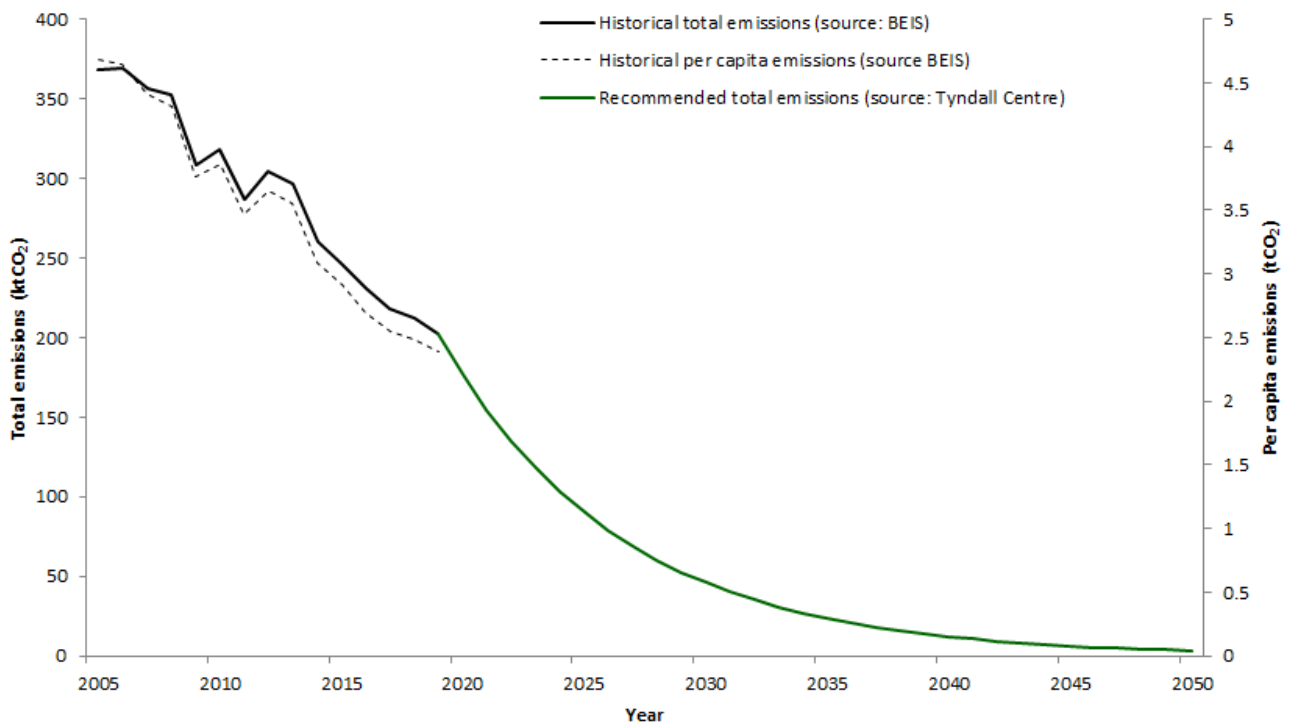


## Changes to emissions over time

The BEIS data start in 2005, for which emissions in Gosport are estimated as 368.158 ktCO<sub>2</sub>. There has therefore been a 45% reduction in emissions since 2005, which equates to an average annual reduction of 4.2%.

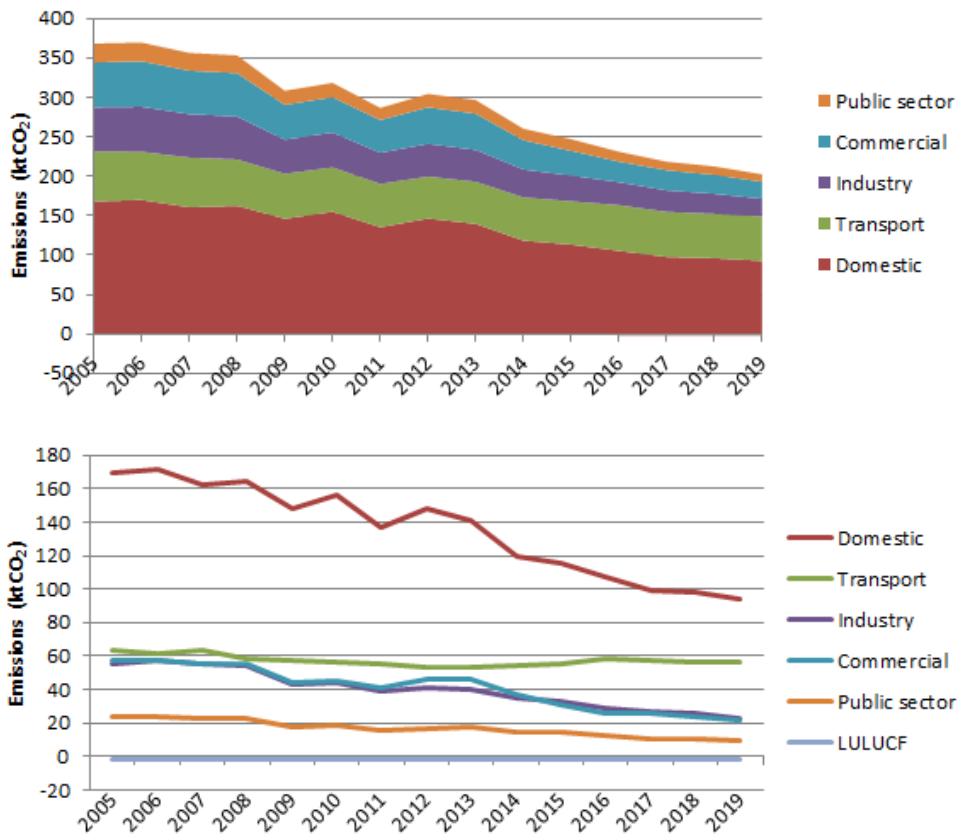
The Tyndall Centre has calculated that emissions would need to reduce by 12.6% every year from 2020 onwards, if Gosport is to play its fair share in achieving the global emissions reductions required to meet the ambitions set out in the Paris climate agreement.<sup>1</sup> The graph below shows Gosport's emissions (total and per capita) since 2005 and the future pathway for total emissions recommended by the Tyndall Centre.

<sup>1</sup> Source: <https://carbonbudget.manchester.ac.uk/reports/E07000088/print/> [accessed 28/7/21]



The changes to the contribution of each category to the total emissions since 2005 are shown below.

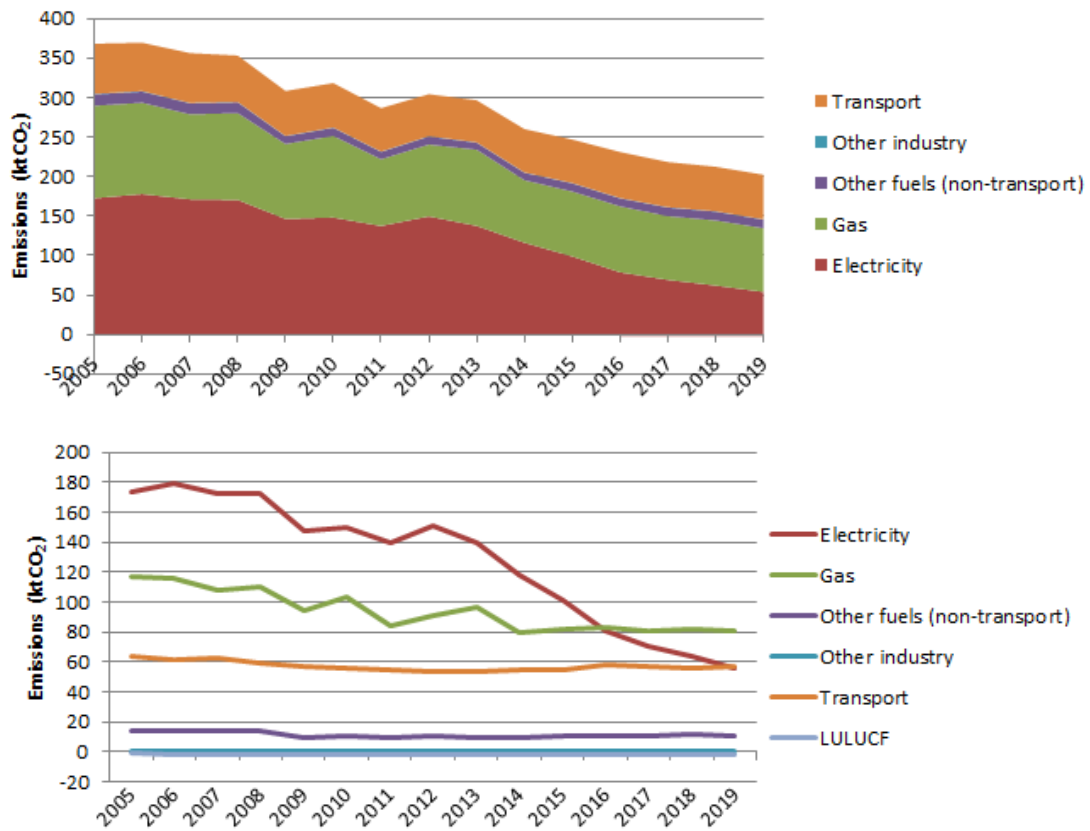
### All Gosport emissions



Looking at how the contribution of emissions from different energy sources has changed since 2005, it can be seen that the majority (71%) of the emissions reductions so far are due to lower emissions from electricity generation, as shown below. This is partly accounted for by a decrease

in demand of just over 20% between 2005 and 2019.<sup>1</sup> However the total reduction in electricity emissions is 68%, which implies that this is mostly the result of electricity generation becoming less carbon intensive.

### All Gosport emissions



<sup>1</sup> Source: <https://www.gov.uk/government/statistical-data-sets/regional-and-local-authority-electricity-consumption-statistics> [accessed 27/7/21]