

London Borough of Bromley
Environment & Community Services

Bromley's CO₂ Emissions: 2016 Performance Report

CO₂ Emissions within the Scope of Influence of Local Authorities



November 2018
The Carbon Management Team

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1. Introduction

1.1 Background

In June 2018, the Department of Business, Energy & Industrial Strategy (BEIS) released national data for 2016 Carbon Dioxide (CO₂) emissions by local authority. This data set is the successor to the former NI 186 requirement and is now referred to as: "[*Carbon dioxide emissions within the scope of influence of Local Authorities*](#)".

National CO₂ data has been released annually by DECC since 2005 (generally 18 months after the reporting year-end). This is now done by DECC's successor, BEIS. However, the basis on which the data is compiled has changed as information capture techniques have improved. This means previous years' data have to be recast and, therefore, previous years' reports cannot be directly compared with this report.

It should be noted that the data in these reports relates to the calendar (rather than municipal) year and is expressed either as 'total' (the borough as a whole) or 'per capita' (average emissions per person) to provide more meaningful comparison.

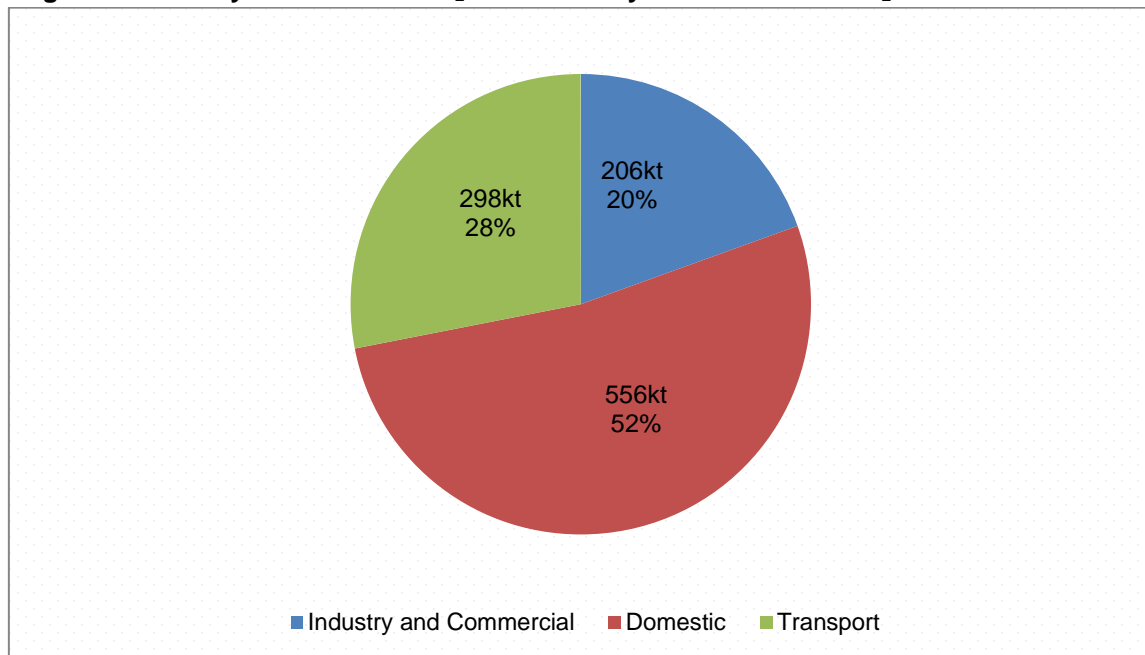
An explanation of the data sources and collection methodologies is set out in Appendix 5.1 but, in simple terms, CO₂ emissions are estimated from the following sectors:

- Industrial and Commercial (I&C): gas and electricity use in business and industry
- Domestic: gas and electricity use in residential property
- Transport: road transport (A-roads and minor roads)

1.2 Bromley Key Point Summary 2016

- In 2016, Bromley emitted a total of 1.06Mt CO₂ comprising:
 - 556kt domestic emissions (52%)
 - 298kt road transport emissions (26%)
 - 207kt commercial emissions (22%)
- Total all-sector CO₂ emissions decreased by:
 - 7.2% (82kt) from 2015 to 2016
 - 32% (495kt) since 2005
- Per capita all-sector CO₂ emissions, (which are lower than the national and London averages) decreased by:
 - 7% (0.3t per capita) from 2015 to 2016
 - 38% (2t per capita) since 2005
- However, despite a decrease from the previous year, Bromley has higher than average per capita CO₂ emissions for the domestic sector (1.7t per capita): indeed, Bromley remains the third worst performer in Greater London
- Industry & Commercial per capita CO₂ emissions are lower than the London average. Bromley is the sixth best performer in London, but this reflects the large population size and lack of industry.
- Transport emissions have fallen by 20% compared with baseline (2005) but have increased by 0.8% since 2015.

Figure 1: Bromley's 2016 Total CO₂ Emissions by Sector: 1.06Mt CO₂



1.3 Historic and Current Data

In 2016, Bromley experienced a decrease in total CO₂ emissions, as did the majority of UK local authorities.

Table 1 shows borough-wide total CO₂ emissions since 2005 broken down into sectoral sub-categories.

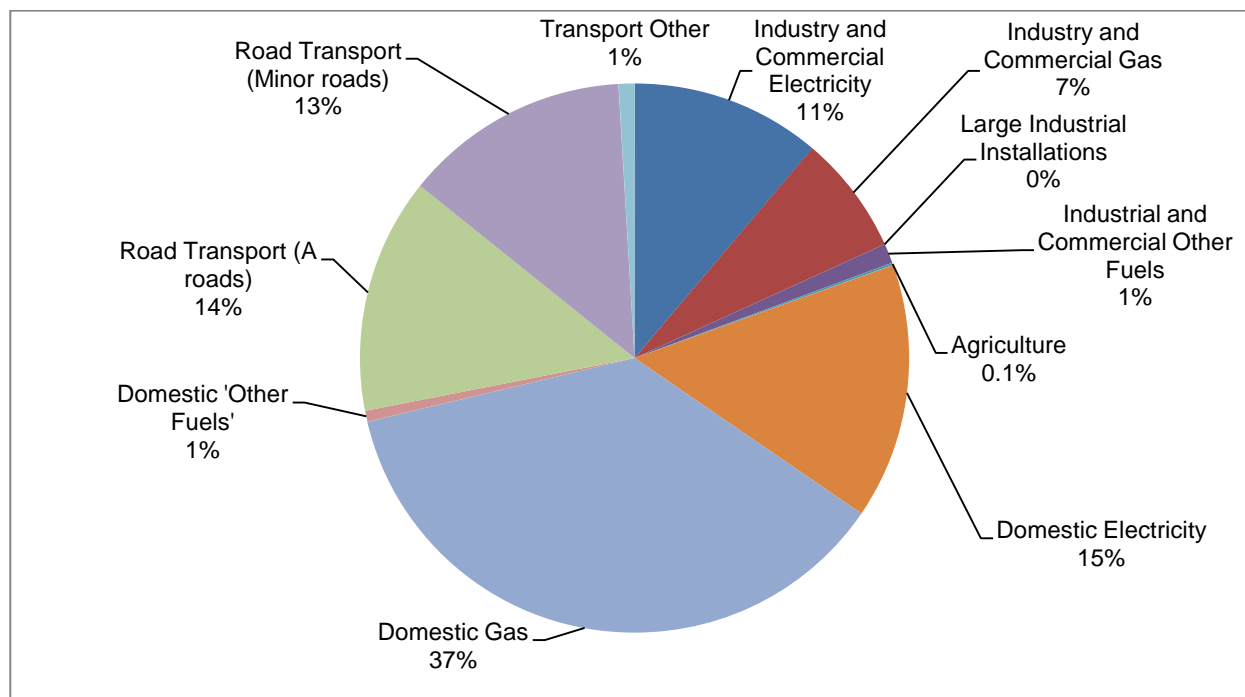
Table 1: All-Sector Emissions: 2005-2016 (ktCO₂) - colour relates to sector as per Fig. 1

Year	Industry and Commercial Electricity	Industry and Commercial Gas	Large Industrial Installations	Industrial and Commercial Other Fuels	Agriculture	Domestic Electricity	Domestic Gas	Domestic 'Other Fuels'	Road Transport (A roads)	Road Transport (Minor roads)	Transport Other	Grand Total
2005	249.4	105.2	-	22.2	1.3	320.5	482.8	7.6	192.7	164.7	9.6	1,556.1
2006	289.7	112.3	-	21.2	1.3	335.8	465.2	7.1	191.3	158.2	9.8	1,591.8
2007	262.5	89.9	-	21.3	1.2	336.4	441.3	6.7	183.5	159.7	9.9	1,512.4
2008	254.7	90.6	-	18.1	1.2	325.3	463.4	7.1	171.4	153.8	9.7	1,495.3
2009	235.7	79.0	-	14.0	1.2	293.3	418.9	6.6	164.4	149.2	9.1	1,371.3
2010	236.1	86.5	-	15.2	1.3	300.9	466.5	6.9	160.3	146.3	8.8	1,428.7
2011	221.6	71.3	-	12.5	1.3	288.1	379.9	6.4	155.7	143.5	9.0	1,289.2
2012	237.4	81.1	-	13.8	1.3	304.9	422.8	6.3	152.3	141.4	9.0	1,370.2
2013	214.8	86.6	-	11.3	1.3	279.1	434.7	6.8	150.8	138.5	9.2	1,333.1
2014	188.7	69.7	-	12.4	1.3	232.2	357.5	6.5	148.5	141.1	9.5	1,167.5
2015	166.2	75.2	-	12.8	1.3	195.1	387.0	6.5	150.5	138.6	9.9	1,143.1
2016	118.8	74.4	-	12.3	1.4	159.8	389.7	6.8	147.1	141.0	9.9	1061.2

On a total all-sector basis, Bromley's CO₂ emissions have fallen by 32% from 1,556kt in 2005 to 1,061.2kt in 2016, and decreased by 7.2% between 2015 and 2016.

Figure 2 shows how Bromley's 2016 emissions are broken down by sub-category. This highlights the dominance of a) domestic emissions (52% of total) and b) emissions from domestic gas use (37% of total).

Figure 2: Total Emissions as a Percentage of Subcategory



1.4 Per Capita CO₂ Emissions

Since 2005, Bromley's (all-sector) per capita CO₂ emissions have fallen by 38%. Between 2015 and 2016, emissions per capita decreased by 7%. Figure 3 shows Bromley's per capita trend (blue line) compared with Greater London (green bar) and nationally (red bar) since 2005. On average, 2016 all-sector per capita CO₂ emissions in Bromley are nearly 2 tonnes per capita lower than the National average and 0.7 tonnes per capita lower than the average for Greater London.

Figure 3: Per capita (all-sectors) CO₂ emissions

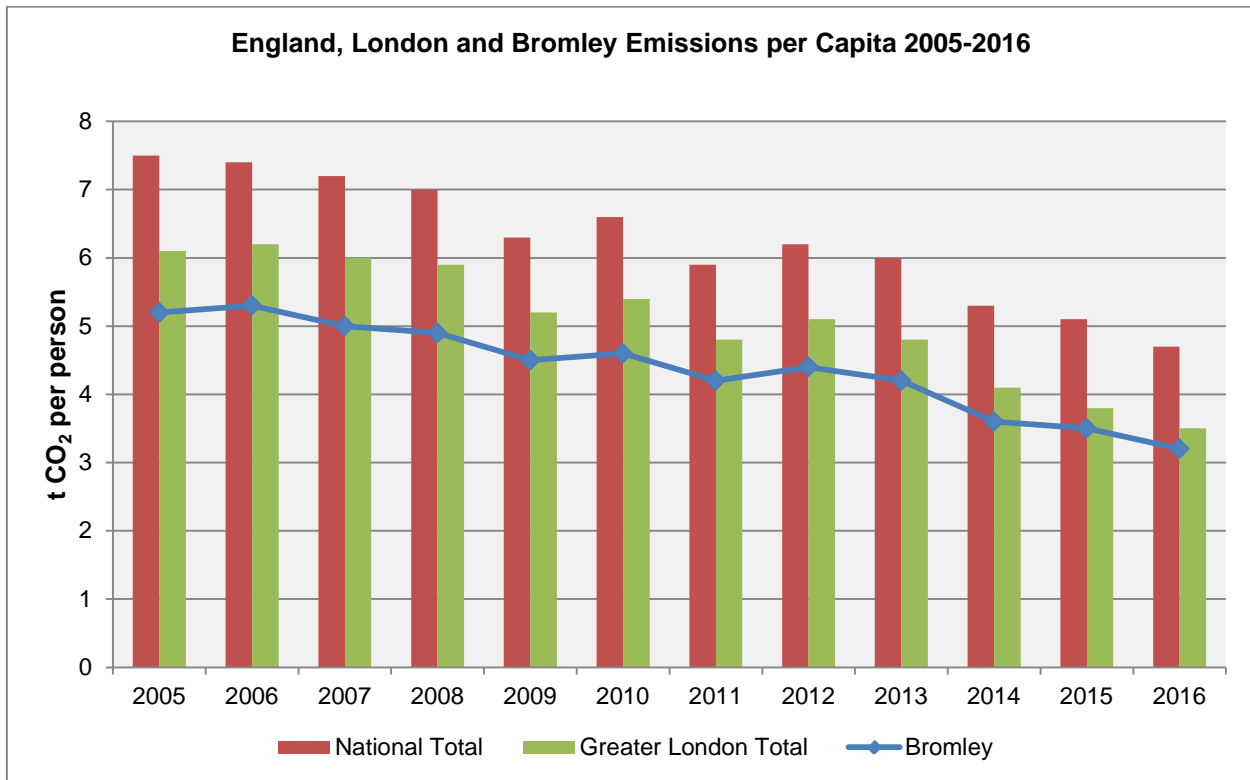
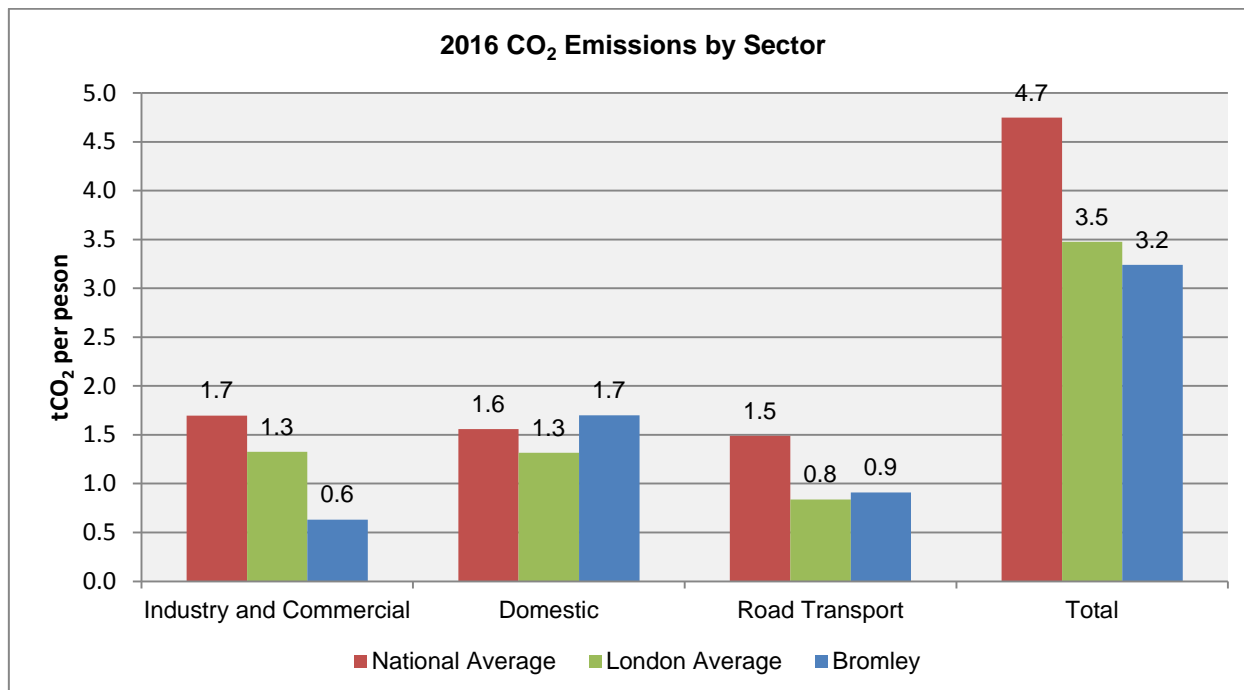


Figure 3 shows that there has been a general downward trend in per capita emissions since 2005 across all sectors. Although 2012 saw an annual increase in 'I&C', 'domestic' and 'total' per capita emissions, 2013 saw a return to the downward trend and reductions across all sectors.

2. Sectoral per capita CO₂ Emissions

Figure 4 compares Bromley's sectoral (commercial, domestic, transport) per capita CO₂ emissions (blue) against Greater London (red) and National (green) averages.

Figure 4: 2016 CO₂ Emissions by Sector



Bromley's per capita CO₂ emissions profile shows a marked variance with London and National averages.

- The lack of large-scale industrial and commercial installations has resulted in Bromley's commercial CO₂ emissions being much lower than the national average.
- Domestic CO₂ emissions, however, are higher than both the London and National average. This is largely due to the 'hard-to-treat' nature of the housing stock (e.g. solid wall pre-war construction) and the relative affluence of the population (See Table 3).
- Emissions from road transport are above the London average but below the national average. This can be attributed to the large size of the borough, the relative lack of public transport network, and to the fact that Bromley has the largest road network of any London borough. Additionally, Bromley has relatively high rates of car ownership (See Table 5).

2.1 Industry and Commercial CO₂ Emissions

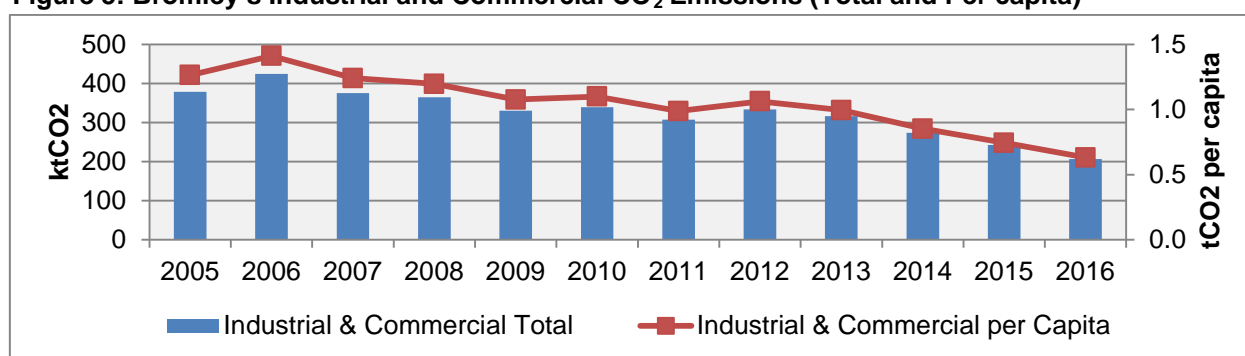
Industry and commercial CO₂ emissions are responsible for 19.5% of Bromley's carbon footprint, well below the Greater London and national average of 38% and 36% respectively. Table 2 sets out some factors relating to this.

Table 2: Bromley's Commercial Emissions: Factors

- Relatively few industrial installations in the borough
- Effects of slow economic growth on business energy consumption
- Energy intensive businesses being concentrated in other London boroughs

The borough has relatively low total and per capita commercial CO₂ emissions. Figure 5 shows commercial CO₂ per capita emissions plotted against total commercial emissions for 2005-2016.

Figure 5: Bromley's Industrial and Commercial CO₂ Emissions (Total and Per capita)



In 2016, total I&C emissions decreased by 45% since 2005 and 15% since 2015. Further examination of the decrease in commercial CO₂ emissions shows a 29% reduction in gas emissions since 2005, and a 4% decrease since 2014. There was a decrease of 52% in electricity since 2005 and 21% since 2015. The commercial sector also saw a 44% decrease in emissions from "other fuels" (e.g. oil) since 2005, and a decrease of 2% since 2015.

2.2 LB Bromley's Carbon Management Programme

The Council's Carbon Management Programme (CMP) is the main initiative designed to help reduce the organisation's energy consumption and carbon emissions, and provides an opportunity for the Council to achieve significant cost savings by becoming more resource efficient. The CMP focuses on activities that the Council can directly influence, such as energy use in Council buildings, street lighting, transportation fuel use, water consumption and office waste generation, which together contribute to approximately 2.2% of the borough's total annual emissions.

The CMP's first phase (CMP1) ran from 2008/09 to 2012/13 and resulted in a 14% reduction (5,275 tCO₂e) in the Council's own GHG emissions. A second five-year phase (CMP2) commenced in 2013/14, with an ambition to drive down emissions by a further 15% against a revised (2012/13) baseline by 2017/18. 2017/18 marks the final year of the second phase. Emissions have fallen by 12,001 tCO₂e (33.4%) since 2012/13, meaning the Council has significantly surpassed its 5 year carbon reduction target of 15%. CMP2 progress is also reported annually; see the 2017/18 Greenhouse Gas Emissions Report.



2.3 Domestic CO₂ Emissions

Domestic emissions are responsible for 52% of Bromley's all-sector emissions: a much greater proportion than the figure nationally (33%) and Greater London (38%) reflecting the nature of the borough which is predominately residential with relatively little commercial activity. Since Bromley has less industrial and commercial emissions a greater proportion of "total" emissions emanate from residential property or from residents travelling to or from their homes.

The nature of housing stock, relative affluence of the population and age profile of residents all influence domestic sector emissions in Bromley. Table 3 sets out various factors for the comparatively high emissions in this sector.

Table 3: Bromley's Domestic Emissions: Factors

- Bromley has the largest elderly population of any London Borough, with 17% of the total Bromley population (2011 census). Typically over 65's stay at home more than those of working age and may live in under-occupied private housing, requiring more energy to heat and keep warm
- The average GLA Household Income Estimate for Bromley in 2015 was £55k and affluent households generally spend more on energy
- Since the 1980s there has been a limited supply of new housing (although this has increased since 2003) meaning that the borough has relatively few energy efficient properties
- Approximately 70% of housing in Bromley is owner-occupied, which is often less energy efficient than Housing Association stock
- 50% of private rented sector dwellings were built before 1919 and a further 38% were built between 1919 and 1944, making it more energy intensive and difficult to improve
- 48% of housing is detached or semi-detached, which leads to wasted energy through solid walls, high ceilings and large windows
- Bromley is an outer London borough and typically has a slightly lower temperature than inner London, meaning comparatively more energy is used to heat homes

In 2016, total domestic CO₂ emissions have fallen by 32% since 2005 and 6% since 2015.

Per capita performance remains poor and emissions (1.7t/capita) continue to be higher than both the London average (1.3t/capita) and national average (1.6t/capita).

Figure 6: Bromley's Domestic CO₂ Emissions 2005-2016 (per capita and total)

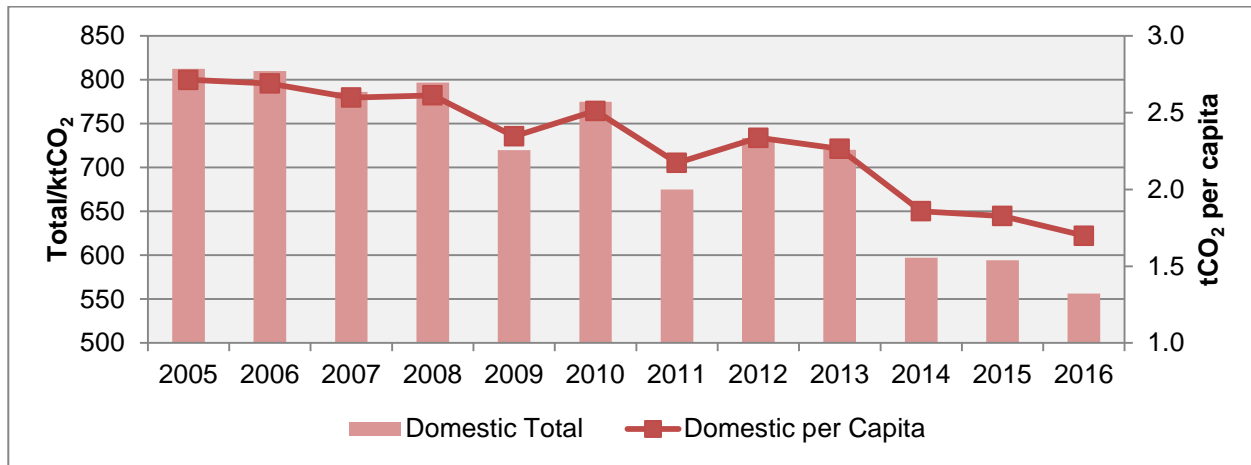
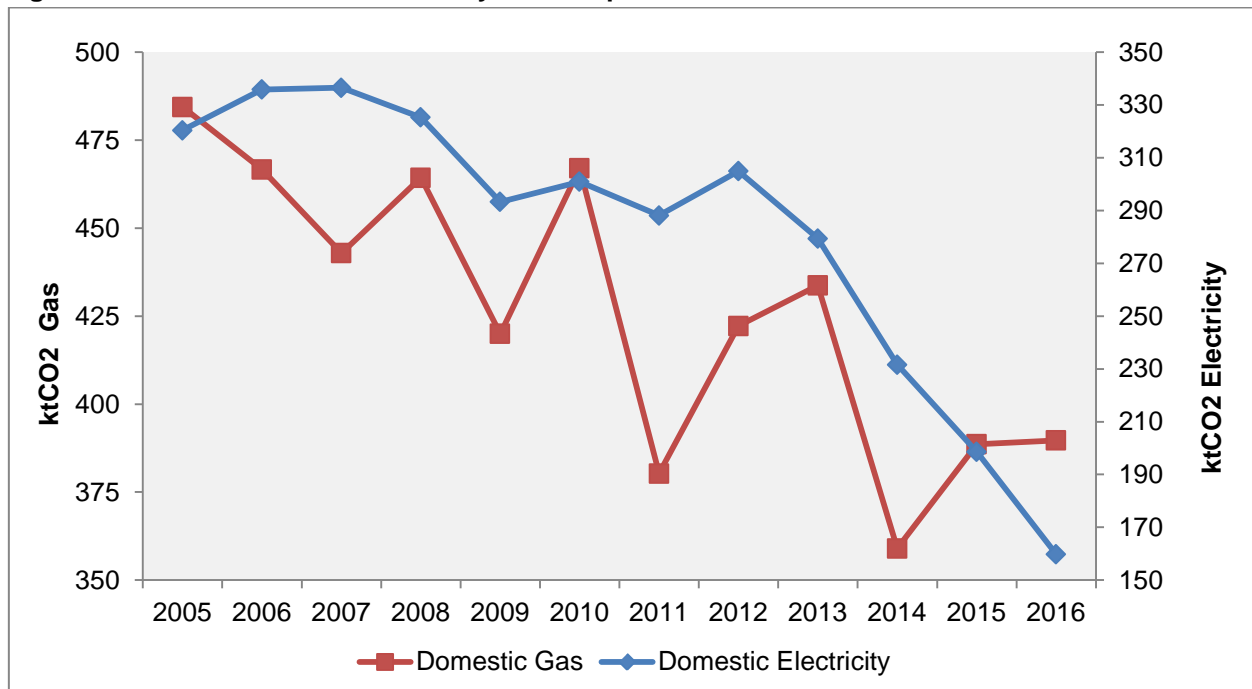


Figure 7 shows domestic electricity and gas consumption for 2005-2016. There has been a steady decline in electricity consumption since 2005, which may be attributable to better energy efficiency and behavioural change. Gas usage has also decreased, although is extremely weather dependant. There are clear spikes in years where there was a particular cold and long winter resulting in more energy use and higher CO₂ emissions.

Figure 7: Domestic Gas and Electricity Consumption 2005-2016



Since 2005, emissions from domestic electricity use decreased by 50% and domestic gas emissions fell by 19%. Since 2015, emissions decreased by 20% for electricity whilst gas experienced an annual increase of 1kt, an effective net change of 0%.

Reducing domestic emissions is difficult due to the lack of Council resources being devoted to this area and a lack of any specific statutory requirements for property owners to attain or meet specific standards in this respect. Table 4 lists the initiatives underway that may help reduce domestic emissions.

Table 4: Domestic Emissions Initiatives

- Providing a residents' Helpline through the Energy Saving Trust.
- In 2014, government-led domestic energy efficiency schemes such as ECO, Cashback, Green Deal and the Green Deal Home Improvement Fund were active. In July/August 2014 approximately 940,000 measures were installed in around 778,000 properties across the UK. 98% were delivered through ECO. More information can be found in [2010 to 2015 government policy: household energy](#).
- In October 2017 the Department for Business, Energy and Industrial Strategy published its policy paper *Clean Growth Strategy*. A cornerstone to this policy is a commitment to improving the efficiency of UK homes, including £3.6 billion of investment for domestic efficiency improvements through ECO and extending current levels of funding to 2028. An offer to all households to install a smart meter to help save energy and money by the end of 2020 was also implemented.
- Other government schemes such as Feed in Tariffs (ending in April 2019), Renewable Heat Premium / Incentive, Zero Carbon Homes and Energy Performance Certificates (EPC) have all been promoted. BEIS have stated in the Clean Growth Strategy that they will undertake a consultation process on how social housing can meet similar standards over this period. However, the Council does not own or manage any substantive housing stock and therefore has limited influence (also see [2015 HECA Further Report](#)).
- Bromley's "Excess Winter Deaths" parameter is [above regional and national averages](#) and 'significantly worse' than the average for England. The [Winter Health Project](#) was developed to address the high rates of ill health and deaths due to people living in cold homes in Bromley, and included an action plan to deliver energy efficiency and heating improvements and advice for the most vulnerable people in the borough over the February 2018 period. The government has also announced several schemes to reduce fuel poverty and mitigate health risks posed by serious weather. This includes the Affordable Warmth Obligation, a second Cold Weather Payment and the Warm Home Discount Scheme. There have also been changes to the Renewable Heat Incentive, with a further £4.5 billion to support low carbon heat technologies in homes and businesses.

2.4 Transport Emissions

Road transport emissions are responsible for 28% of LBB's total emissions, below the national average of 31% but above the Greater London average of 24%.

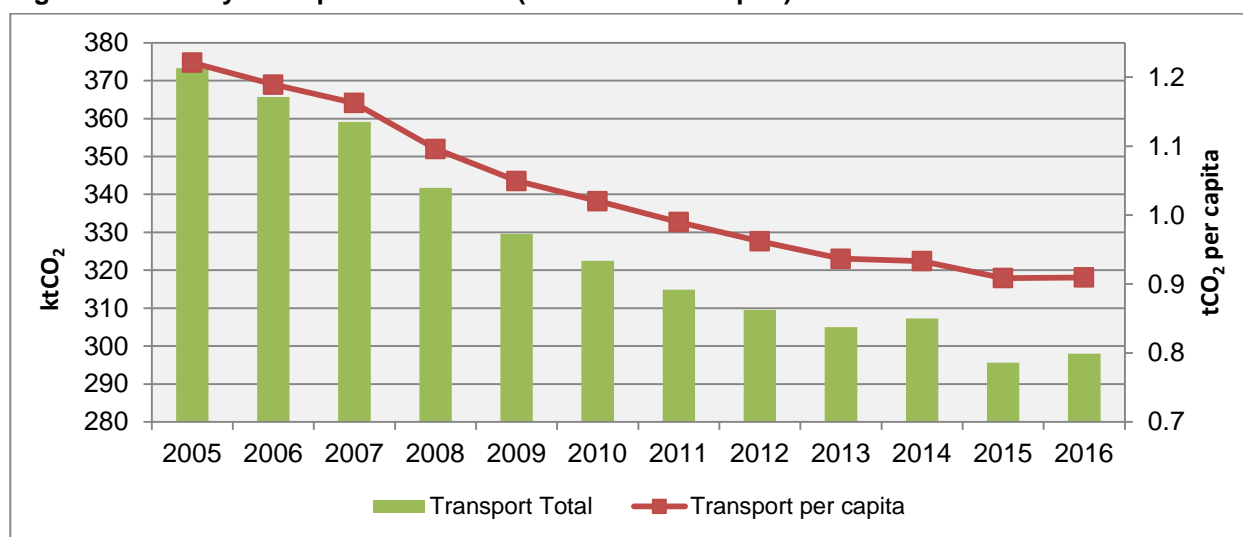
On a per capita basis, Bromley's transport emissions (0.9t) are just above Greater London's but significantly lower than the national figure of 1.5t per capita. Bromley ranks 24th of all London Boroughs for transport emissions. Table 5 sets out the factors that contribute to Bromley's transport related emissions.

Table 5: Bromley's Transport Emissions: Factors

- Bromley has one of the least dense populations of any London Boroughs (1,992 people per km² in 2006), which leads to greater car use.
- Bromley is London's largest borough in terms of area and has over 840km of road network. Resulting in Bromley residents having the longest average, and the longest total, journey length compared with other London boroughs.
- Bromley has the fifth highest car ownership levels in London.
- Bromley lacks a secondary public transport network, with no underground or DLR service and limited access to Tramlink services.
- Apart from Bromley town centre, public transport accessibility levels are relatively low, particularly for orbital journeys.

In 2016, total Transport emissions decreased by 20% since 2005 and have risen by 0.8% since 2015. Per capita emissions have virtually stayed the same since 2013.

Figure 8: Bromley Transport Emissions (Total and Per Capita)



Reducing road transport emissions in Bromley is a difficult task as it requires large-scale behavioural change (e.g. encouraging modal shift). However, Table 6 highlights initiatives underway in the transport sector.

Table 6: Bromley Transport Emissions Reduction Initiatives

- The Council encourages residents to make real choices about how they travel. Measures include:
 - School and workplace travel plans
 - Station Access schemes
 - Provision of cycle routes and cycle parking
 - Bus priority measures and improved facilities for passengers
 - Reducing emissions from the Council's own and its contractors' vehicle fleets
- The Council is currently examining the viability of significantly increasing the presence of car clubs in the borough.

3. Comparing Bromley's Emission

Broadly in line with national (406 local authorities in England, Scotland and Wales) and London data, Bromley's total CO₂ emissions decreased by 32% (495kt) between 2005–2016, and by 7% (82kt) between 2015–2016.

Figure 9: Bromley, London & National Per Capita Emissions 2005-2016

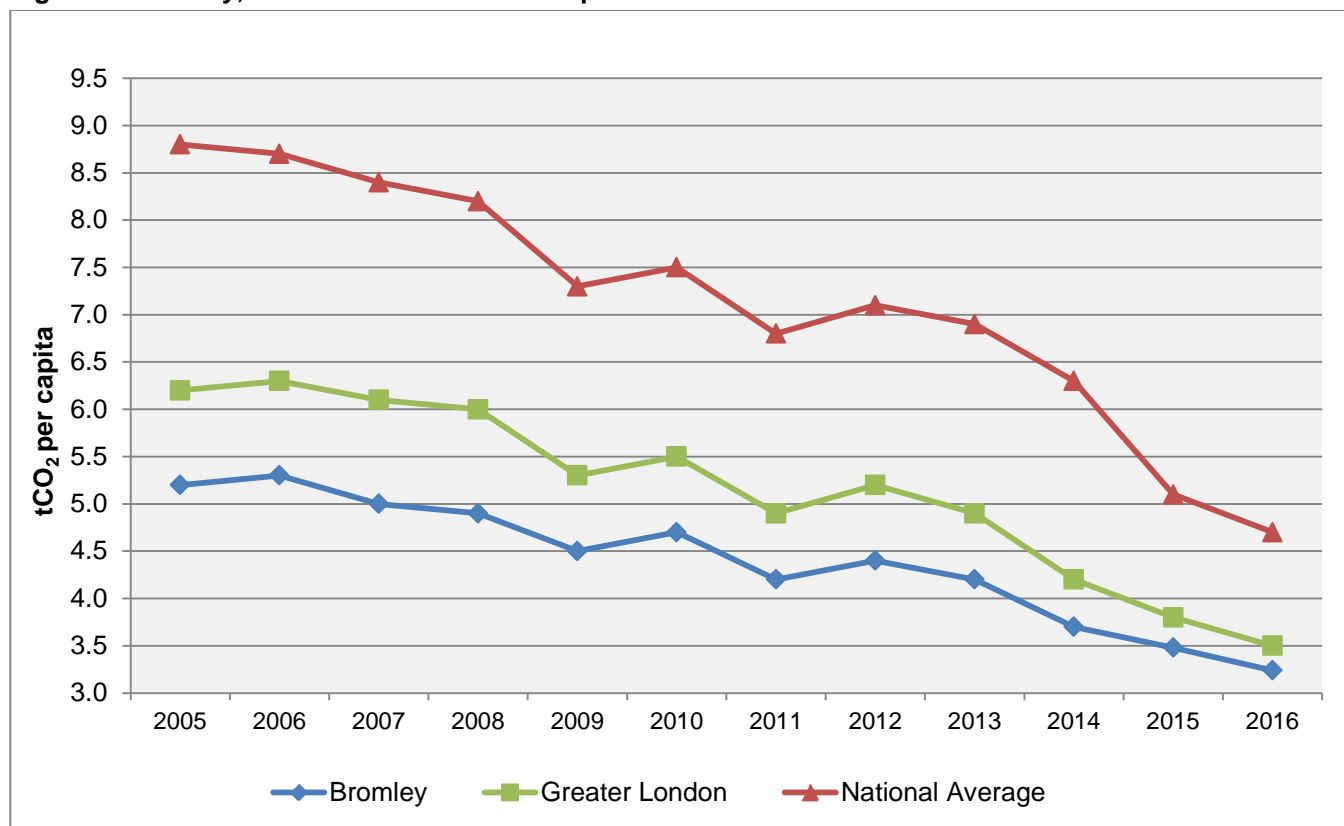


Figure 9 shows that all-sector per capita emissions in Bromley are lower than both the Greater London and national averages. It is also evident that Bromley, Greater London and national per capita emissions follow similar annual trends, with an overall downward trajectory relative to the 2005 baseline.

Figure 10: Greater London per capita Emissions 2016

*City of London per capita emissions (117.1t) not fully illustrated in Figure 10 due to scale (y axis)

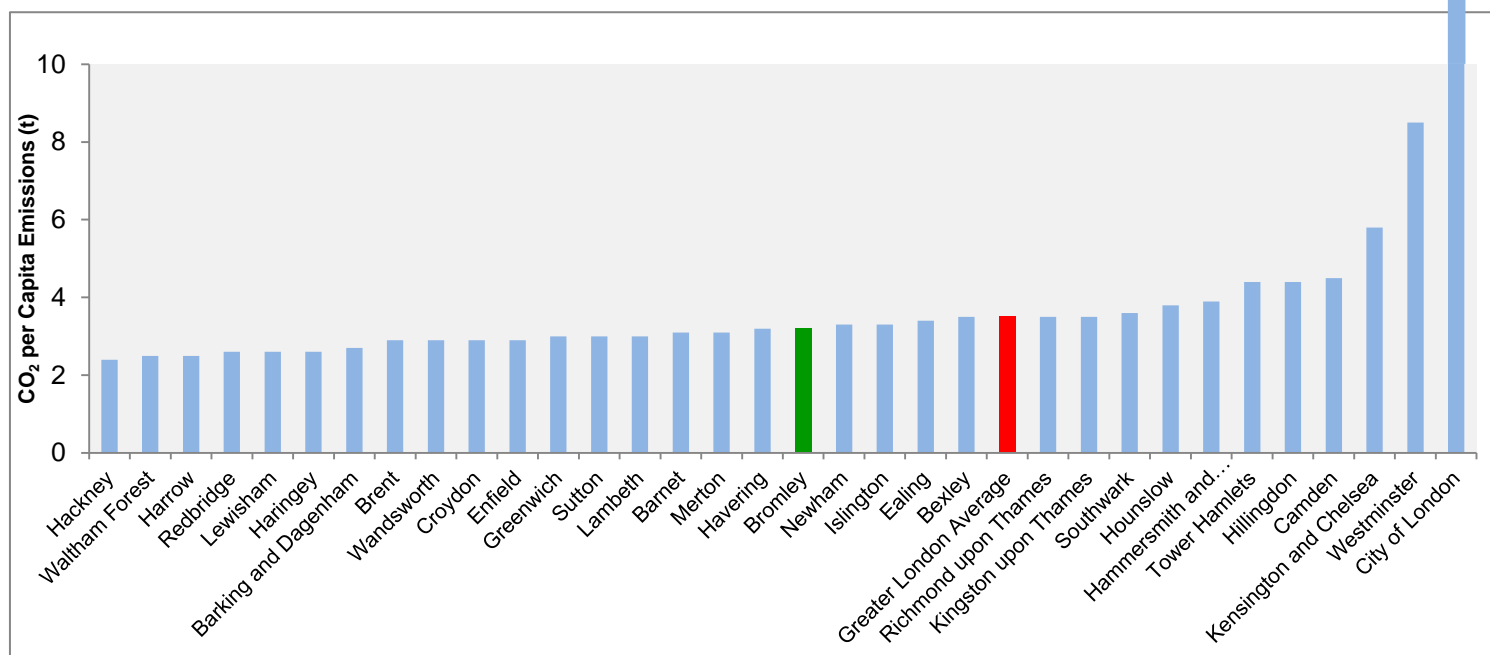


Figure 10 shows Bromley's per capita emissions compared with all the London boroughs for 2016. Hackney had the lowest emissions per capita at 2.4t per capita. The City of London had the highest per capita emissions at 117.5t per capita, due to its high commercial emissions and low population. LB Bromley (indicated in green) had the 18th lowest per capita emissions (3.2t) out of the 33 London boroughs in 2016, 0.3t per capita less than the Greater London Average (indicated in red).

Figure 11: London Borough Comparison (2016) per Capita emissions

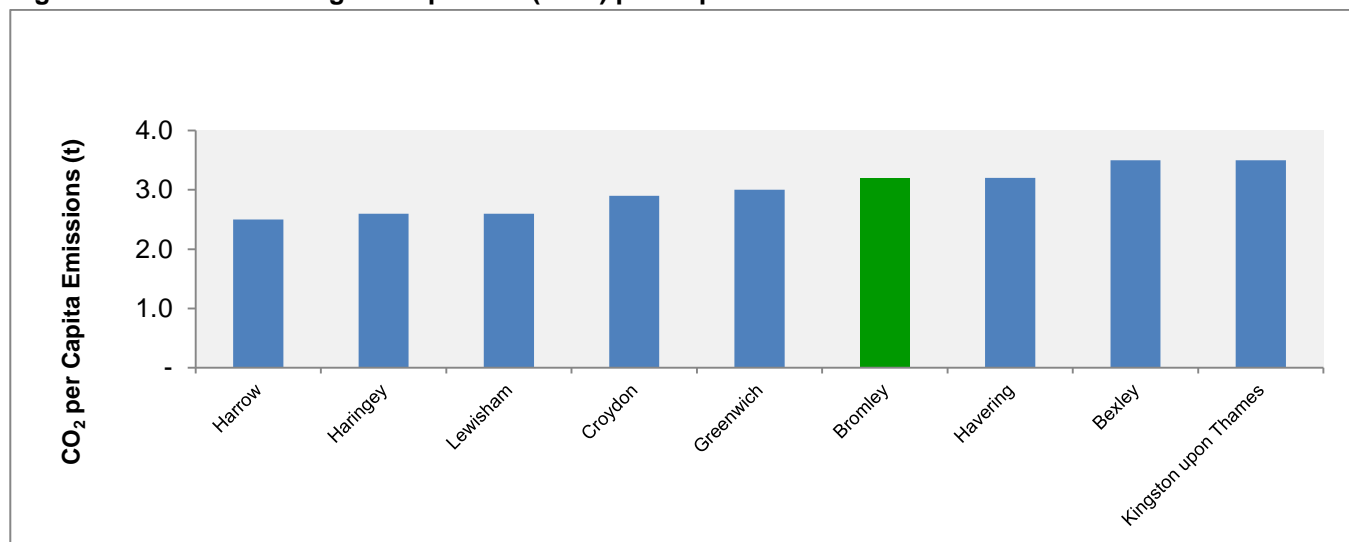


Figure 11 compares Bromley's per capita emissions (in green) with boroughs that either share similar attributes or are in close geographical proximity. Of those selected, Bromley is joint 3rd highest per capita emissions but is broadly in line with the other comparable boroughs.

3.1 Industry and Commercial Emissions

LB Bromley's Industry and Commercial emissions per capita were 0.6t in 2016, significantly lower than the London average of 1.3t. As evident in Figure 12, Bromley (green) has the 5th lowest commercial emissions per capita. This is attributable to the lack of large industrial installations – Bromley's commercial sector is typified by smaller service-related and retail businesses.

Figure 12: London Borough's Industrial & Commercial per capita Emissions 2016

* City of London per capita emissions (108.7t) not fully illustrated in Figure 12 for visualisation reasons

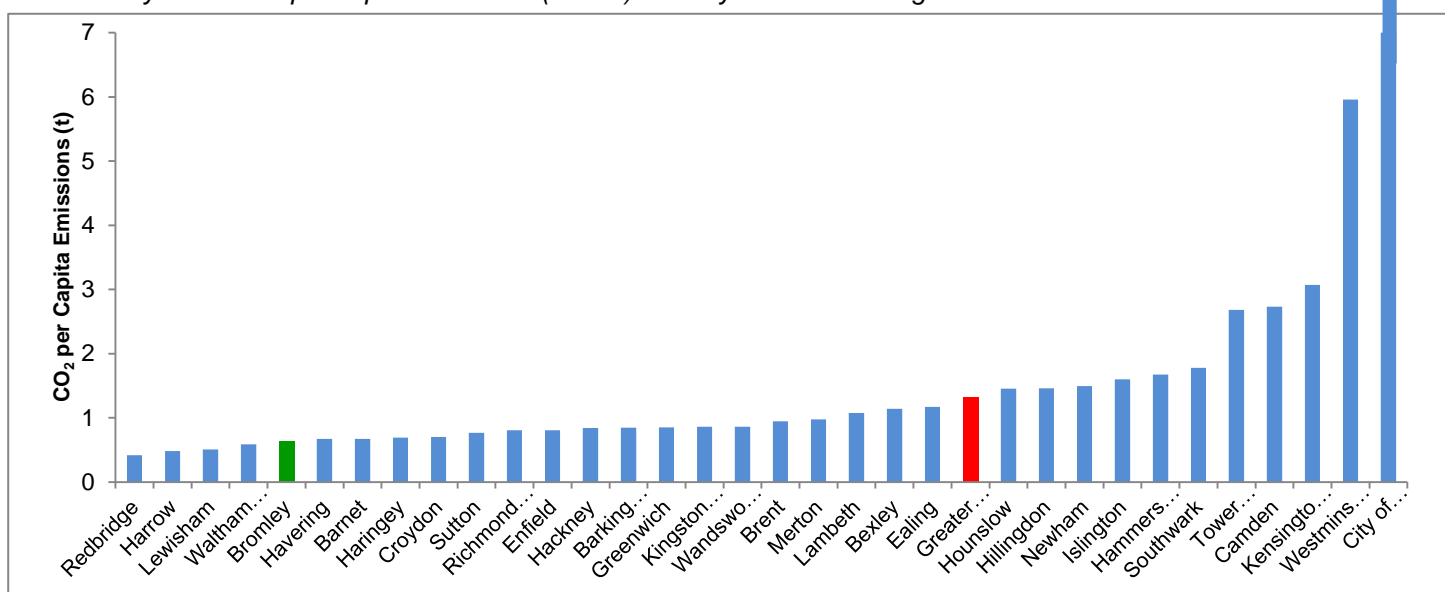


Table 7: Industry & Commercial Emissions Comparison

	2005 (Baseline)	2013	2014	2015	2016	% Change since 2005 (Baseline)	% Change since 2015
Bromley	379	316	274	243	207	-45%	-15%
Greater London	20,321	18,328	15,307	13,559	11,621	-43%	-14%
National Total	244,650	198,238	178,229	163,791	143,010	-42%	-13%

Table 7 shows Bromley, Greater London and National 2015 and 2016 total emissions compared with the 2005 baseline. Since 2005, emissions in Bromley and nationally have fallen by 45% and 42% respectively. In Greater London emissions have fallen by 43%. In terms of annual change, Bromley saw a 15% reduction in emissions in the I&C sector between 2015 and 2016, which is greater than the national decrease of 13% and the Greater London decrease of 14% for the same period.

3.2 Domestic Emissions

Bromley's domestic emissions (1.7t per capita) were above the London average of 1.3t in 2016. There was a 6% decrease in total domestic emissions in Bromley in 2016 compared with 2015.

Figure 13 shows that Bromley has the joint 3rd highest (along with Richmond upon Thames) domestic per capita emissions of all the London boroughs.

Figure 13: London 2015 Domestic per capita Emissions

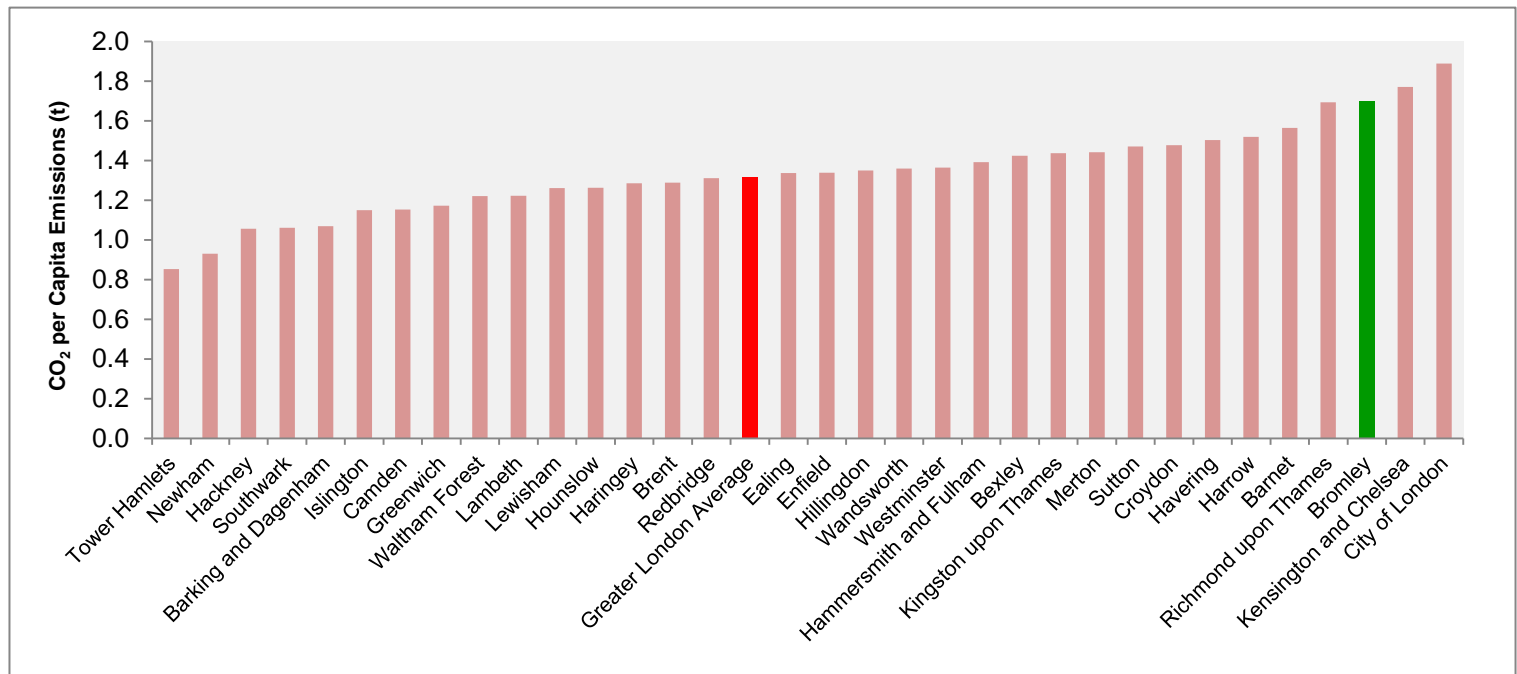


Table 8 shows Bromley, Greater London and National 2015 total domestic emissions compared with 2005 and 2015.

Table 8: Domestic Emissions Comparison

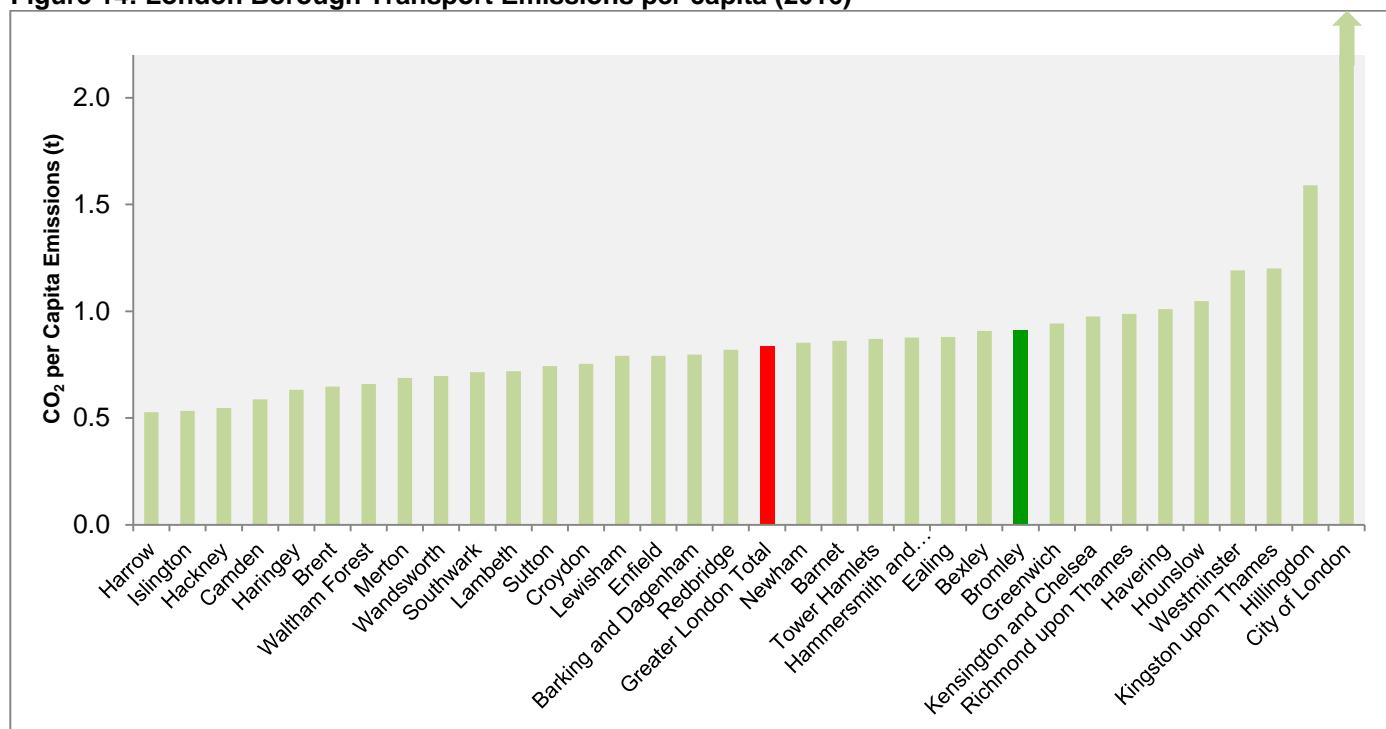
	2005 (Baseline)	2013	2014	2015	2016	% Change since 2005 (Baseline)	% Change since 2015
Bromley	812	720	597	594	556	-32%	-6%
Greater London	17,148	15,094	12,557	12,259	11,540	-33%	-6%
National Total	153,731	133,045	111,987	108,596	102,432	-33%	-6%

There was a 6% decrease in Bromley's total domestic emissions in 2016 compared with 2015, in line with Greater London and National reductions of 6% in the same period. Emissions from domestic electricity consumption also decreased between 2015 and 2016, although domestic gas emissions for the same period slightly increased in Bromley - see Figure 7.

3.3 Bromley Transport Emissions

Car ownership rates in Bromley are high and, on a per capita basis, Bromley's road transport emissions are above average in the Greater London area in 2016 (see below).

Figure 14: London Borough Transport Emissions per capita (2016)



* City of London per capita emissions (6.5t) not fully illustrated in Figure 14 for visualisation reasons

Bromley's road transport emissions per capita (dark green) are slightly higher than the London average (0.8t/capita-red above) but are 0.6t per capita lower than the national average (1.5/capita).

Table 9: Transport Emissions Comparison

	2005 (Baseline)	2015	2016	% Change since Baseline	% Change since 2015
Bromley	373	296	298	-20%	0.8%
Greater London	9,414	7,288	7,334	-22%	0.6%
National Total	106,175	95,850	97,834	-8%	2.1%

Table 9 shows Bromley, Greater London and National 2016 total transport emissions compared with 2005 and 2015. Bromley has experienced a 20% drop in transport emissions compared to 2005 baseline, which is slightly worse than Greater London (22%), but better than the National (8%) reductions in the same period. There has been an increase of 0.8% in transport emissions in Bromley compared with 2015, in line with Greater London's (0.6%) and National performance (1%).

3.4 All Sectors Comparison (per capita)

Table 10 shows the relative positions between Bromley and the other 32 London boroughs in ascending order (i.e. the higher the ranking – with '1' being highest – the better comparative performance).

Table 10: London Borough Comparative Rankings (1= best performer and 33=worst)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Industry & Commercial	3	8	5	3	5	4	5	5	5	5	5	5
Domestic	32	32	32	32	31	31	31	31	31	31	31	31
Road Transport	23	23	23	23	23	23	23	23	23	22	18	24
All sectors	13	15	15	13	17	16	17	17	18	14	18	18

Figure 15: Bromley rankings over time for each emissions category relative to 33 London Councils

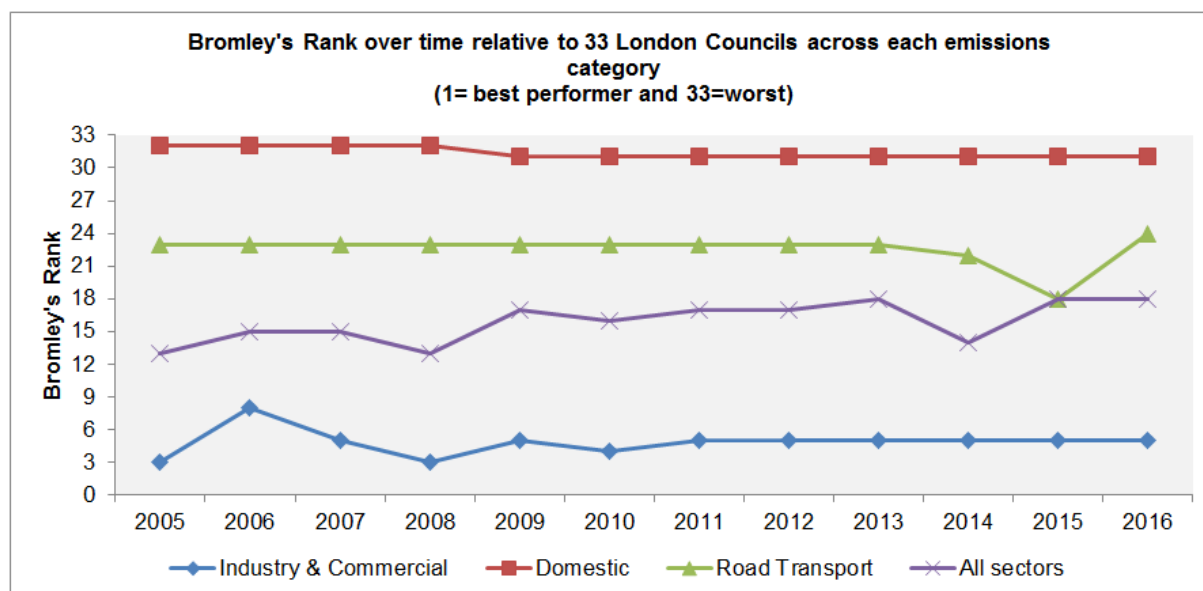


Figure 15 is a visual representation of the ranking data in table 10. Bromley has remained towards the bottom of the league table for domestic emissions (red) and close to the top of the table for commercial emissions (blue). Emissions for transport have increased since 2015. In 2016, LB Bromley's 'All sectors' ranking moved down six positions to 24th. Deterioration in performance may be due to larger improvements by other Local Authorities relative to improvements that Bromley has made.

3.5 Comparison with Previous Years

Figure 16: Per Capita % Change – 2016 emissions compared with 2005 Baseline

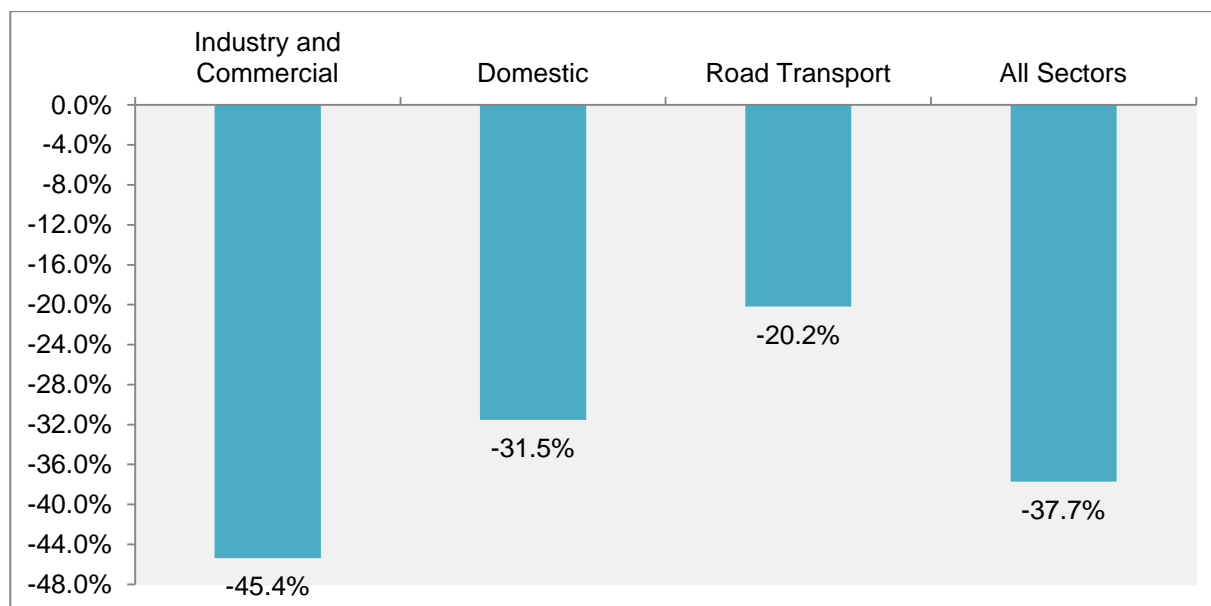


Figure 16 shows that per capita emissions since the baseline year (2005) have fallen across all sectors. The largest percentage drop has been in 'Industry and Commercial' per capita emissions, at 45.4% since the baseline year. The smallest decrease has been in the road transport sector with a fall of 20.2% since baseline.

Figure 17: Per Capita % Change - 2016 emissions compared with 2015

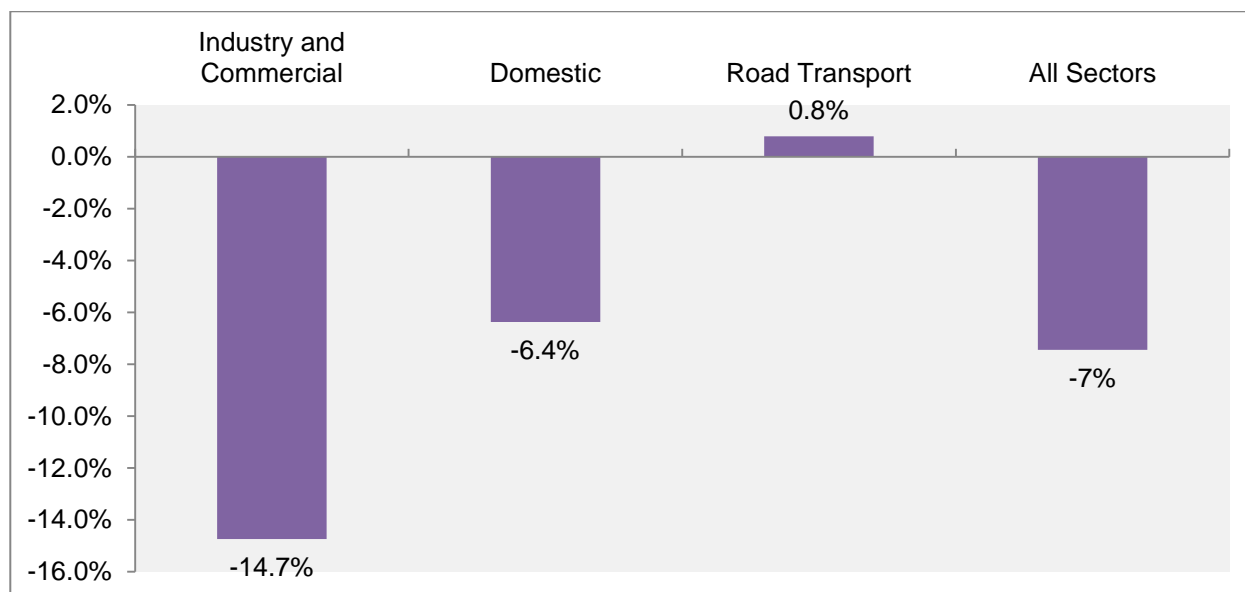


Figure 17 shows the difference in emissions between 2015 and 2016. The Road Transport sector experienced an increase in emissions of 0.8% whilst Industry and Commercial and Domestic emissions achieved a reduction of 14.7% and 6.4% respectively.

4. Summary and Conclusions

Bromley's 2016 CO₂ emissions data are encouraging given the notable reductions outlined above. However, these reductions appear to be part of an overall national trend and, therefore, cannot be credited to any particular action undertaken by LB Bromley or Bromley residents. While the Council can influence local CO₂ emissions (e.g. through encouraging energy efficiency in the housing sector or modal shift in the transport sector to reduce emissions and costs), it has little direct control (for instance housing is outsourced to Affinity Sutton) other than over its own emissions. Indeed macro-economic trends, such as the state of the economy or whether it was a particularly cold year, are more likely to be material factors.

In 2016, Bromley emitted 1.06Mt CO₂: 52% of emissions were from the domestic sector; 28% came from road transport and 20% from industrial and commercial facilities. Overall, per capita emissions are significantly lower (i.e. better) than both the national and London borough average but *per capita* domestic emissions remain one of the highest (i.e. worst) in London. Road transport emissions are the same as the London average and industrial/commercial emissions are significantly below average.

Table 11: 2016 Outcome Analysis

Positive Outcomes	Negative Outcomes
<ul style="list-style-type: none"> • Total all-sector CO₂ emissions for Bromley have reduced by 32% (495kt) since the 2005 baseline, and by 7% (82kt) from 2015 to 2016 • Per capita all-sector CO₂ emissions have fallen by 38% since 2005 and by 7% from 2015 to 2016, and remain below the national and London averages • Domestic electricity emissions have decreased (18%) since 2015 whilst gas emissions have increased by 1% 	<ul style="list-style-type: none"> • Bromley has higher than average per capita CO₂ emissions for the domestic sector (1.7t) and continues to be the 3rd worst performer in London (as has been the case since 2009). • Although transport emissions have reduced since baseline, emissions have slightly risen. • In terms of per capita ranking across all sectors, Bromley has not improved on its ranking of 18th place amongst London Boroughs

Table 12: Historical Sectoral summary and 2016 comparative data

Area/Year	Ind. & Commercial		Domestic		Transport		Total	
	total (ktCO ₂)	/ capita (tCO ₂)	total (ktCO ₂)	/ capita (tCO ₂)	total (ktCO ₂)	/ capita (tCO ₂)	total (ktCO ₂)	p/capita (tCO ₂)
LBB 2005	378.5	1.3	812.4	2.7	365.6	1.2	1,556.4	5.2
LBB 2006	424.7	1.4	809.6	2.7	358.0	1.2	1,592.3	5.3
LBB 2007	375.3	1.2	786.0	2.6	351.8	1.2	1,513.1	5.0
LBB 2008	364.9	1.2	796.6	2.6	334.3	1.1	1,495.9	4.9
LBB 2009	330.3	1.1	719.8	2.3	322.1	1.0	1,372.2	4.5
LBB 2010	339.3	1.1	774.8	2.5	314.9	1.0	1,429.0	4.6
LBB 2011	306.9	1.0	674.8	2.2	307.5	1.0	1,289.2	4.2
LBB 2012	333.5	1.1	733.4	2.3	302.1	1.0	1,369.1	4.4
LBB 2013	316.2	1.0	719.9	2.3	297.8	0.9	1,333.9	4.2
LBB 2014	273.9	0.9	597.1	1.9	299.9	0.9	1,170.9	3.6
LBB 2015	242.3	0.7	594.2	1.8	295.6	0.9	1,132.1	3.5
LBB 2016	206.9	0.6	556.4	1.7	298.0	0.9	1,061.2	3.2
London 2016	11,621.5	1.3	11,539.9	1.3	7,333.8	0.8	30,495.2	3.5
National 2016	111,392.0	1.7	102,432.0	1.6	97,834.3	1.5	311,658.4	4.7

5. Appendix

5.1 Methodology summary for CO₂ reporting

Sector		Data source / method summary
A	Industrial, Commercial and Agriculture Electricity	BEIS GB regional energy statistics and BEIS NI non domestic electricity statistics
B	Industrial, Commercial and Agriculture Gas	BEIS regional energy statistics. Further data for Northern Ireland from energy providers
C	Large Industrial Installations	Point source emissions for large industrial installations
D	Industrial and Commercial Other Fuels	Remaining emissions (all fuels – excluding electricity and gas and large industrial installations emissions from old sectors D to I) distributed using high resolution (1km) emissions distribution of fuel use based in employment distributions and fuel intensity by sector
E	Agricultural Combustion	High resolution (1km) emissions distribution maps developed under the NAEI programme
F	Domestic Electricity	BEIS regional energy statistics and DECC NI domestic electricity statistics
G	Domestic Gas	BEIS regional energy statistics; Further data for Northern Ireland from energy providers
H	Domestic 'Other Fuels'	High resolution emissions distribution maps developed under the NAEI programme
I	Road Transport (A roads)	Based on the NAEI data used to compile the BEIS road transport fuel estimates. Emissions from fuel combustion in the road transport sector based on detailed DfT traffic census data and NAEI emissions factors. <i>Motorway data excluded from dataset used in this report, as not under influence of local authority.</i>
J	Road Transport (Motorways)	
K	Road Transport (Minor roads)	
L	Diesel Railways	High resolution emissions distribution maps developed under the NAEI programme. <i>Diesel Railway data excluded from dataset used in this report, as not under influence of local authority</i>
M	Transport Other	High resolution emissions distribution maps developed under the NAEI programme

Source: DECC '[2005 to 2015 UK local and regional CO₂ emissions methodology summary](#)'

5.2 Relevant BEIS Statistics

- [UK local authority and regional carbon dioxide emissions national statistics: 2005-2016](#)
- [2005 to 2016 UK local and regional CO2 emissions: statistical summary](#)
- [2005 to 2016 UK local and regional CO₂ emissions: statistical release](#)
- [2005 to 2016 UK local and regional CO2 emissions – data tables](#)
- [2005 to 2016 UK local and regional CO2 emissions technical report](#)
- [Employment based energy consumption in the UK](#)
- [Mapping carbon emissions and removals for land use, land use change and forestry sector](#)
- [2005 to 2016 UK local and regional CO2 emissions –data tables \(alternative format\)](#)

5.3 Bromley Council Strategy and Plans influencing GHG emissions

Sector	Council Report	Description
All sectors	Carbon Management Programme Report 2017/168	Reports annual progress of the Council's second five-year Carbon Management Programme (CMP2) in aiming to reduce energy consumption and carbon emissions as an organisation
	Air Quality Action Plan	Reports on Bromley's air quality and proposes action plan to reduce pollution and emissions in the borough
Transport	Local Implementation Plan (LIP)	Sets out how Bromley intends to implement the Mayor's Transport Strategy, including aims of 'reducing transport's contribution to climate change' and 'reducing CO ₂ emissions' (currently under review following the appointment of a new Mayor in May 2016)
	Environment Portfolio Plan 2016/19	Outcome 5 includes the aim 'To reduce congestion and carbon emissions by promoting cycling, walking and public transport journeys'
	Bromley Cycling Strategy (March 2015)	Three-year delivery plan aiming to improve cycling facilities, promotion, and training to increase cycling locally and reduce Bromley's road transport emissions.
Industry & Commercial	Building a Better Bromley	Sets out vision of 'Vibrant, Thriving Town Centres' whilst striving towards a 'Quality Environment', with residents 'living in a more sustainable way'.
Domestic	Home Energy Conservation Act 1995 Progress Report 2015	Biennial report on action taken and proposals to improve domestic energy efficiency in the borough
	Bromley's Draft Development Control Plan	Vision and objectives for the Borough in 2030 and the strategic and more detailed policies relating to planning in the Borough
	Bromley's Joint Strategic Needs Strategy 2015	To include analysis on Excess Winter Deaths in Bromley and Council strategy relating to this