Department of Energy & Climate Change

Sub-national electricity and gas consumption statistics

Region, Local Authority, middle and lower layer super output area

22 December 2015

Statistician Responsible: Greg Haigh

Any enquiries regarding this publication should be sent to us at:
EnergyEfficiency.Stats@decc.gsi.gov.uk.

URN 15D/549

Contents

Executive summary 4

1. Introduction 5

1.1 Background 5

1.2 Users 5

2. Electricity 6

2.1 Total electricity consumption 6

2.2 Domestic electricity consumption 10

2.3 Non-domestic electricity consumption 15

3. Gas 20

3.1 Total gas consumption 20

3.2 Domestic gas consumption 23

3.3 Non-domestic gas consumption 27

3.4 Number of households not connected to the gas grid 31

4. Super output area estimates 34

4.1 Background 34

4.2 Published datasets 34

Lower layer super output area (LSOA) and Data zones (DZs) 35

Estimates of households not connected to the gas network at LSOA/IGZ level 35

5. Comparison with other sources 36

5.1 Electricity 36

6. Developments and future plans 39

6.1 Developments during the year 39

6.2 Future plans 39

Annex A: Highest and lowest local authority averages, 2014 41

Annex B: Sub-national consumption publications 43

Annex C: Tools available to analyse sub-national consumption statistics 44

Annex D: An illustration of LSOA areas within an MSOA 45

Executive summary

This publication provides estimates of annual electricity and gas consumption below national level. Latest estimates are for 2014.

Between 2005 and 2014 electricity consumption in Great Britain has fallen eight per cent, with the largest decline in the North East (down 17 per cent) and the smallest in London, (down 0.1 per cent). The most recent data shows this diversion accelerating, with consumption in 2014 compared to 2013 falling 2.5 per cent in the North East, and rising 2.3 per cent in London. This pattern was evident in both the domestic and non-domestic sectors.

Gas consumption has also fallen, with mean consumption down 30.4 per cent in 2014 compared to 2005. However, unlike for electricity, the pictures for the domestic and non-domestic sectors are very different. The overall fall in gas demand has been driven by the domestic sector where all regions have seen similar declines, between 27 per cent (London) and 34 per cent (Wales). Meanwhile, this fall was partially offset by the non-domestic sector, where mean consumption increased nine per cent between 2005 and 2014. Within this, over the same time period there were large differences between the regions; the West Midlands saw a rise of 17 per cent, contrasted by a 15 per cent fall in the North East.

In 2014, the North East had the lowest proportion of properties that were not connected to the gas grid (3.0 per cent), while the South West has the highest (19 per cent). The proportion of properties off the gas grid in the South West did, however, decrease by 1.2 percentage points compared to 2013.

1. Introduction

1.1 Background

This document provides commentary on DECC's sub-national estimates of electricity and gas consumption for Great Britain. Estimates are based on meter point data provided by the electricity and gas industries from their administrative systems. The most recent estimates are provisional estimates for 2014.

Estimates are published from domestic and non-domestic users and broken down by Region/Devolved Administration[1] (referred to as regions for the rest of this document) and local authority. Middle layer super output area (intermediate geography zone in Scotland) and lower layer super output area (England and Wales, domestic, only) estimates for 2014 will be published on 28 January 2016, and made available here: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data (for electricity) and https://www.gov.uk/government/collections/sub-national-gas-consumption-data (for gas).

For full details on the methodology, assumptions and data interpretation relating to these statistics, please refer to the Methodology and Guidance document available here: https://www.gov.uk/government/publications/regional-energy-data-guidance-note. Readers are highly advised to familiarise themselves with the material in the booklet before using the data.

For national estimates of domestic consumption Table 3.07 of ECUK[2] should be used. Breakdowns of consumption by property attributes and household/business characteristics are available through the National Energy Efficiency Data-Framework (NEED)[3].

More information on the changes and future planned developments are outlined in section 6 of this report.

1.2 Users

The most significant use of the sub-national consumption data is by Local Authorities and devolved administrations, other external users including academics and industry. Most commonly data have been used for targeting, to examine trends over time, or assess the effectiveness of carbon reduction and energy efficiency policies and initiatives.

Internally, data are used by DECC policy colleagues and other analysts to inform policy development and help with monitoring and evaluation of DECC policies. The meter point gas and electricity data collected for sub-national consumption outputs are also used in NEED.

Feedback from users of these data is welcomed. If you have any comments or queries please send these to EnergyEfficiency.Stats@decc.gsi.gov.uk.

[1] A region refers to areas previously known as Government Office Regions (GORs), which were the primary statistical subdivision of England in which the Government Offices for the region fulfilled their role. They closed on 31 March 2011 and have remained a static geography used for statistical reporting since then. Further information is available in section 1.2 of the Sub-national methodology and guidance booklet.

[2] https://www.gov.uk/government/statistics/energy-consumption-in-the-uk.

[3] https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework.

2. Electricity

The data analysed in this document are based on the aggregation of Meter Point Administration Number (MPAN) readings throughout Great Britain obtained as part of DECC's annual meter point electricity data collection exercise. The estimates presented for 2014 are provisional and cover the industry defined years:

- Electricity non-half hourly[4] - 1 February 2014 to 31 January 2015;
- Electricity half hourly[5] - 1 January 2014 to 31 December 2014

This section looks at electricity consumption by consuming sector (i.e. domestic and non-domestic), and geographic area (region and local authority).

Annual data for 2005 to 2014 can be found here: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data.

2.1 Total electricity consumption

During 2014, the total annual electricity consumption in Great Britain was 295,320 GWh (via 30.0 million meters), 1.8 per cent higher than consumption in 2013 (289,893 GWh)[6].

The number of electricity meters increased in 335 of the 380 local authorities between 2013 and 2014, whilst only 250 local authorities had an increase in total annual consumption. The number of meters in an area can change as new properties are built and old properties demolished. For example, between 2012 and 2013, the number of meters in the Newham Borough of London increased by three per cent (approximately 3,200 meters). This was primarily a result of new properties being built in the Olympic Park.

Assigning a meter to an area within the sub-national electricity consumption statistics is dependent upon accurate address information for each meter. If there is no accurate address information then meters are assigned as 'Unallocated'[7]. This will have an impact on the estimates provided for some areas. During the analysis of the 2014 electricity consumption data, DECC identified approximately 0.4 per cent of electricity meters as unallocated in 2014 compared to 0.2 per cent in 2013. However, in terms of annual electricity consumption this represents 11.0 per cent, an increase of 9.3 percentage points on 2013 (1.7 per cent). The impact of the unallocated consumption resulted in large variations at regional and local authority level for total annual electricity consumption but more specifically for non-domestic than domestic meters. DECC are currently investigating this data issue. In the meantime, we have temporarily resolved this issue by setting the unallocated non-domestic count and consumption in 2014 equivalent to 2013. The difference between the unallocated non-domestic count and consumption in 2013 and 2014 has then been proportionally allocated across all regions and local authorities. The geographical variations seen between 2013 and 2014 are now in line with previous years.

---

[4] A non-half hourly (NHH) meter is generally used for domestic or smaller non-domestic supplies. Reading of NHH meters is normally done manually.

[5] A half hourly (HH) meter is generally used for larger non-domestic supplies. A reading is automatically taken every half hour and relayed to the supplier.

[6] Sub-national estimates for total electricity consumption differ slightly from electricity consumption estimates included in Chapter 5 of the Digest of UK Energy Statistics (DUKES). For further information about the differences in electricity consumption estimates between the sub-national statistics and DUKES/ECUK, please refer to the Methodology and Guidance document available here: https://www.gov.uk/government/publications/regional-energy-data-guidance-note.

[7] 'Unallocated' meters are meters with insufficient address information to assign their consumption to a geographical area.

Following successful reconciliation with the electricity industry, we intend to publish revisions of the provisional statistics on 28 January 2016.

The changes in electricity consumption in Great Britain between 2013 and 2014 are summarised in Table 1 below. The table shows that there has been an increase in the number of meters for all regions. This is consistent with the gradual increase seen each year since 2005.

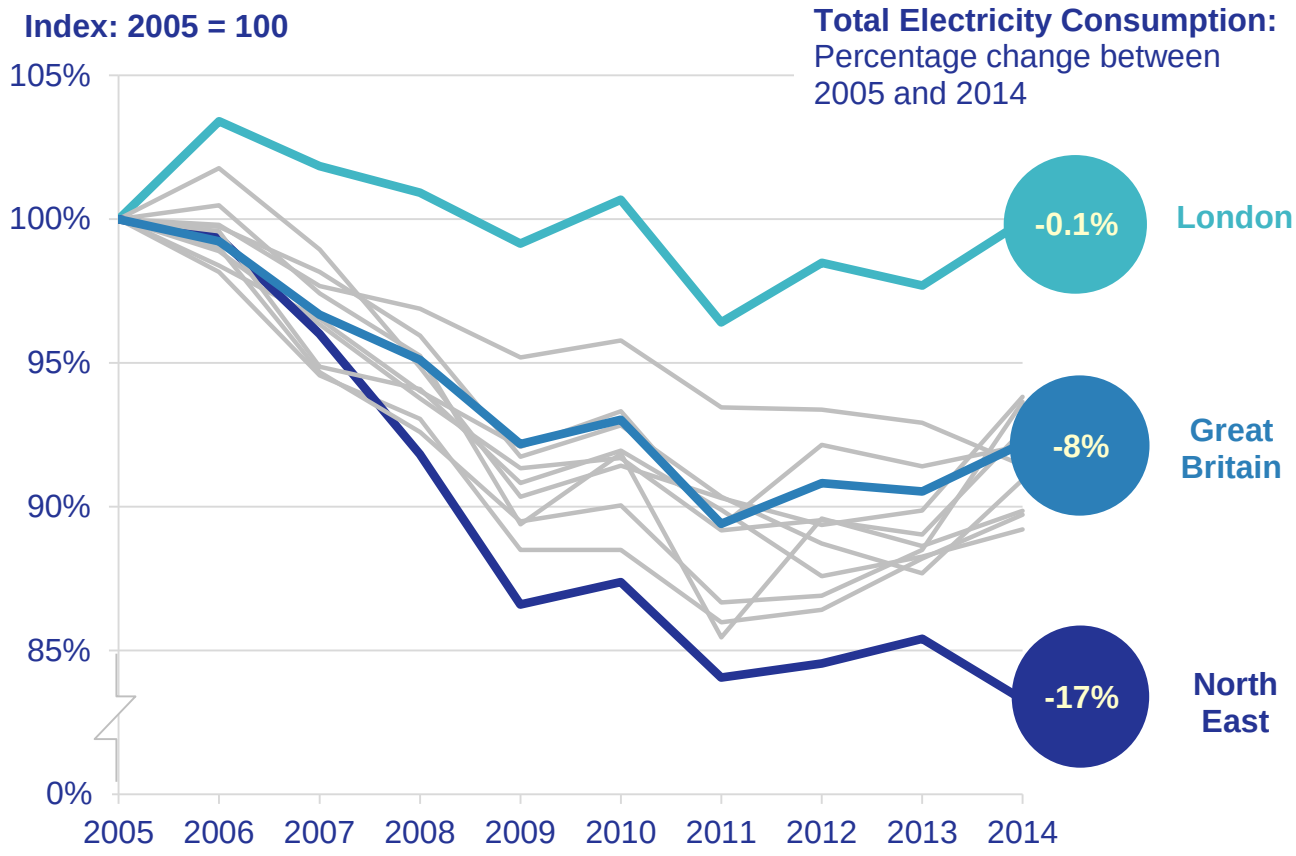
Changes in total electricity consumption between 2013 and 2014 are more varied, ranging from a 4.4 per cent increase in total consumption in the West Midlands to a 2.5 per cent decrease in the North East. In Great Britain as a whole, there was an overall increase in consumption of 1.8 per cent. Changes in total consumption levels are usually driven by changes in the non-domestic sector given that it represents 63 per cent of total consumption (in 2014) and tends to be more changeable than domestic consumption.

Table 1: Electricity consumption in Great Britain by region, 2013 and 2014

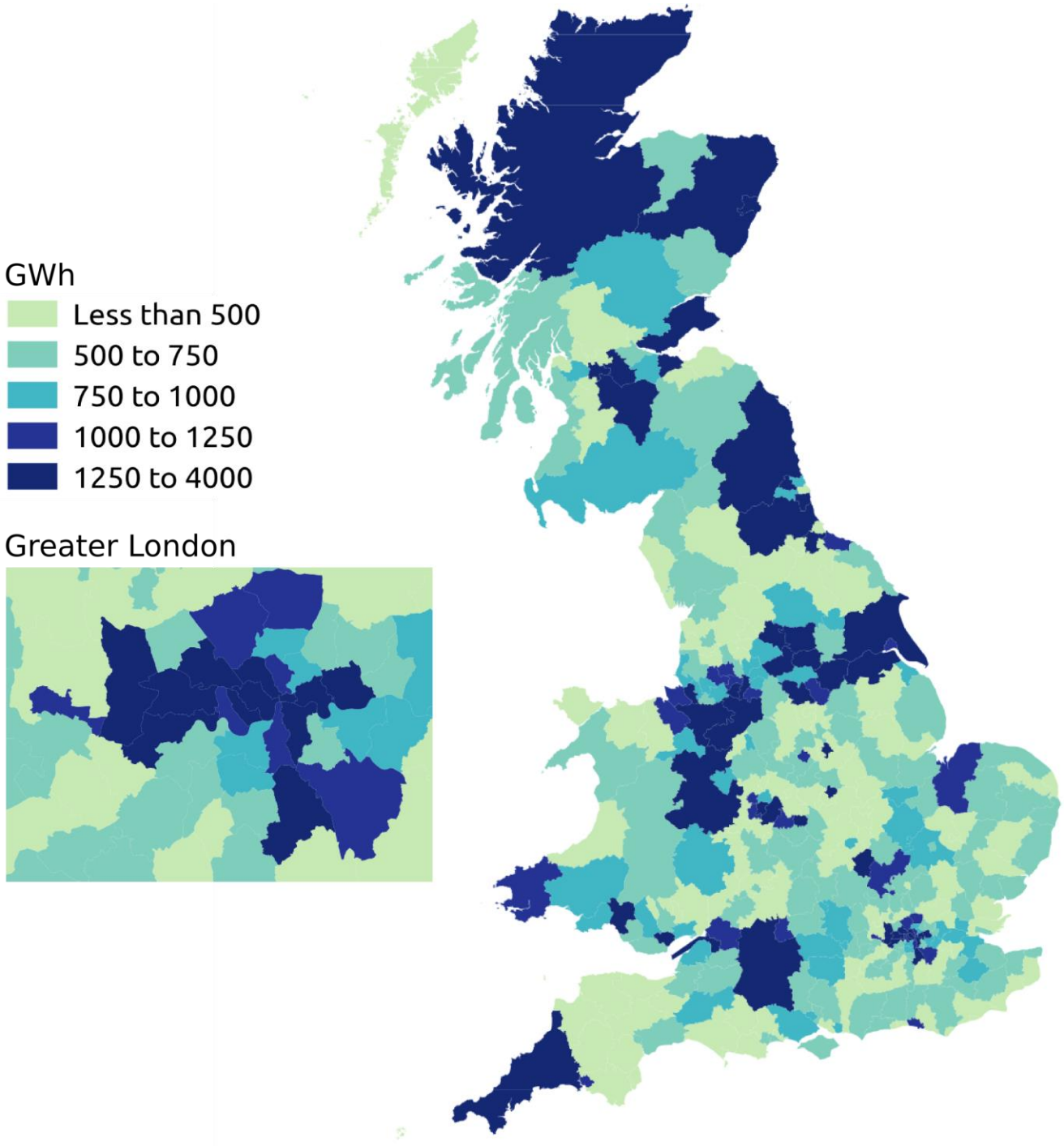
	2013		2014		Percentage Change	
	Total annual electricity consumption (GWh)	Number of meters (thousand)	Total annual electricity consumption (GWh)	Number of meters (thousand)	Total annual electricity consumption (GWh)	Number of meters (thousand)
East Midlands	21,113	2,162	21,479	2,166	1.7%	0.2%
East of England	26,756	2,791	26,969	2,798	0.8%	0.2%
London	40,478	3,837	41,402	3,847	2.3%	0.3%
North East	11,869	1,280	11,575	1,281	-2.5%	0.1%
North West	32,168	3,389	32,611	3,399	1.4%	0.3%
South East	38,802	4,086	38,183	4,095	-1.6%	0.2%
South West	24,277	2,707	25,262	2,718	4.1%	0.4%
West Midlands	24,492	2,584	25,568	2,591	4.4%	0.3%
Yorkshire and the Humber	23,686	2,528	23,940	2,531	1.1%	0.1%
England	**243,640**	**25,363**	**246,991**	**25,426**	**1.4%**	**0.2%**
Wales	15,546	1,510	16,451	1,516	5.8%	0.4%
Scotland	25,873	2,979	26,831	2,978	3.7%	0.0%
Unallocated	4,917	73	5,047	128	2.6%	75.6%
Great Britain	**289,976**	**29,925**	**295,320**	**30,047**	**1.8%**	**0.4%**

Chart 1 shows the change in total electricity consumption since 2005 (when the sub-national time series started), taking 2005 as the baseline (2005=100). It can be observed that every region follows a similar decreasing trend, despite seeing an increase in consumption between 2013 and 2014. The largest percentage change, between 2005 and 2014, was seen in the North East where consumption decreased by 17.0 per cent from 13,897 GWh to 11,575 GWh. The smallest reduction in consumption was observed in London, where consumption decreased just 0.1 per cent over the period.

Chart 1: Change in electricity consumption over time by region (2005 = 100)

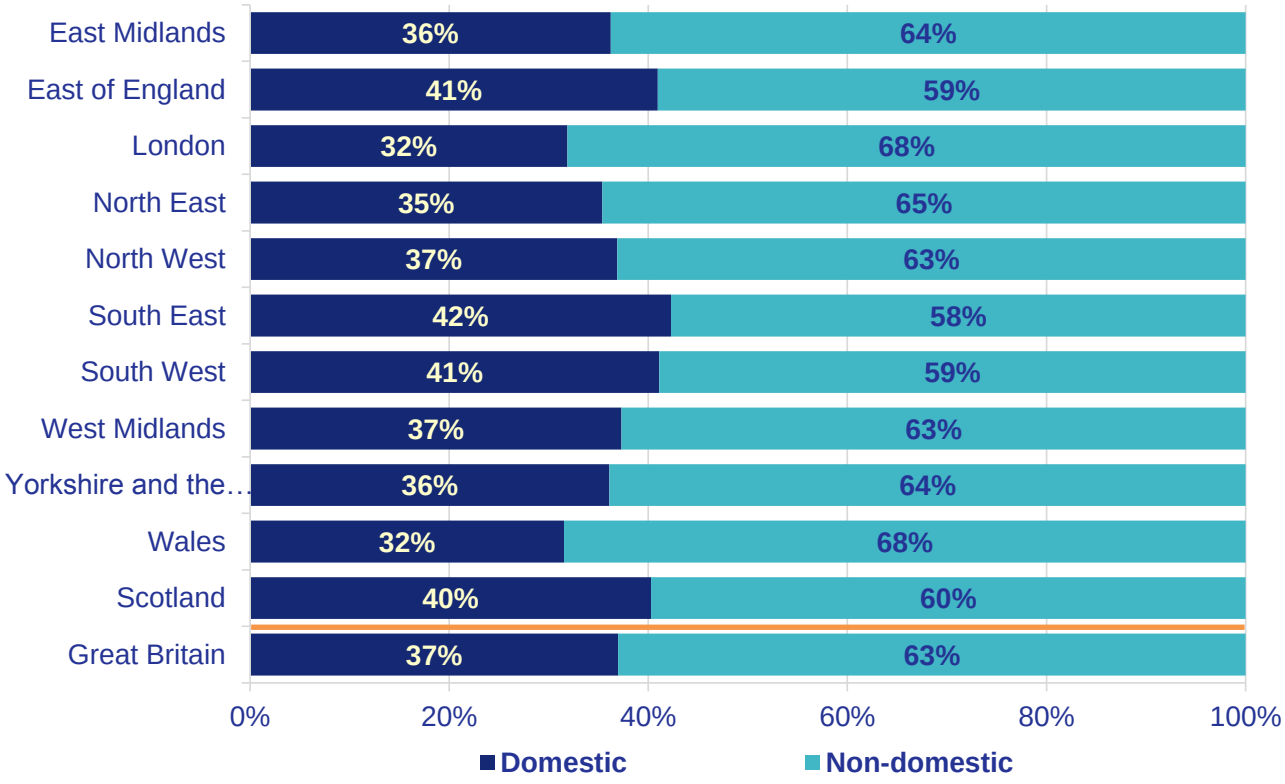


Map 1: Total annual electricity consumption by local authority, 2014



Total electricity consumption can be split between the domestic and non-domestic sectors based on the meter profile assigned by the electricity industry. The non-domestic sector consumes a much higher proportion of total electricity for all regions across Great Britain (Chart 2) despite the non-domestic sector having a significantly lower number of meters. Of the 30.0 million meters in operation in 2014, 27.6 million meters were in the domestic sector and 2.4 million were in the non-domestic sector.

Chart 2: Distribution of domestic and non-domestic electricity consumption by region, 2014



Across Great Britain, 37 per cent of electricity is estimated to be consumed in the domestic sector, and 63 per cent by the non-domestic sector (compared with 92 per cent of meters in the domestic sector and 8 per cent in the non-domestic sector). However, the split varies across the regions of Great Britain. Domestic consumption accounted for 32 per cent of total electricity consumption in Wales and 42 per cent in the South East. The variation is even more marked across local authorities. For example non-domestic consumption makes up more than 80 per cent of total electricity consumption in six local authorities (City of London, Westminster, Neath Port Talbot, Tower Hamlets, Rutland and Camden) and as little as 34 per cent in one local authority (East Renfrewshire). The distribution depends on local factors, such as the type of industry/service, the mix of properties and the extent to which electricity is used for heating.

2.2 Domestic electricity consumption

Total domestic consumption

Total domestic electricity consumption in Great Britain in 2014, was estimated to be 109,170 GWh, 0.7 per cent higher than in 2013 (108,420 GWh). The South East consumed 14.8 per cent of this total, whilst the North East used 3.8 per cent. Factors influencing total domestic electricity consumption include the population/number of households in a region and the fuel mix used to meet domestic energy demands (for example, households without access to gas are likely to use more electricity for heating).

Average domestic consumption

Mean annual domestic electricity consumption per meter in Great Britain was 3,954 kWh and the median was 3,188 kWh, a difference of 24.0 per cent. The difference in the mean and median is more pronounced for electricity than for gas because of the variety of ways electricity is used in homes (for example, some properties use electricity for heating and others do not, while the majority of homes with a gas connection use gas for heating).

Mean consumption per meter in 2014 was 0.4 per cent higher than in 2013 (3,940 kWh) and the median electricity consumption was very similar to the 2013 value of 3,206 kWh.

The North East had the lowest mean and median domestic consumption, 3,418 kWh and 2,901 kWh respectively, whilst the South East had the highest mean and median domestic consumption, 4,294 kWh and 3,418 kWh respectively. Table 2 shows the mean and median domestic consumption per meter in each region in 2014, it also includes the same figures broken down for standard and Economy 7 meters (more details in the following section).

Table 2: Average domestic electricity consumption per meter by region, 2014

	All domestic meters			Standard domestic meters			Economy-7 meters		
	Mean domestic consumption (kWh)	Median domestic consumption (kWh)	Number of domestic meters (thousand)	Mean domestic consumption (kWh)	Median domestic consumption (kWh)	Percentage of domestic meters	Mean domestic consumption (kWh)	Median domestic consumption (kWh)	Percentage of domestic meters
East Midlands	3,881	3,150	2,005	3,556	3,004	64%	4,456	3,457	36%
East of England	4,284	3,395	2,577	3,880	3,208	69%	5,166	3,930	31%
London	3,828	2,982	3,449	3,632	2,872	86%	5,062	4,014	14%
North East	3,418	2,901	1,198	3,303	2,870	94%	5,157	3,948	6%
North West	3,809	3,185	3,158	3,625	3,115	92%	6,021	4,822	8%
South East	4,294	3,418	3,761	4,012	3,274	81%	5,490	4,294	19%
South West	4,209	3,330	2,467	3,781	3,140	84%	6,541	5,486	16%
West Midlands	3,988	3,281	2,392	3,734	3,176	83%	5,203	3,995	17%
Yorkshire and the Humber	3,679	3,037	2,349	3,521	2,983	92%	5,558	4,292	8%
England	**3,976**	**3,203**	**23,357**	**3,703**	**3,082**	**83%**	**5,288**	**4,065**	**17%**
Wales	3,735	3,097	1,389	3,509	3,023	93%	6,538	5,151	7%
Scotland	3,915	3,134	2,760	3,602	3,043	83%	5,477	4,158	17%
Unallocated[1]	2,962	2,240	105	2,876	2,203	93%	4,063	2,983	7%
Great Britain	**3,954**	**3,188**	**27,611**	**3,679**	**3,072**	**83%**	**5,333**	**4,088**	**17%**

Mean domestic electricity consumption per meter in Great Britain has decreased by 14.1 per cent between 2005 and 2014. Over the same period, regional reductions in domestic electricity consumption varied between 10.4 per cent in London to 17.9 per cent in the West Midlands. There are a number of factors which may have contributed to these reductions in consumption, including; weather conditions, energy efficiency improvements[8], such as increased levels of insulation, new boilers and more energy efficient appliances; increased prices[9]; the recession; changes in the building stock; and household composition. It should also be noted that 2005, the earliest point for this analysis, is where DUKES also represents a peak in domestic electricity consumption to date[10].

[8] The energy efficiency of the housing stock improved between 2005 and 2013, the average SAP rating of a dwelling increased by 11.0 points from 49.0 to 60.0. The SAP rating is a measure of the overall energy efficiency of the dwelling. Table 13: English Housing Survey Headline Report 2013-14: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469213/English_Housing_Survey_Headline_Report_2013-14.pdf.

[9] Between 2005 and 2013, domestic electricity prices contained in Quarterly Energy Prices show an increase of 81.4 per cent (50 per cent in real terms) which is likely to have influenced demand. 'Quarterly Energy Prices' can be accessed here: https://www.gov.uk/government/statistics/quarterly-energy-prices-september-2015.

[10] See Table 5.1 of DUKES: https://www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes.

In the map below, known as a cartogram, the size of each local authority area has been adjusted according to its population. This can help interpretation as it prevents densely populated areas being underrepresented. For example, London accounts for 15 per cent England's population, but only 1.2 per cent of land area; the cartogram expands the area of London to account for this.

Map 2: Mean domestic electricity consumption per meter by local authority, 2014

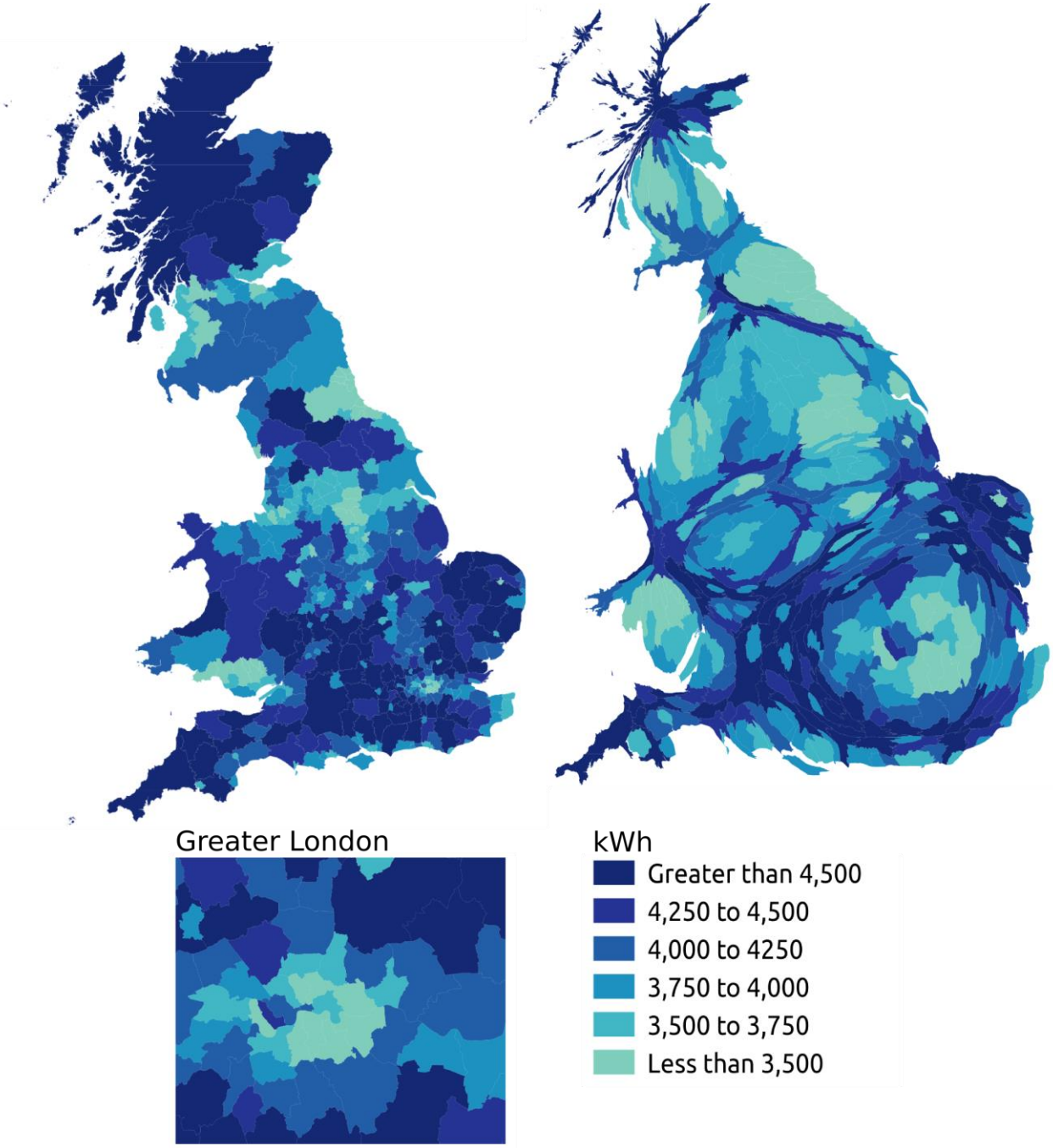
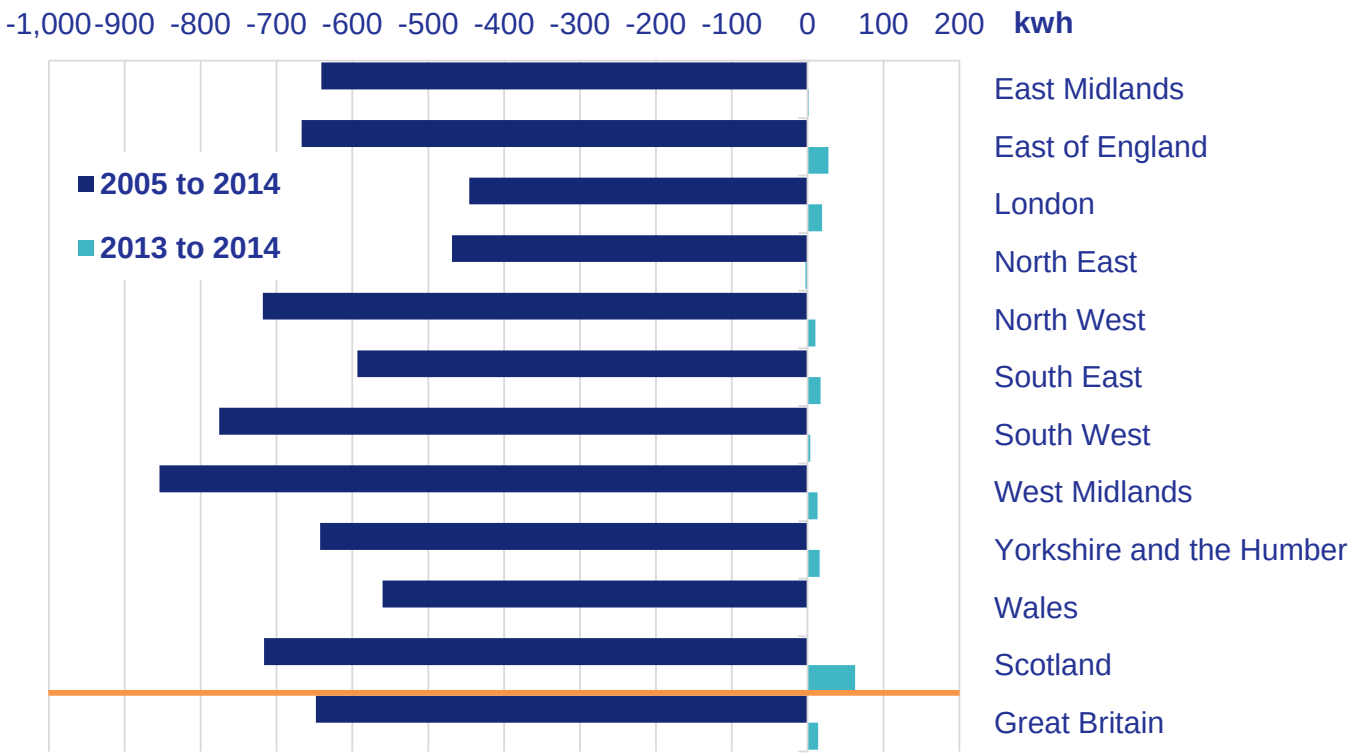


Chart 3 shows the decrease in average domestic consumption by region, between 2005 and 2014. However, between 2013 and 2014, all but two regions saw an increase in mean domestic consumption per meter with Scotland showing the largest increase of 1.6 per cent. The North East and Wales were the only two regions which saw slight decreases in average consumption between 2013 and 2014.

Chart 3: Change in mean domestic electricity consumption per meter, 2005 and 2014



Ordinary domestic and Economy 7 consumption

Mean consumption for customers with standard domestic meters was 3,679 kWh (median consumption was 3,072 kWh), compared to 5,333 kWh for households with an Economy 7 meter[11] (median consumption was 4,088 kWh). Households with an Economy 7 meter are more likely to use electricity to heat their homes and therefore typically have higher consumption as well as a greater range of consumption. The region with the highest mean consumption per Economy 7 meter in 2014 was the South West (6,541 kWh mean and 5,486 kWh median) followed closely by Wales (mean 6,538 kWh and median 5,151 kWh) whilst the East Midlands had the lowest average per Economy 7 meter (4,456 kWh mean and 3,457 median). It should be noted that not all customers who have an Economy 7 meter will be on an Economy 7 tariff. However, customers with an ordinary domestic meter cannot be on an Economy 7 tariff. In some instances electricity used for heating purposes will not be consumed off-peak.

The distribution between households with ordinary standard domestic meters and Economy 7 meters at regional level in Great Britain is shown in Chart 4 below. For Great Britain, 78 per cent

[11] An Economy 7 meter allows a property to have a two rate tariff if the household chooses to, usually differentiating payment by peak and (cheaper) off-peak consumption. In the majority of cases, Economy 7 meters still measure all of a household's consumption (that is, the total of its ordinary and Economy 7 consumption) through a single meter.

of total domestic consumption was attributed to ordinary domestic meters and 22 per cent to Economy 7 meters. However, across Great Britain the ratio between ordinary domestic and Economy 7 varied from a 91:9 per cent split in the North East, to a 59:41 per cent split in the East Midlands.

Chart 4: Distribution of total domestic electricity consumption by profile, 2014

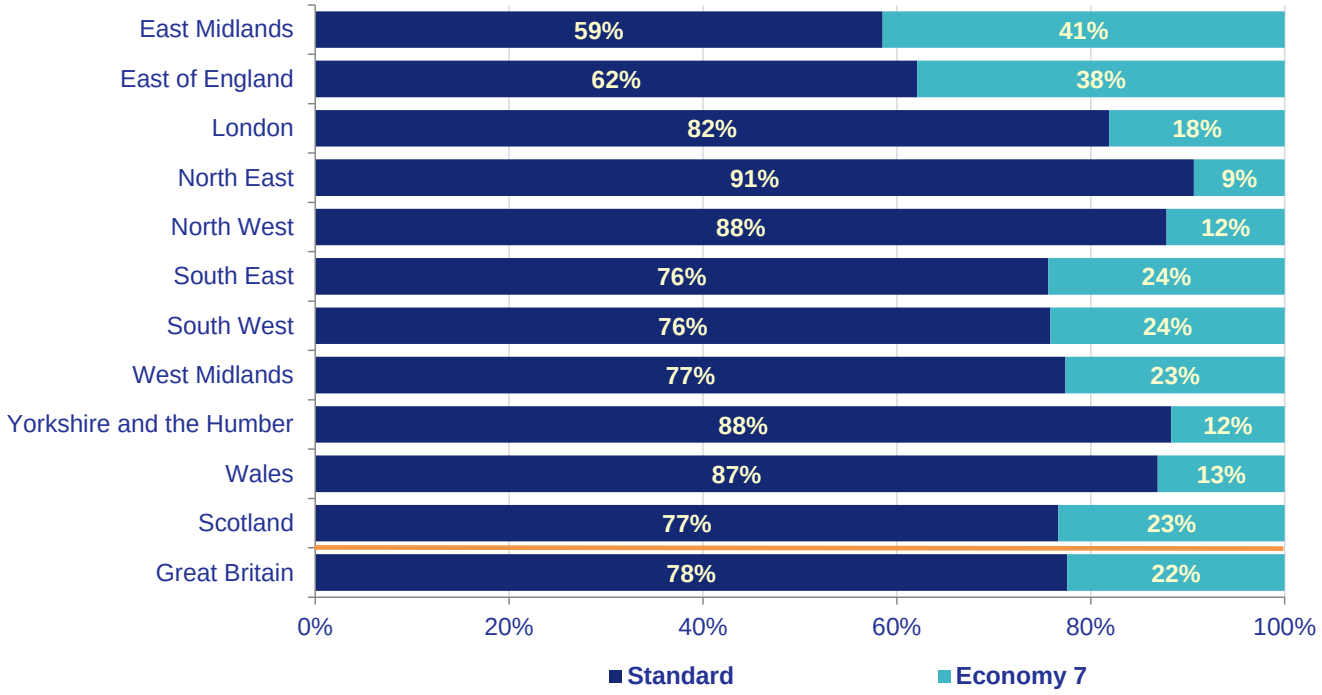
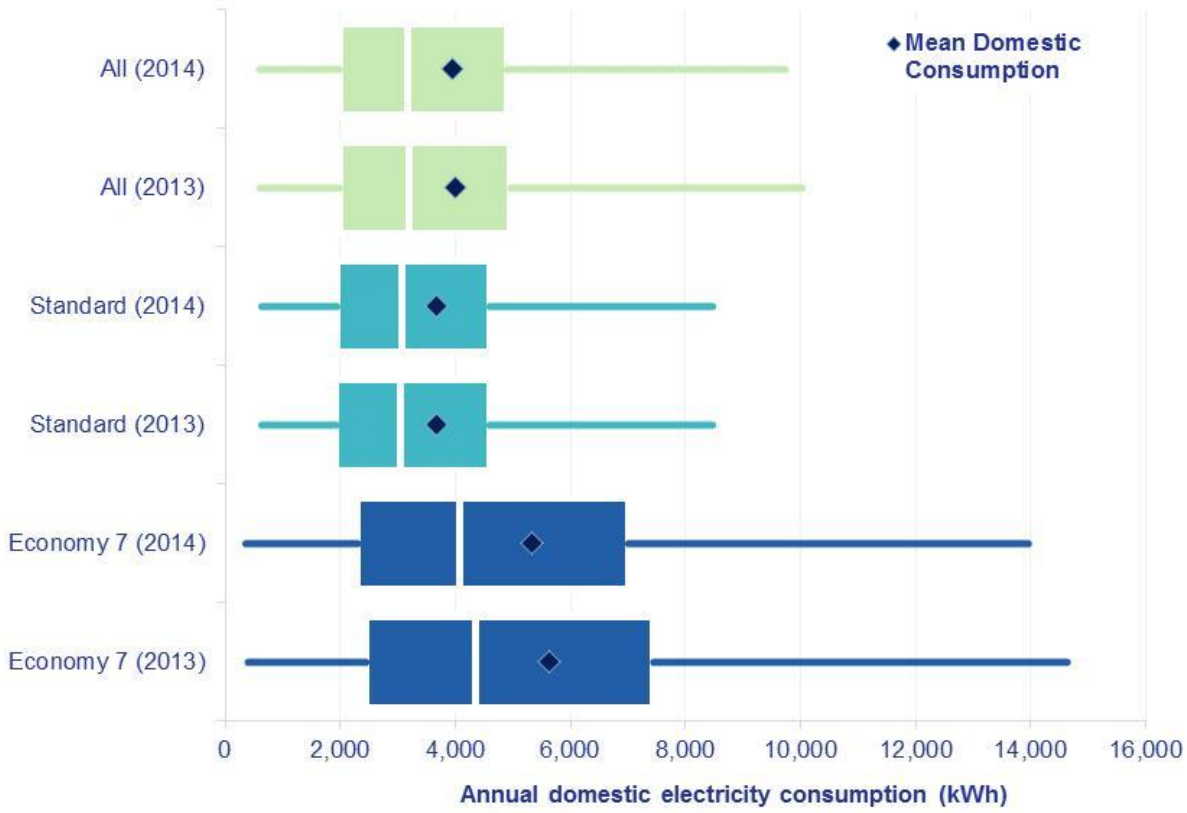


Chart 5 shows box plots illustrating the distribution of domestic consumption for Economy 7 meters, standard meters, and all domestic meters in Great Britain. It is clear that the spread of consumption is much larger for Economy 7 meters, with an interquartile range of 4,996 kWh and 4,706 kWh in 2013 and 2014 respectively; compared with standard meters, which had an interquartile range of around 2,660 kWh, in both 2013 and 2014.

Chart 5 also shows that for Economy 7 meters, there was a general reduction in consumption of electricity in 2014, when compared with 2013, whereas there was 1.3 per cent increase in standard meters. In 2013, the mean annual consumption for Economy 7 meters was 5,274 kWh and the median value was 4,131 kWh. In 2014 the mean annual electricity consumption was reduced to 5,333 kWh and the median decreased to 4,088 kWh.

Chart 5: Box plot of average domestic electricity consumption for Economy 7 and standard meters, 2013 and 2014

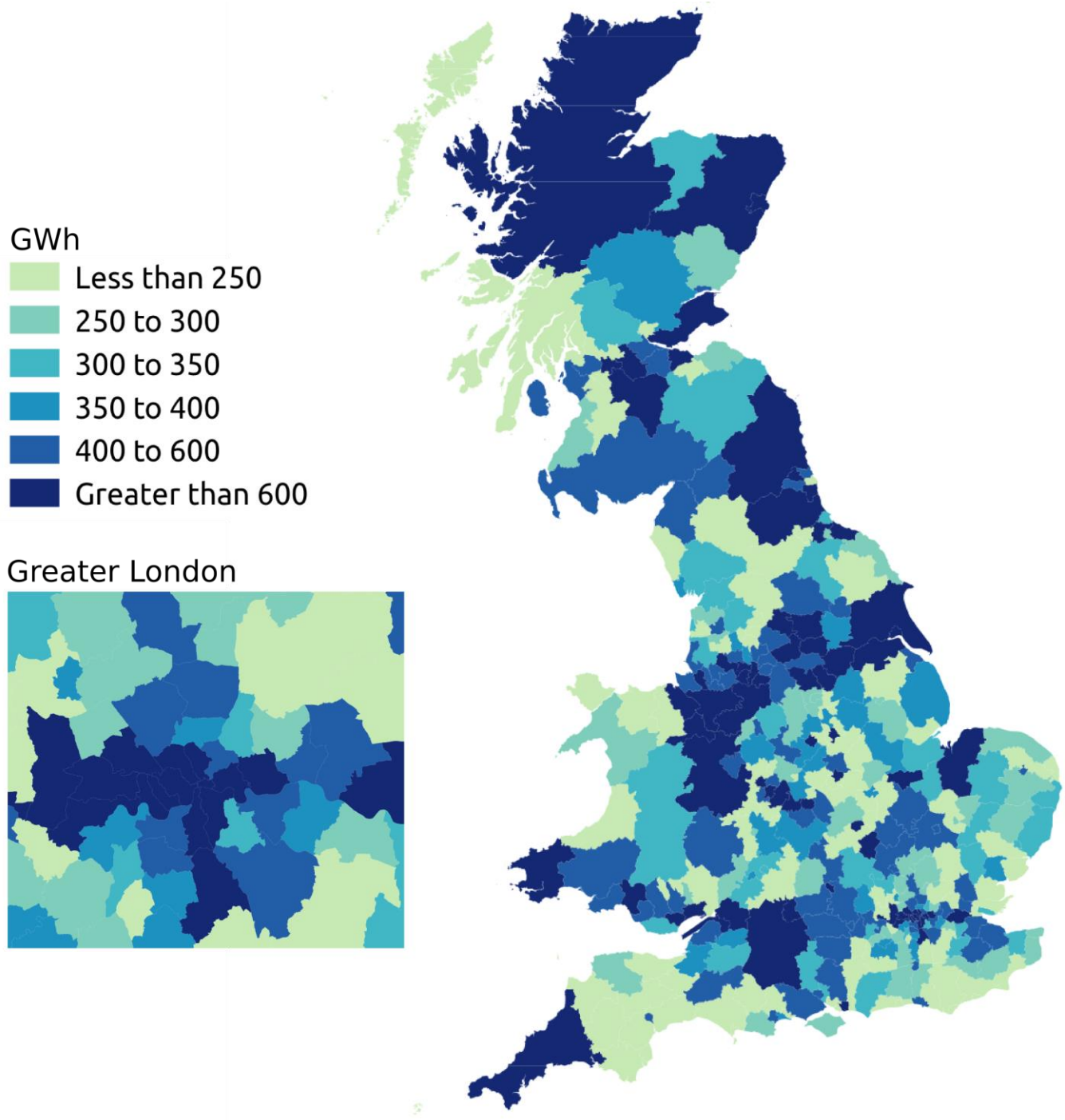


2.3 Non-domestic electricity consumption

Total non-domestic consumption

In 2014 total non-domestic electricity consumption in Great Britain was 186,150 GWh, which was 2.5 per cent higher than non-domestic consumption in 2013 (181,556 GWh). However, since 2005, non-domestic electricity consumption has decreased in Great Britain, falling by 7.3 per cent (200,889 GWh).

Map 3: Total non-domestic electricity consumption by local authority, 2014



Average non-domestic consumption

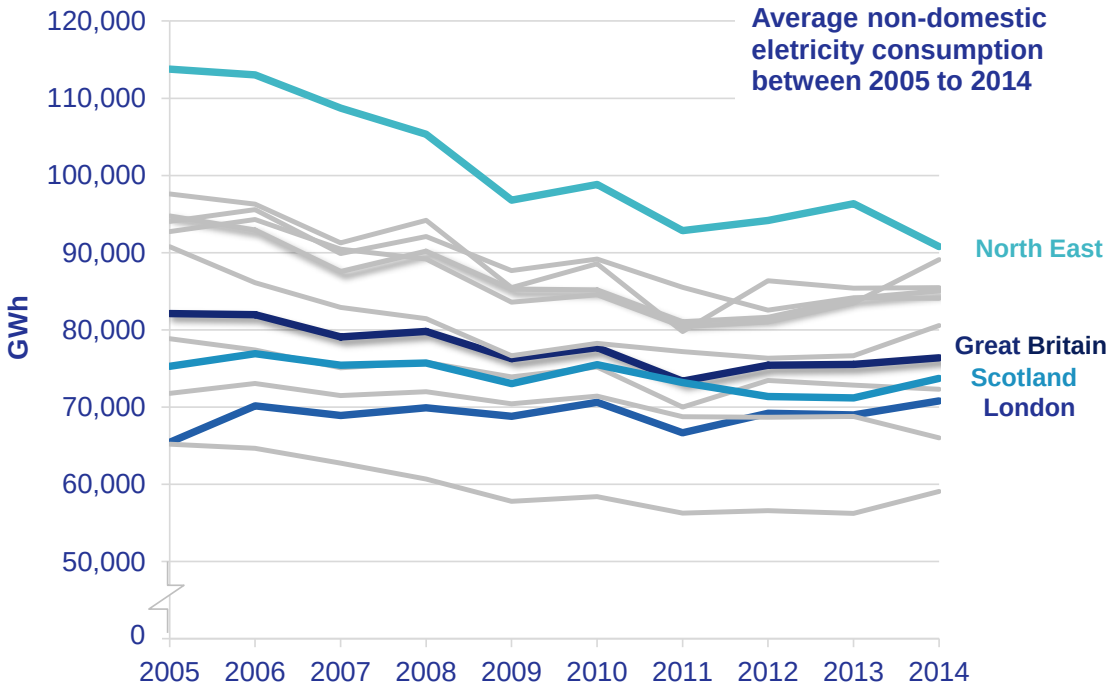
In 2014, the mean annual non-domestic electricity consumption per meter, in Great Britain, was 76,402 kWh and the median was 8,614 kWh, with total non-domestic electricity consumption of 186,150 GWh. Average consumption for non-domestic customers remained within one per cent of mean consumption in 2013 (75,520 kWh), with total non-domestic consumption 2.5 per cent higher than in 2013 (181,556 GWh).

At a local authority level, high average non-domestic consumption can occur where there are a small number of very high consumers which dominate the area (e.g. Neath Port Talbot, Wales) or a more consistently relatively high consuming non-domestic population (e.g. City of London). The mean consumption is also highly influenced by a relatively small number of very high consuming meters, which can result in big differences between mean and median consumption in this sector. This is seen in areas like Neath Port Talbot, Redcar and Cleveland where the mean is more than 25 times the median. The City of London had the highest median annual non-domestic consumption of 20.2 MWh, whereas Hammersmith and Fulham had the smallest median annual non-domestic consumption of 3.6 MWh.

The Isles of Scilly (21.5 MWh) had the lowest average non-domestic consumption per meter in 2014. This low level of non-domestic consumption reflects the rural characteristic of the area and the few commercial/heavy industrial properties.

The North East had the largest percentage decrease (20.2 per cent) in average non-domestic consumption between 2005 and 2014. London was the only region with an increase over this period (8.2 per cent, see Chart 6). Between 2005 and 2014 the average non-domestic consumption per meter for Great Britain decreased by 7.0 per cent. The energy efficiency of buildings and economic recession will have had an impact on consumption and this will have varied between regions.

Chart 6: Average non-domestic electricity consumption for selected regions, 2005 to 2014



It is important to recognise that when making comparisons between years at local authority level, total and average consumption levels are influenced by changes to establishments in a local authority. This could be because of relocations, new industrial or commercial establishments opening or the closure or downsizing of existing businesses. The impact of these changes on totals and averages is highly dependent on the size of the business. The rate of change of average consumption will be impacted by these factors, particularly since 2008

given the recent recession. Weather conditions have a smaller impact on non-domestic consumption than on household use as less of the energy is used for heating.

Table 3 shows the average (mean and median) non-domestic electricity consumption per meter in each region.

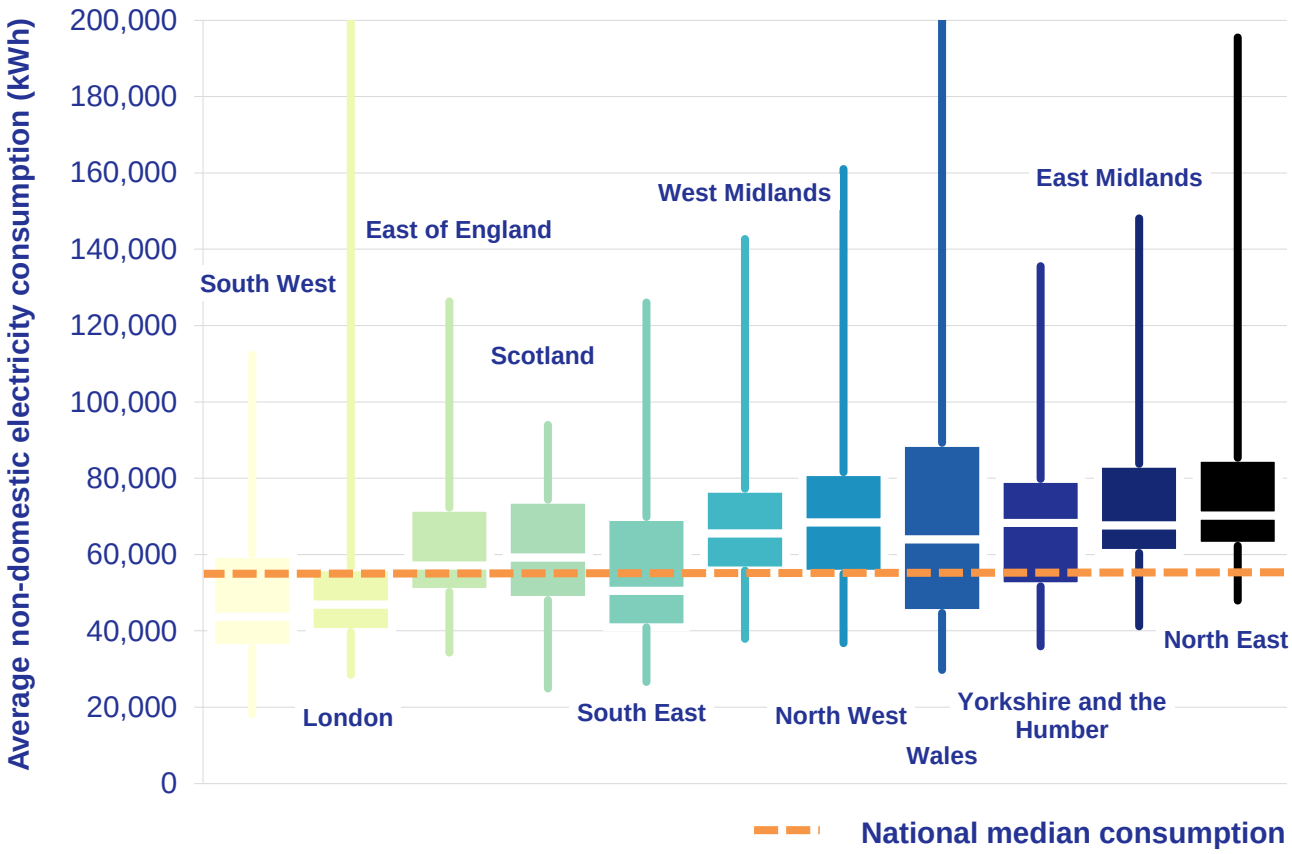
Table 3: Average non-domestic electricity consumption per meter by region, 2014

	All non-domestic meters		
	Mean consumption (kWh)	Median consumption (kWh)	Number of non-domestic meters (thousand)
East Midlands	85,069	10,305	161
East of England	72,315	9,449	220
London	70,809	6,632	398
North East	90,810	9,059	82
North West	85,494	9,724	241
South East	66,008	8,462	334
South West	59,084	7,422	252
West Midlands	80,557	9,291	199
Yorkshire and the Humber	84,102	9,467	182
England	**74,488**	**8,532**	**2,069**
Wales	89,095	7,893	126
Scotland	73,712	9,660	217
Unallocated[1]	201,441	11,475	24
Great Britain	**76,402**	**8,614**	**2,436**

Distribution of non-domestic consumption

Chart 7 provides more information about how mean non-domestic consumption for each local authority varies within region. The box plot shows the minimum, the upper and lower quartile and the median values for the mean electricity consumption in LAs within each region. The maximum is also shown where it is below 200,000 kWh. In two regions (London and Wales) the highest mean non-domestic electricity consumption are greater than 200,000 kWh, but are not shown in the chart to allow for a clearer comparison of the other statistics.

Chart 7: Box plot of average non-domestic electricity consumption for local authorities within each region, 2014



The analysis of the electricity meter point data shows that the overall trend in consumption at a national level has continued to follow a general downward trend over the last few years, but has seen an increase between 2013 and 2014, of 1.8 per cent to 295,320 GWh. There are large variations in consumption levels and changes over time at a more local level. These can be seen in more detail in the accompanying data tables at: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data

3. Gas

The data analysed in this document are based on the aggregation of Meter Point Reference Number (MPRN) readings throughout Great Britain obtained as part of DECC's annual meter point gas data exercise. The estimates for 2014 cover the gas year between 1 October 2013 and 30 September 2014 and are supplied to DECC as weather corrected data. Estimates presented for 2014 are provisional.

In the domestic sector, gas consumption is predominately used for heating purposes and as a result usage is driven by external temperatures and weather conditions. The weather correction factor enables comparisons of gas use over time, controlling for weather changes. An overview of the weather correction process is available here: https://www.gov.uk/government/publications/overview-of-weather-correction-of-gas-industry-consumption-data.

This section looks at gas consumption by consuming sector (i.e. domestic and non-domestic), and geographic area (region and local authority). To distinguish if a meter reading is domestic or non-domestic, the gas industry cut-off point of 73,200 kWh has been used – that is, if a meter consumes less than 73,200kWh it is defined as a domestic meter, and non-domestic if it consumes 73,200 kWh or more.

The published gas statistics can be found here: https://www.gov.uk/government/collections/sub-national-gas-consumption-data.

3.1 Total gas consumption

During 2014, the total annual gas consumption in Great Britain was 495,661 GWh (via 23,505,486 meters), 0.6 per cent lower than consumption in 2013 (498,402 GWh). As gas data are weather corrected, this represents a decrease irrespective of weather conditions in the year.

Total consumption decreased in 297 local authority areas whereas the total number of gas meters increased in 302 out of the 376[12] local authorities between 2012 and 2013. The number of meters in an area can change as new properties are built and old properties demolished. In addition, assigning a meter to an area within the sub-national gas consumption statistics is also dependent upon the address information for each meter. Improvements in address information may allow more meters to be matched to the correct geographic area rather than remaining 'Unallocated'[13]. This means that an increase in the number of meters in an area may reflect better postcode allocation, rather than an actual increase in the number of meters within the year.

The changes in gas consumption and number of meters in Great Britain between 2013 and 2014 are shown for each region in Table 4 below. The table shows that there has been an increase in the number of meters for all regions. This is consistent with the gradual increase seen each year since 2005.

12 The local authorities of Eilean Siar (Western Isles), Orkney Islands, Shetland Islands and Isles of Scilly do not have access to gas.

13 Unallocated' meters are meters with insufficient address information to assign their consumption to a geographical area

Table 4: Gas consumption in Great Britain by region, 2013 and 2014

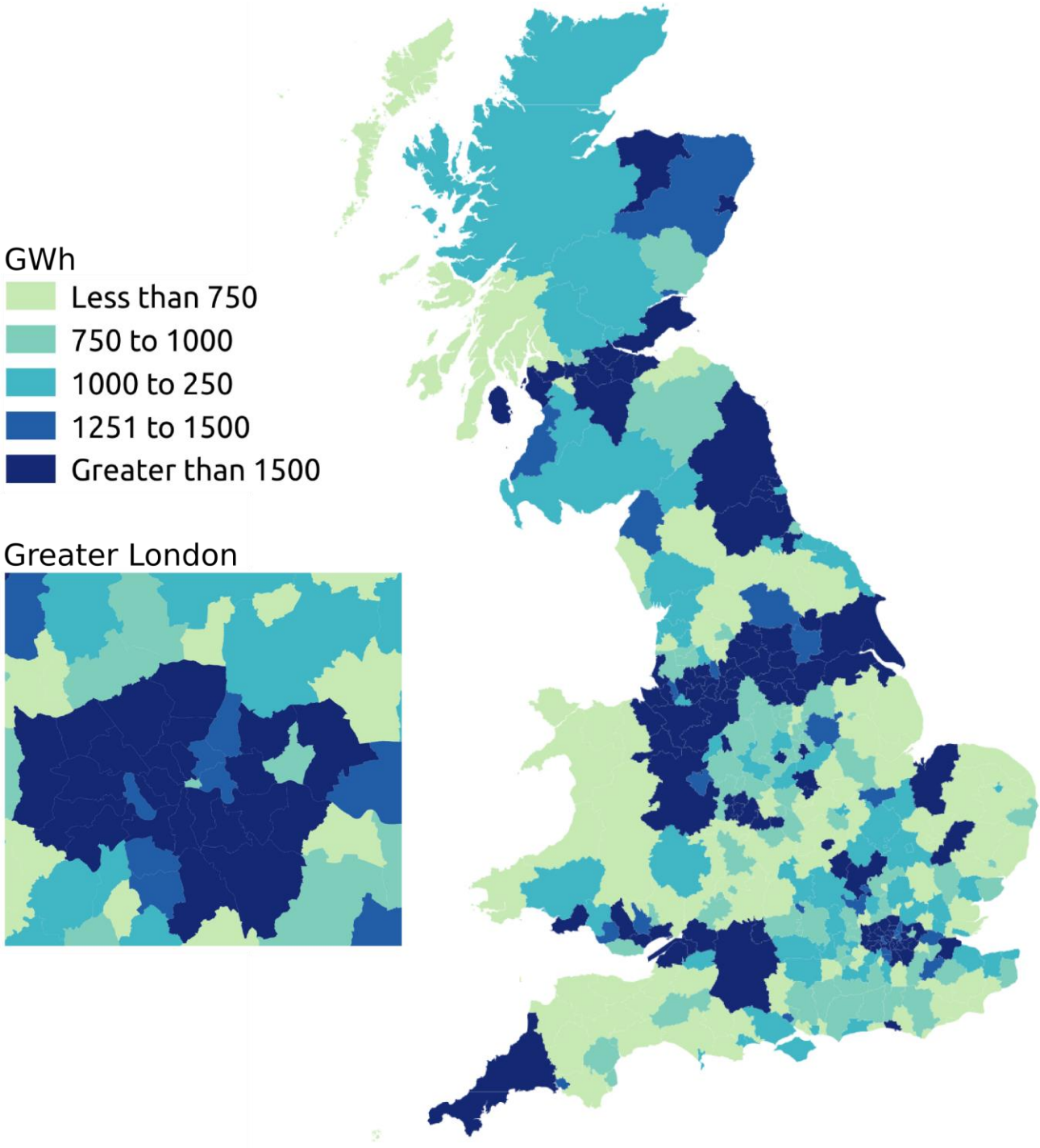
	2013		2014		Percentage Change	
	Total annual gas consumption (GWh)	Number of meters (thousand)	Total annual gas consumption (GWh)	Number of meters (thousand)	Total annual gas consumption (GWh)	Number of meters (thousand)
East Midlands	38,266	1,764	37,904	1,778	-0.9%	0.8%
East of England	43,622	2,063	43,414	2,078	-0.5%	0.7%
London	61,946	3,052	61,159	3,056	-1.3%	0.2%
North East	23,902	1,101	23,114	1,108	-3.3%	0.6%
North West	64,640	2,908	63,764	2,923	-1.4%	0.5%
South East	62,709	3,209	62,289	3,228	-0.7%	0.6%
South West	32,858	1,842	33,327	1,859	1.4%	0.9%
West Midlands	44,682	2,113	45,210	2,125	1.2%	0.6%
Yorkshire and the Humber	51,549	2,127	51,744	2,139	0.4%	0.5%
England	**424,176**	**20,180**	**421,926**	**20,294**	**-0.5%**	**0.6%**
Wales	23,453	1,122	23,288	1,128	-0.7%	0.6%
Scotland	48,647	1,989	48,049	2,010	-1.2%	1.0%
Unallocated[1]	2,125	56	2,125	73	0.0%	30.5%
Great Britain	**498,402**	**23,347**	**495,661**	**23,505**	**-0.6%**	**0.7%**

[1] *A small number of meters in Great Britain, cannot be described as being in a specific area (0.3 per cent). These meters are therefore categorised as 'Unallocated'.*

There has been a decrease in total consumption of gas across the majority of regions of Great Britain between 2013 and 2014, ranging from a 0.5 per cent decrease in the East of England to 3.3 per cent decrease in the North East. In Great Britain as a whole, there was an overall decrease in consumption of 0.6 per cent.

In 2014, the City of London (London) had the highest local authority mean gas consumption at 234,341 kWh compared with Torridge (South West) with the lowest mean gas consumption at 12,485kWh.

Map 4: Total annual gas consumption, by local authority, 2014



3.2 Domestic gas consumption

Average domestic gas consumption

The mean and median annual gas consumption per domestic meter in 2014 were 13,246 kWh and 11,788 kWh respectively, with a total domestic gas consumption of 307,832 GWh. Both mean and total consumption were lower than in 2013 by 3.2 and 2.5 per cent respectively[14]

Table 5 shows the average (mean) domestic gas consumption per meter, the total number of domestic meters, total domestic consumption for each region and the median domestic consumption in 2014.

Table 5: Mean domestic gas consumption per meter by region, 2014

	Number of domestic meters (thousands)	Total domestic consumption (GWh)	Mean domestic consumption (kWh)	Median domestic consumption (kWh)
East Midlands	1,759	23,774	13,513	12,291
East of England	2,056	27,576	13,411	11,953
London	3,015	39,850	13,218	11,314
North East	1,096	14,790	13,489	12,388
North West	2,893	37,508	12,966	11,648
South East	3,188	43,539	13,655	11,952
South West	1,840	21,639	11,763	10,348
West Midlands	2,102	27,872	13,263	12,033
Yorkshire and the Humber	2,115	28,898	13,663	12,318
England	**20,064**	**265,445**	**13,230**	**11,774**
Wales	1,118	14,002	12,527	11,421
Scotland	1,986	27,549	13,872	12,260
Unallocated[1]	72	837	11,640	10,127
Great Britain	**23,239**	**307,832**	**13,246**	**11,788**

[1] *A small number of meters in Great Britain, cannot be described as being in a specific area (0.3 per cent). These meters are therefore categorised as 'Unallocated'.*

Scotland had the highest mean domestic consumption with 13,872 kWh per meter (median consumption of 11,952 kWh), with the South West having the lowest at 11,763 kWh per meter.

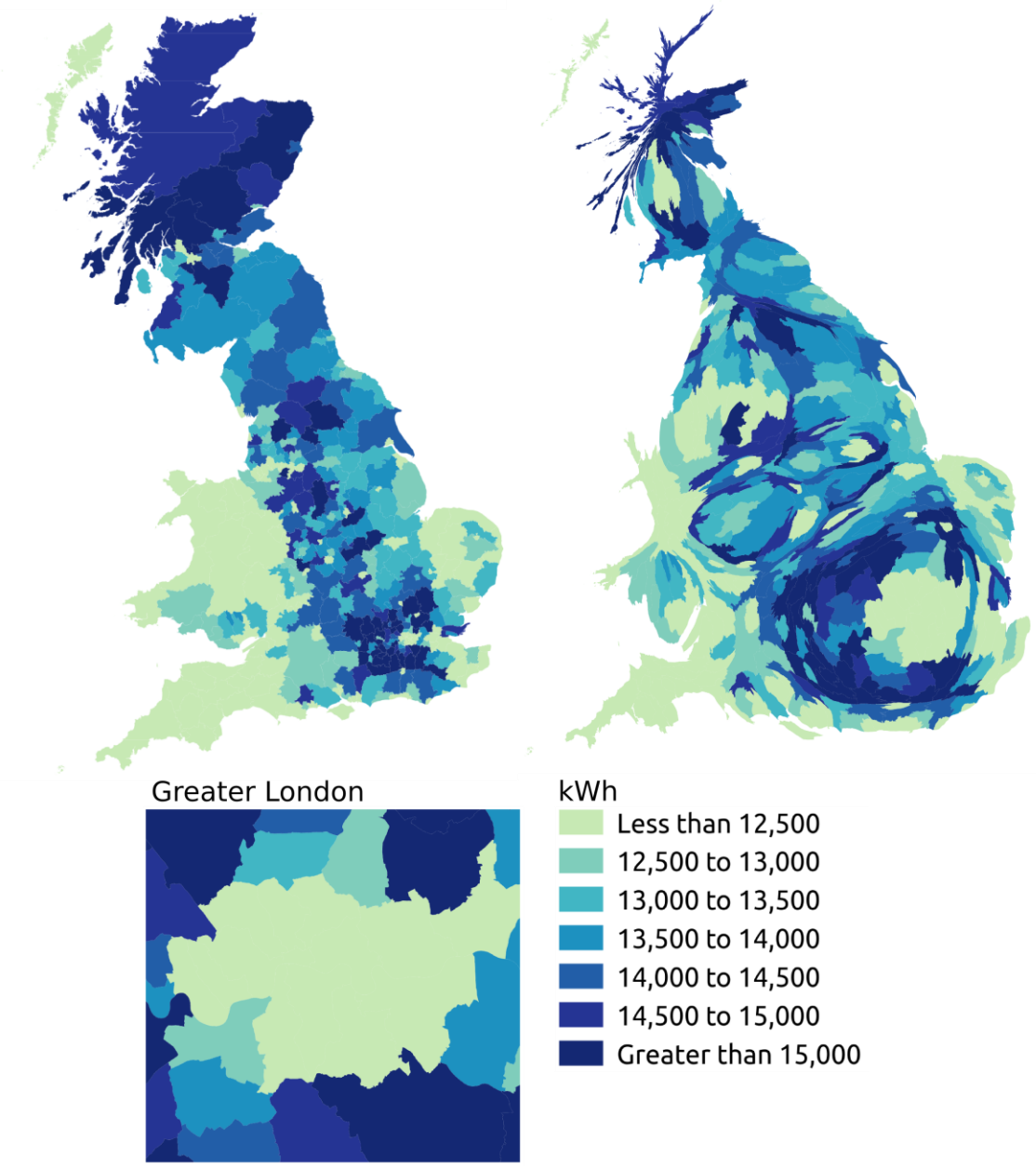
In terms of total domestic gas consumption for Great Britain, the South East consumed 14.1 per cent of all domestic gas, followed by London (13.0 per cent) and the North West (12.2 per cent). The North East and Wales consumed the least; 4.8 and 4.5 per cent respectively.

Map 5, shows average (mean) domestic gas consumption per meter by local authority in 2014. South Bucks (South East) had the highest mean gas consumption in 2014 at 19,562 kWh compared with the lowest in Tower Hamlets (London) at 7,822 kWh.

[14] The sub-national data is weather corrected, however unadjusted domestic gas consumption estimates are available in Table 3.07 of Energy Consumption in the UK (ECUK): https://www.gov.uk/government/collections/energy-consumption-in-the-uk. Estimates in Table 3.07 show a decrease in overall domestic consumption between 2013 and 2014 (from 342,501 GWh to 278,101 GWh) and average consumption (from 15,373 kWh to 12,404kWh).

In the map below, known as a cartogram, the size of each local authority area has been adjusted according to its population. This can help interpretation as it prevents densely populated areas being underrepresented. For example, London accounts for 15 per cent England's population, but only 1.2 per cent of land area; the cartogram expands the area of London to account for this.

Map 5: Average domestic gas consumption per meter by local authority, 2014



Mean domestic gas consumption per meter in Great Britain decreased by 30.4 per cent between 2005 and 2014. There are a number of factors which may have contributed to the reductions in consumption, including; weather conditions, energy efficiency improvements[15],

[15] The energy efficiency of the housing stock improved between 2005 and 2013, the average SAP rating of a dwelling increased by 11.0 points from 49.0 to 60.0. The SAP rating is a measure of the overall energy efficiency of the dwelling. Table 13: English Housing Survey Headline Report 2013-14: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469213/English_Housing_Survey_Headline_Report_2013-14.pdf.

such as increased levels of insulation, new boilers and more energy efficient appliances; increased prices[16] and the recession; and changes in the building stock and household composition.

Chart 8 shows the decrease in average domestic gas consumption per meter point between 2005 and 2014 at regional level. Mean domestic consumption in 2014 was lower than 2013 in all regions; with the largest decrease occurring in the North West (a reduction of 602 kWh, or 4.4 per cent), and the smallest in the West Midlands (327 kWh, or 2.4 per cent).

Chart 8: Decrease in average domestic consumption per meter point between 2005 and 2014, and between 2013 and 2014

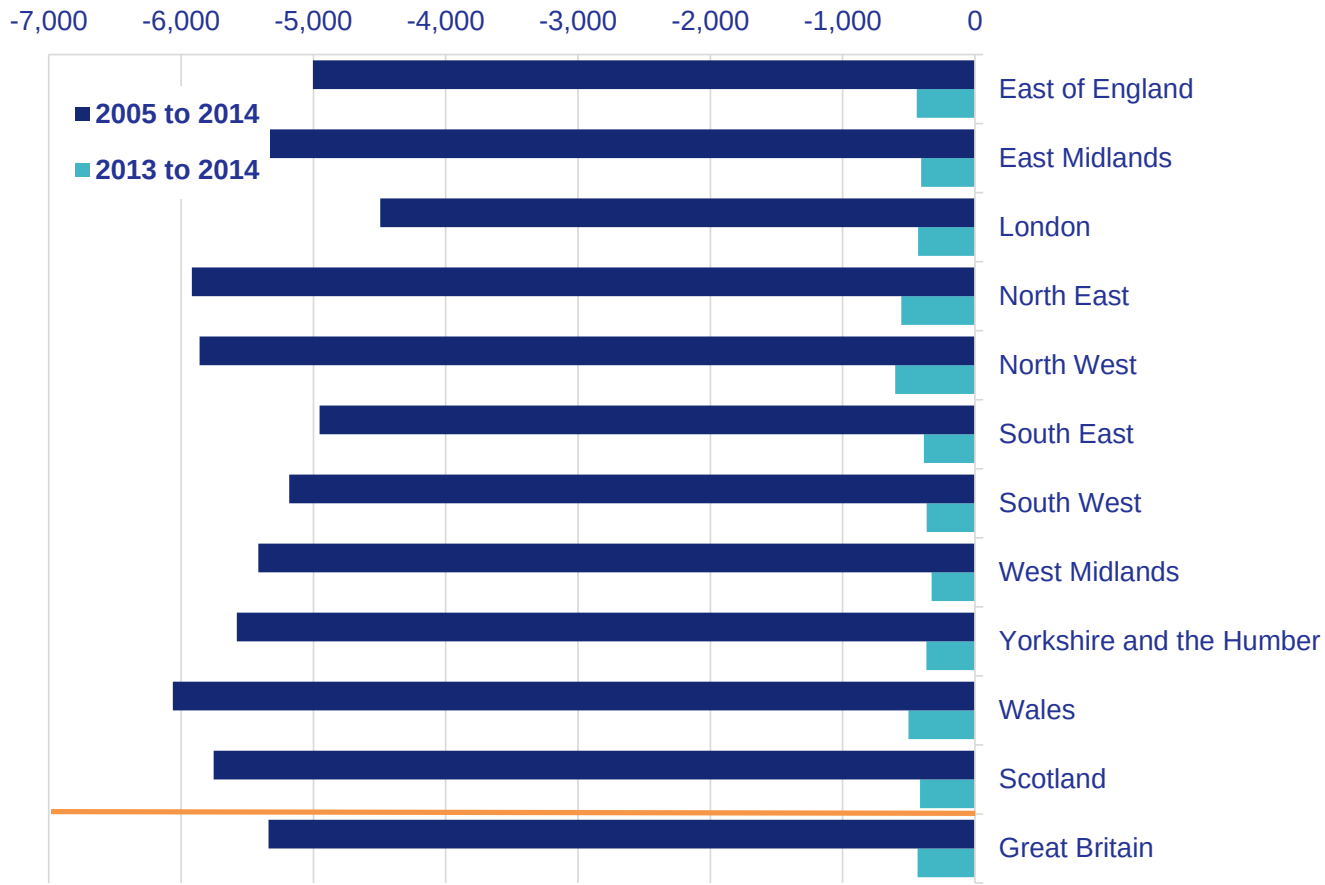
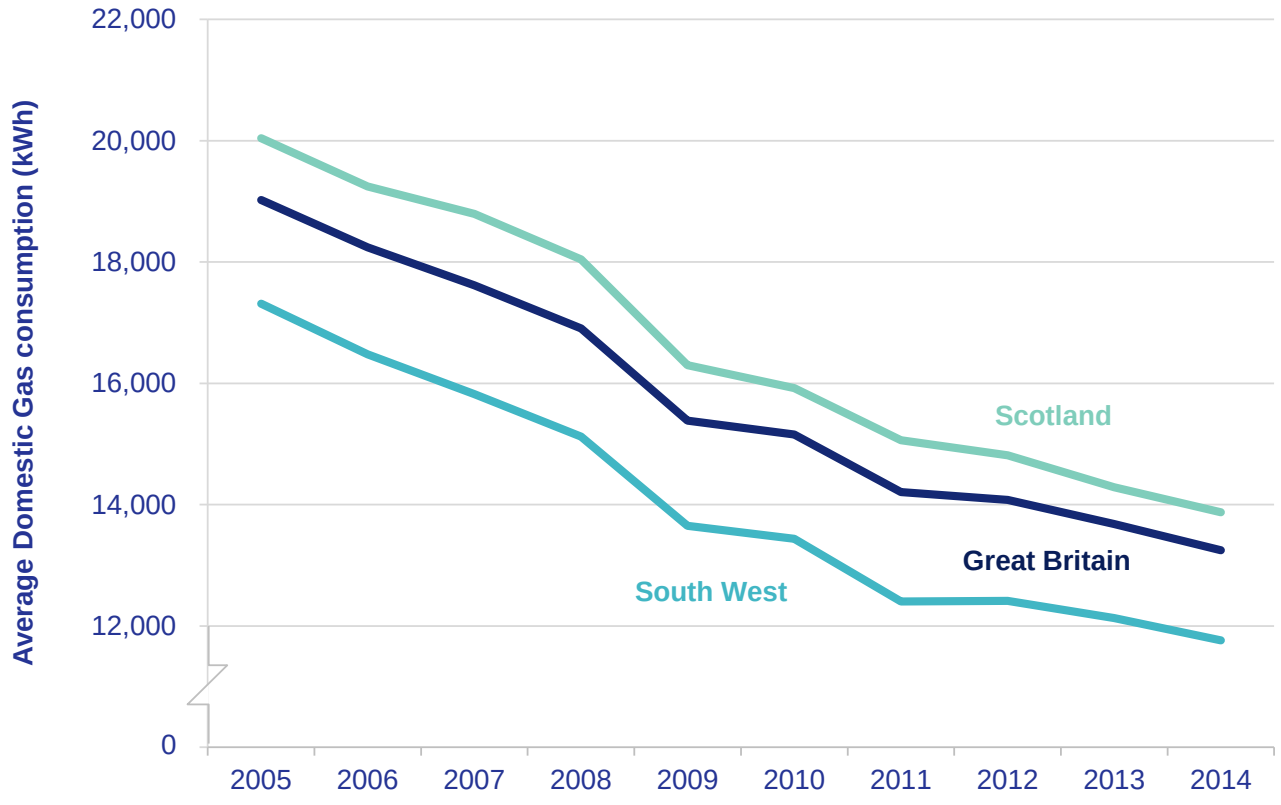


Chart 9 shows the mean domestic gas consumption per meter for Scotland, the South West and Great Britain between 2005 and 2014. These regions have been selected as they had the highest and lowest average domestic gas consumption for each of the seven years. The average consumption for all other regions in Great Britain was between the lines shown for Scotland and the South West and all regions followed a similar trend.

[16] Between 2005 and 2014, domestic electricity prices contained in Quarterly Energy Prices show an increase of 86.2 per cent (51.4 per cent in real terms) which is likely to have influenced demand. 'Quarterly Energy Prices' can be accessed here: https://www.gov.uk/government/collections/quarterly-energy-prices.

Chart 9: Mean domestic gas consumption for selected regions, 2005 to 2014

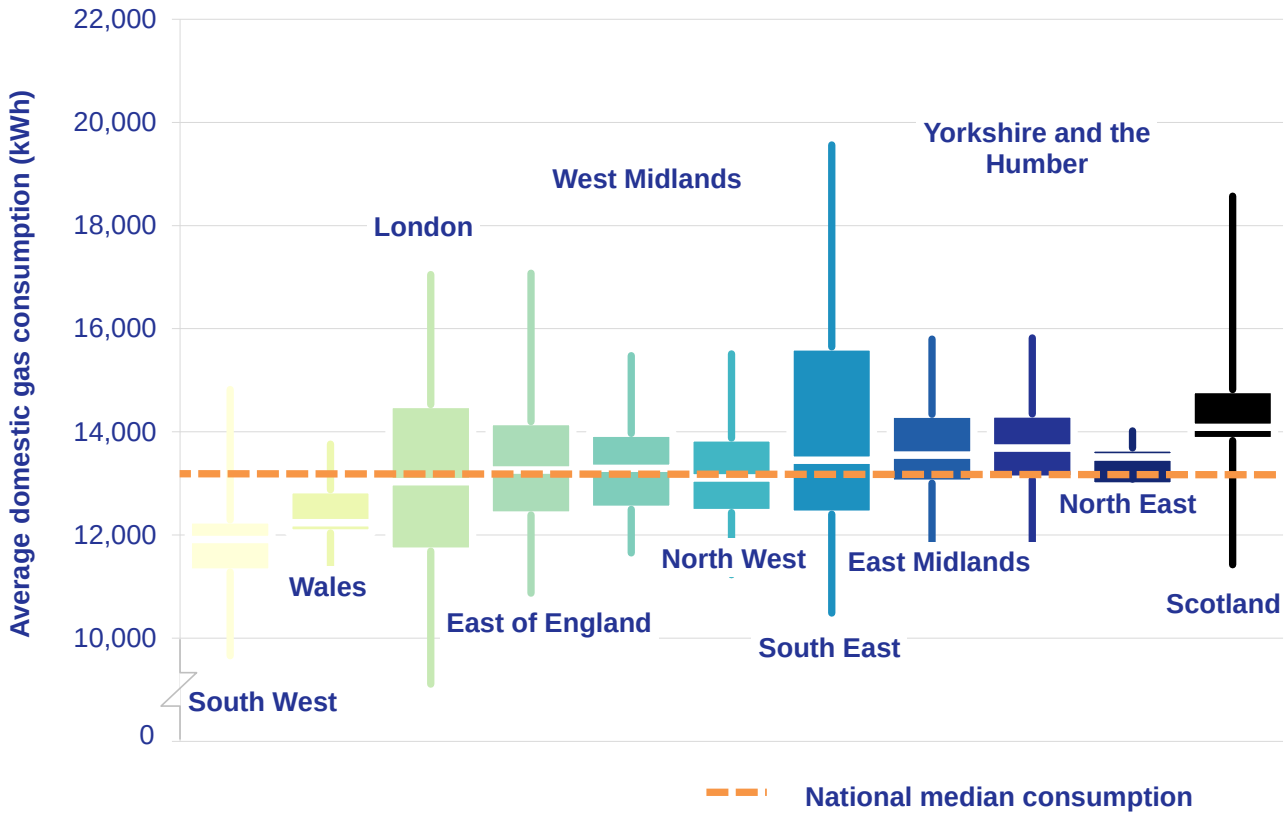


Distribution of domestic consumption

Chart 10 shows a series of box plots illustrating the distribution of average domestic gas consumption for local authorities within each region as well as a box plot for Great Britain. These have been calculated based on average (mean) consumption for each local authority within each region. The spread (inter-quartile range) between the upper (Q3) and lower (Q1) quartiles (that is, the middle 50 per cent of the data), of average domestic gas consumption in local authorities was greatest in the South East (a difference of 3,246 kWh per meter), whereas the inter-quartile range for the North East was 737 kWh as indicated by the shorter box; however the number of points represented by each plot varies, for instance the South East covers 67 local authorities, whereas the North East covers just 12 local authorities.

The whiskers in the chart represent the highest and lowest mean in each region. The local authority with minimum average domestic consumption varies within each region from 9,110 kWh (Tower Hamlets) in London to 12,616 kWh (South Tyneside) in the North East. The largest average domestic consumption per meter varies from 13,762 kWh (Merthyr Tydfil) in Wales to 19,562 kWh (South Bucks) in the South East.

Chart 10: Box plot of mean domestic gas consumption for local authorities within each region, 2014



3.3 Non-domestic gas consumption

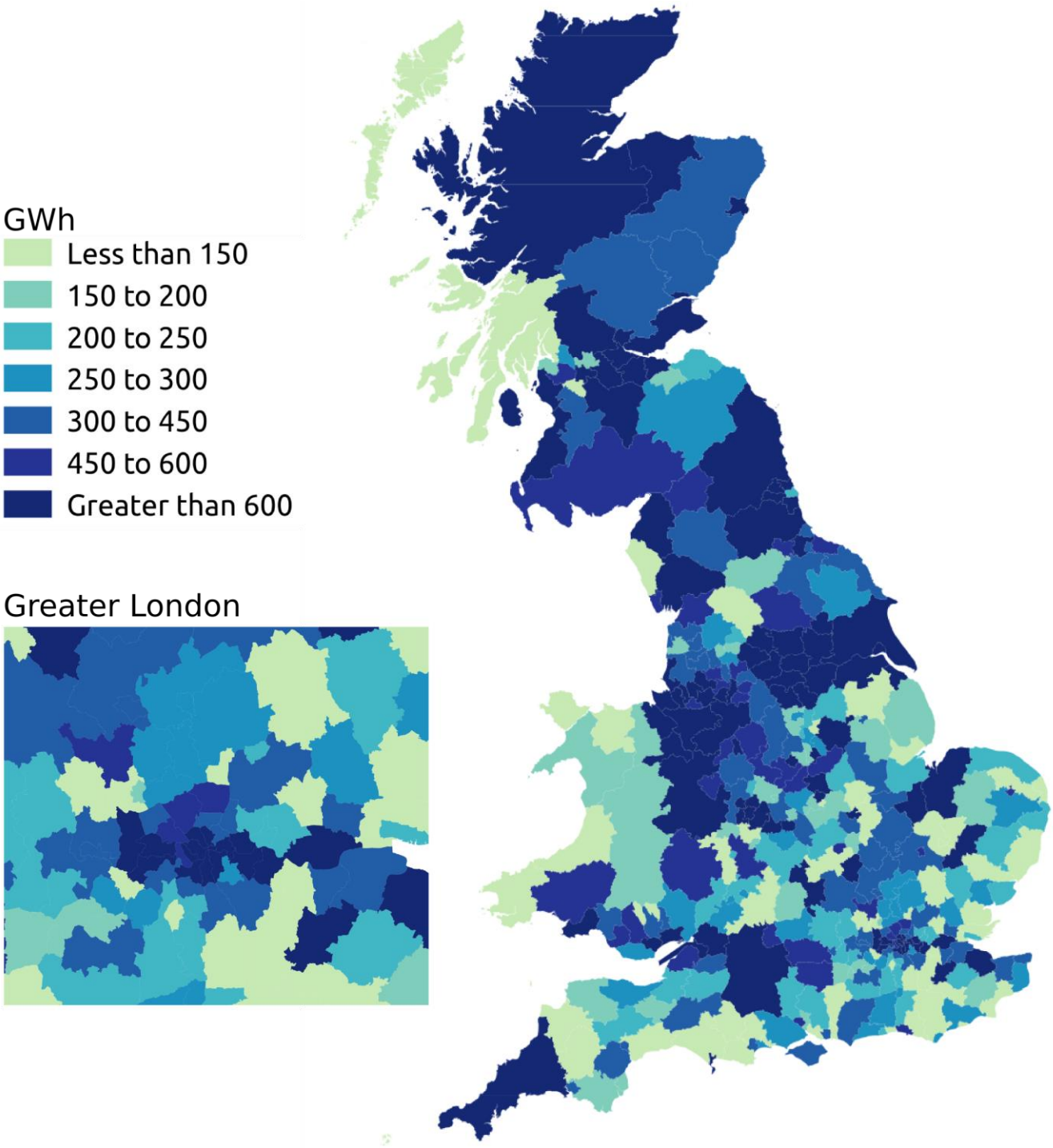
Total non-domestic consumption

In 2014, total non-domestic annual gas consumption in Great Britain was 187,829 GWh (via 266,077 meters), 2.8 per cent higher than consumption in 2013 (182,746 GWh).

Non-domestic consumption increased in 152 local authority areas[17] between 2013 and 2014. The total number of gas meters increased in 141 local authorities between 2013 and 2014.

17 The local authorities of Eilean Siar (Western Isles), Orkney Islands, Shetland Islands and Isles of Scilly are not included in the sub-national gas consumption datasets due to limitations in access to gas.

Map 6: Total non-domestic gas consumption by local authority, 2014



Average non-domestic consumption

Average annual non-domestic gas consumption per meter was 705,920 kWh in 2014, 5.3 per cent higher than in 2013 (670,216 kWh).

Table 6 shows the average (mean) non-domestic gas consumption per meter and total non-domestic consumption in each of the regions. The North West was responsible for 14 per cent of all non-domestic gas consumption compared to the North East and Wales which consumed 4.4 and 4.9 per cent respectively. Yorkshire and the Humber, Wales and Scotland had the highest average non-domestic consumptions, reflecting the mix of industry in the regions, and

the greater use of gas for industrial purposes. The South East and London are more service sector orientated and had the lowest mean non-domestic consumption in 2014.

Table 6: Average non-domestic gas consumption per meter and total non-domestic gas consumption by region, 2014

	Number of non-domestic meters (thousands)	Total non-domestic consumption (GWh)	Average non-domestic consumption (kWh)
East Midlands	19	14,130	758,535
East of England	22	15,838	714,334
London	42	21,309	511,108
North East	11	8,323	733,018
North West	31	26,257	855,748
South East	39	18,750	478,169
South West	19	11,688	604,677
West Midlands	23	17,339	739,140
Yorkshire and the Humber	24	22,847	960,758
England	**230**	**156,481**	**679,440**
Wales	11	9,287	884,357
Scotland	24	20,501	862,904
Unallocated[1]	2	1,561	1,034,178
Great Britain	**266**	**187,829**	**705,920**

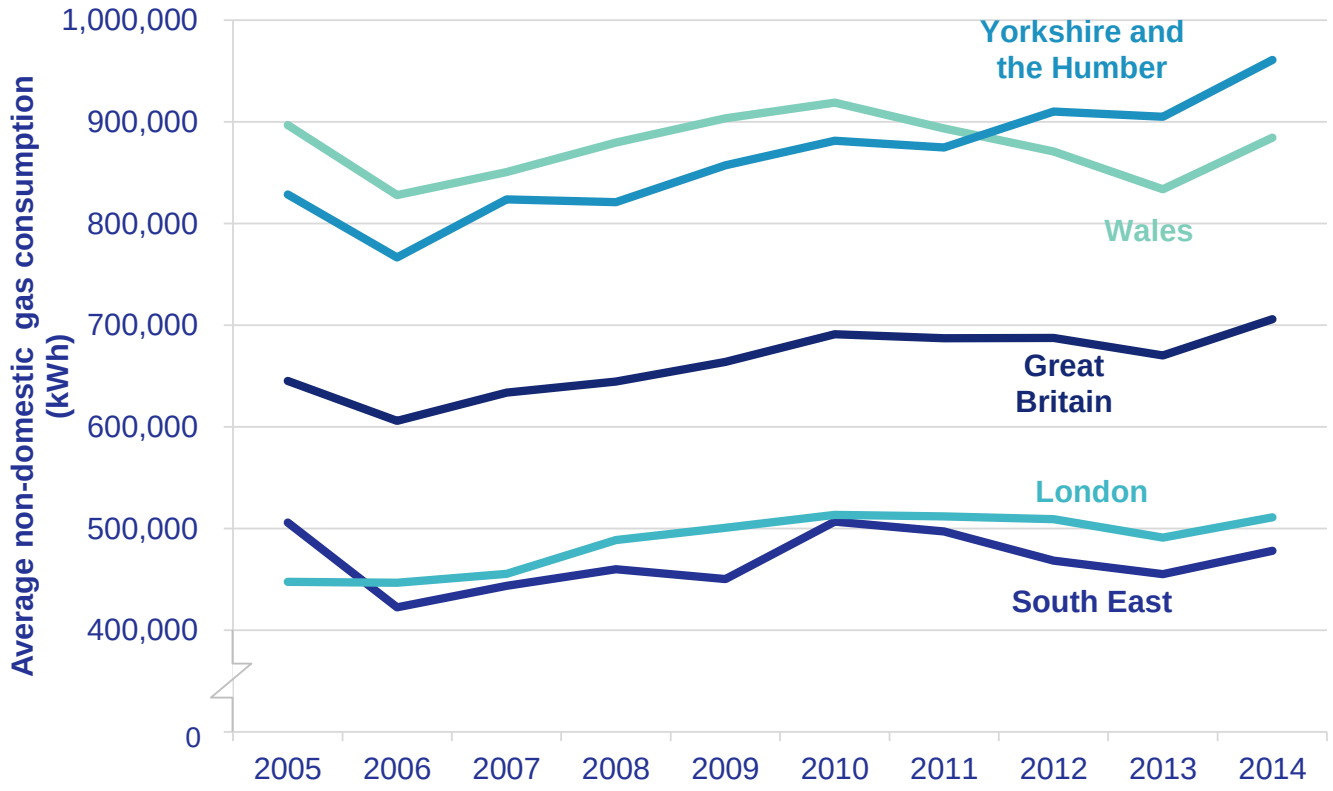
[1] *A small number of meters in Great Britain, cannot be described as being in a specific area (0.8 per cent). These meters are therefore categorised as 'Unallocated'.*

Chart 11 shows the trends in mean non-domestic gas consumption for Yorkshire and the Humber, Wales, London and the South East, and Great Britain as a whole. In comparison to domestic gas consumption, different trends can be seen for the average annual non-domestic gas consumption between 2005 and 2014 and also between 2013 and 2014.

Between 2013 and 2014 the North East was the only region that saw a reduction in average consumption per non-domestic gas meter (0.6 per cent). The region with the greatest increase in average consumption was the South West, with a 12.5 per cent increase.

At a local authority level, King's Lynn and West Norfolk (East England) had the highest mean gas consumption in 2014 at 5,465,794 kWh compared with 204,191 kWh in Tandridge (South East), which had the lowest mean.

Chart 11: Average non-domestic gas consumption for selected regions, 2005 to 2014

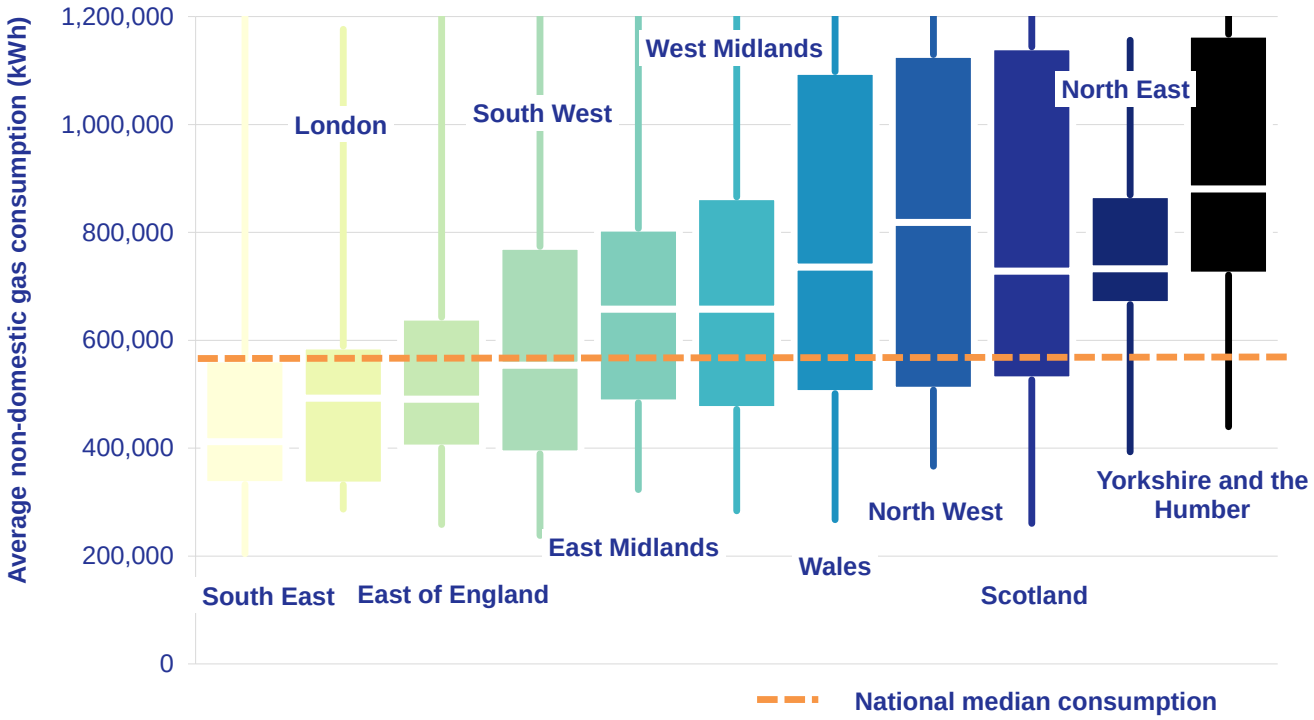


Distribution of non-domestic consumption

Chart 12 shows a box plot displaying aspects of the distribution of average non-domestic gas consumption for local authorities for each of the regions, as well as one for local authorities in Great Britain as a whole. For each region, the box plot shows the minimum average (mean) non-domestic gas consumption, the upper and lower quartile and the median average gas consumption. The maximum average non-domestic gas consumption values have been included, however due to the magnitude of a small number of these, many of these continue beyond the chart shown below – these have been excluded to provide a clearer view of the rest of the distribution.

From the chart it can be seen that the inter-quartile range of average gas consumption in local authorities was greatest in the North West (622 MWh), whereas the North East had the smallest spread (203 MWh) of average non-domestic gas consumption per local authority, reflecting the difference and similarities in businesses in the areas respectively. The degree of variability between regions is much greater for non-domestic consumption than domestic.

Chart 12: Box plot of average non-domestic gas consumption for local authorities within each region



3.4 Number of households not connected to the gas grid

Background

There is no definitive source of information on households that are off the gas grid. However, DECC has produced estimates of the number of households without gas based on the difference between the number of gas meters in each area, as set out earlier in this document, and the number of households in each area[18]. These estimates were published for the first time in December 2013.

The published data does not allow the identification of specific households within an area which are off the gas grid, but do allow small geographic areas which have few or no gas meters to be identified. However there are a number of limitations which should be considered when using these estimates:

- Each gas meter is assigned as domestic or non-domestic based on the gas industry threshold of 73,200kWh, with all meters with consumption below 73,200 kWh assumed to be domestic. This means a number of smaller commercial/industrial consumers are allocated as domestic and therefore estimates of the number of households without gas are an underestimate of the true number. The impact of this assumption on estimates will vary by area.

[18] For the purposes of this work household estimates are taken from the 2011 census to allow consistency with the LSOA and MSOA estimates.

- Some meters cannot be allocated to a local authority due to insufficient or incomplete address information[19]. Approximately 0.3 per cent of domestic meters could not be allocated to a local authority in 2014.
- In some cases incorrect address information may mean meters are allocated to the wrong area. The number of meters which are incorrectly allocated will vary by area.
- In this dataset, there is no differentiation between properties which do not have a gas meter because they are in an area which is off the gas grid and those which are in an area on the gas grid but have a property which is not connected to it (such as inner city blocks of flats).
- For these estimates it is assumed that each property always has one gas meter. Occasionally a property may have more than one gas meter, which would again mean the estimates provided are an underestimate of the true value.
- Data refer to the data collection during 2014 and therefore does not include any changes which may have occurred since 2014.

Estimates of households not connected to the gas grid

Bearing in mind the limitations outlined above, Table 7 below shows the estimated proportion and number of households that are not connected to the gas network in each region of Great Britain.

Approximately 10 per cent of households in Great Britain are not connected to the gas grid; however the proportions vary across each region. The South West and Scotland had the highest proportion of properties without a gas meter (18.8 per cent and 16.3 per cent respectively). The North East and North West have the lowest with 3 and 3.9 per cent of households not connected to the gas network.

Table 7: Estimated proportion of households not connected to the gas network using 2011 Census data, by region (2014)

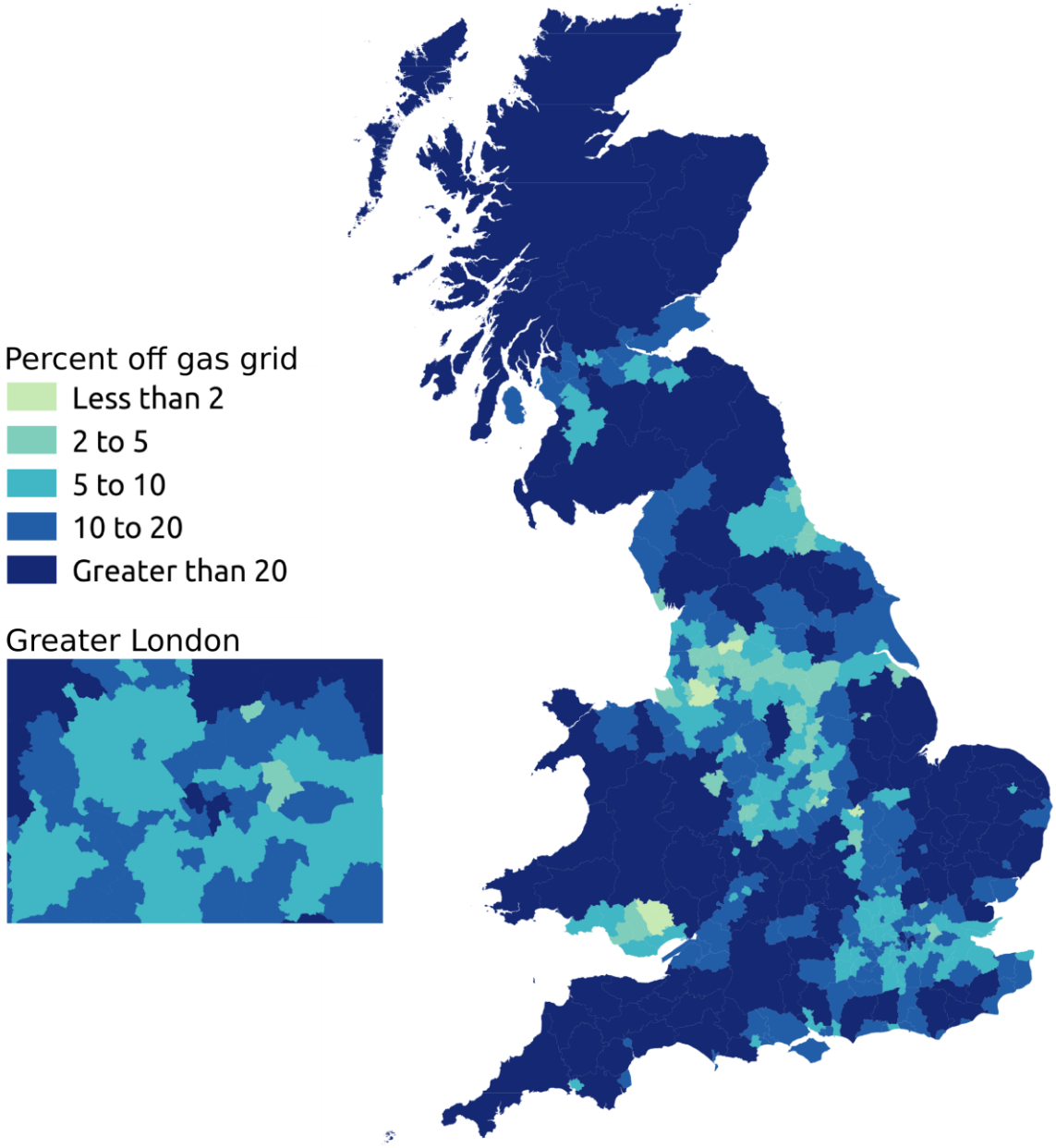
	Number of domestic gas meters (thousands)	Number of households as in 2011 Census (thousands)	Estimated proportion of "off gas" households	Estimated number of "off gas" households (thousands)
East Midlands	1,759	1,896	7.2%	136
East England	2,056	2,423	15.1%	367
London	3,015	3,266	7.7%	251
North East	1,096	1,130	3.0%	33
North West	2,893	3,010	3.9%	117
South East	3,188	3,555	10.3%	367
South West	1,840	2,265	18.8%	425
West Midlands	2,102	2,295	8.4%	193
Yorkshire and the Humber	2,115	2,224	4.9%	109
England	**20,064**	**22,063**	**9.1%**	**1,999**
Wales	1,118	1,303	14.2%	185
Scotland	1,986	2,373	16.3%	387
Unallocated[1]	72	-	-	-
Great Britain	**23,239**	**25,739**	**9.7%**	**2,499**

[1] A small number of meters, in Great Britain, cannot be described as being in a specific area (0.3 per cent). These meters are therefore categorised as 'Unallocated'.

[19] These meters are included in the overall estimates for Great Britain, but are aggregated in the 'Unallocated' row in the sub-national statistics outputs.

Map 7 shows how the proportion of properties without a gas meter varies across local authorities in Great Britain.

Map 7: Percentage of meters that are off the gas grid by local authority, 2014



Estimates for local authority (2014 data) have been published at: https://www.gov.uk/government/collections/sub-national-gas-consumption-data.

Estimates for lower level super output area (2014 data) will also be available from this link from 28 January 2016.

DECC have also published an interactive map which displays the distance of off gas properties from the gas network using information on the location of off gas properties and the location of the gas network infrastructure. The map can be accessed here: https://www.nongasmap.org.uk/

4. Super output area estimates

4.1 Background

Gas and electricity consumption data are also available at lower layer super output area (LSOA) and middle layer super output area (MSOA). These are statistical geographies developed for the Census (England and Wales) and designed to improve the reporting of small area statistics. They are built up from groups of output areas[20]. Data for Scotland are also published for intermediate geographies (equivalent to MSOAs). DECC is also looking at the potential to publish estimates for Scottish Data Zones (equivalent to LSOAs) in future.

There are 34,753 LSOAs in England and Wales with a minimum population of 1,000 (or around 400 households). MSOAs are formed from groupings of LSOAs[21] and there are 7,201 MSOAs in England and Wales, with a minimum population of 5,000 people (or 2,000 households). The intermediate geography zones (IGZ) used in Scotland are aggregations of data zones within local authorities and are slightly smaller than MSOAs, containing between 2,500 and 6,000 people[22].

Gas and electricity estimates for 2011 and later are based on 2011 Census geographies. Data prior to 2011 are based on the 2001 Census boundaries[23]. Estimates for 2014 will be published on 28 January 2016 and can be accessed at: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data (electricity) and https://www.gov.uk/government/collections/sub-national-gas-consumption-data (gas).

4.2 Published datasets

Middle layer super output area (MSOA) and intermediate geography zone (IGZ)

The MSOA/IGZ datasets include annual consumption (in kWh), the number of meters and the average consumption per meter (in kWh) for each MSOA/IGZ in Great Britain[24]. Local authority codes and names are also provided.

The published spreadsheets cover the following four sectors:

1. **Domestic gas estimates** - A domestic gas user is defined as a user with an annual consumption of less than 73,200 kWh, which is the gas industry cut-off point for domestic users. It is recognised that this level of consumption will include some non-domestic users.
2. **Domestic electricity estimates** – including a split by domestic ordinary and Economy 7 meters.
3. **Non-domestic gas estimates** - A non-domestic user is defined as a user with an annual consumption of 73,200 kWh or more.

---

[20] Output Areas are built from clusters of adjacent unit postcodes. They were designed to have similar population sizes and be as socially homogenous as possible based on tenure of household and dwelling type (homogeneity was not used as a factor in Scotland).

[21] For an illustration of LSOAs within an MSOA please see Annex D.

[22] Further information about England and Wales or Scotland's statistical geographies can accessed at:

http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/super-output-areas--soas-/index.html

http://www.scotland.gov.uk/Publications/2005/02/20697/52626.

[23] Conversion files for 2001 to 2011 Census boundary codes are available at the following links: Lower_layer_super_output_areas_(2001)_to_lower_layer_super_output_areas_(2011)_to_local_authority_districts_(2011)_E+W_lookup.zip and Middle_layer_super_output_areas_(2001)_to_middle_layer_super_output_areas_(2011)_to_local_authority_districts_(2011)_E+W_lookup.zip

[24] Some MSOA/IGZ areas may not have access to gas and these areas will have a zero consumption within the sub-national gas consumption datasets. Further information about households with limited access to gas can be found in Section 3.4 of this factsheet.

4. **Non-domestic electricity estimates** – The data at MSOA level excludes half hourly meters. This is to avoid data disclosure issues, as these consumers are generally very large energy users and the potential risk of disclosure is high if they are included in the low level datasets. The spreadsheet does contain half-hourly consumption values at a local authority level.

Lower layer super output area (LSOA) and Data zones (DZs)

Similar to MSOA spreadsheets, the LSOA spreadsheets also publish annual consumption (kWh), the number of meters and average consumption for domestic consumers (again split by standard tariff and Economy 7 tariff for electricity) in each LSOA in England and Wales.

The two available datasets at an LSOA level are:

1. **Domestic gas estimates;** and
2. **Domestic electricity estimates.**

Due to disclosure, DECC are only able to publish the gas and electricity LSOA consumption data for domestic consumers in England and Wales. The LSOA dataset does not contain information for the following:

- **Non-domestic consumption** - Due to the small size of these geographical areas, the majority of LSOAs would have such a small number of non-domestic consumers that the non-domestic consumption would be disclosive and would have to be aggregated. Since the non-domestic consumption is available at an MSOA level, DECC took the decision that publishing LSOA level data after aggregation would not add much value for users.
- **Scotland** - The gas and electricity consumption data at a Data Zone (DZ) level is currently not available for Scotland as the 6,505 Data Zones each have a minimum population of 500 and publishing at a lower level would risk breaching disclosure agreements (particularly for gas). However DECC is investigating the value of publishing these data even with a high proportion of merged areas.

Estimates of households not connected to the gas network at LSOA/IGZ level

Also available at an LSOA level are estimates of households not connected to the gas network. These can be accessed here: https://www.gov.uk/government/collections/sub-national-gas-consumption-data.

These estimates are based on the same methodology as used for the Local Authority estimates, but with population estimates taken from the 2011 Census. Limitations with the data outlined in section 3.4 will be accentuated in these smaller geographic areas.

5. Comparison with other sources

5.1 Electricity

Estimated total electricity consumption from the meter point data differs from Chapter 5 of the Digest of UK Energy Statistics (DUKES) as DUKES data are based on sales information collected from two separate annual surveys, one of major power producers and one of electricity suppliers[25]. It is recommended for DUKES data to be used for headline analysis, and sub-national data to be used for regional analysis.

Table 8 below compares the total consumption based on meter points to the corresponding DUKES total.

Table 8: Comparison with published UK statistics for 2014

Total final consumption (UK)	GWh	
Great Britain total consumption from meter point data		
Domestic	109,170	
Non-domestic	186,150	
	295,320	
Implied UK total consumption		
Great Britain total consumption (above)	295,320	
Plus Northern Ireland[1]	7,807	
Plus Sales direct from high voltage lines (based on Ofgem data)[2]	3,879	
Implied UK sales of electricity	307,006	
DUKES total UK sales (DUKES 2015 Table 5.4)	291,101	
Statistical difference	- 15,905	-5% of UK sales

[1] *Northern Ireland data are based on data for electricity distributed provided by Northern Ireland Electricity.*

[2] *Based on estimates provided by Ofgem.*

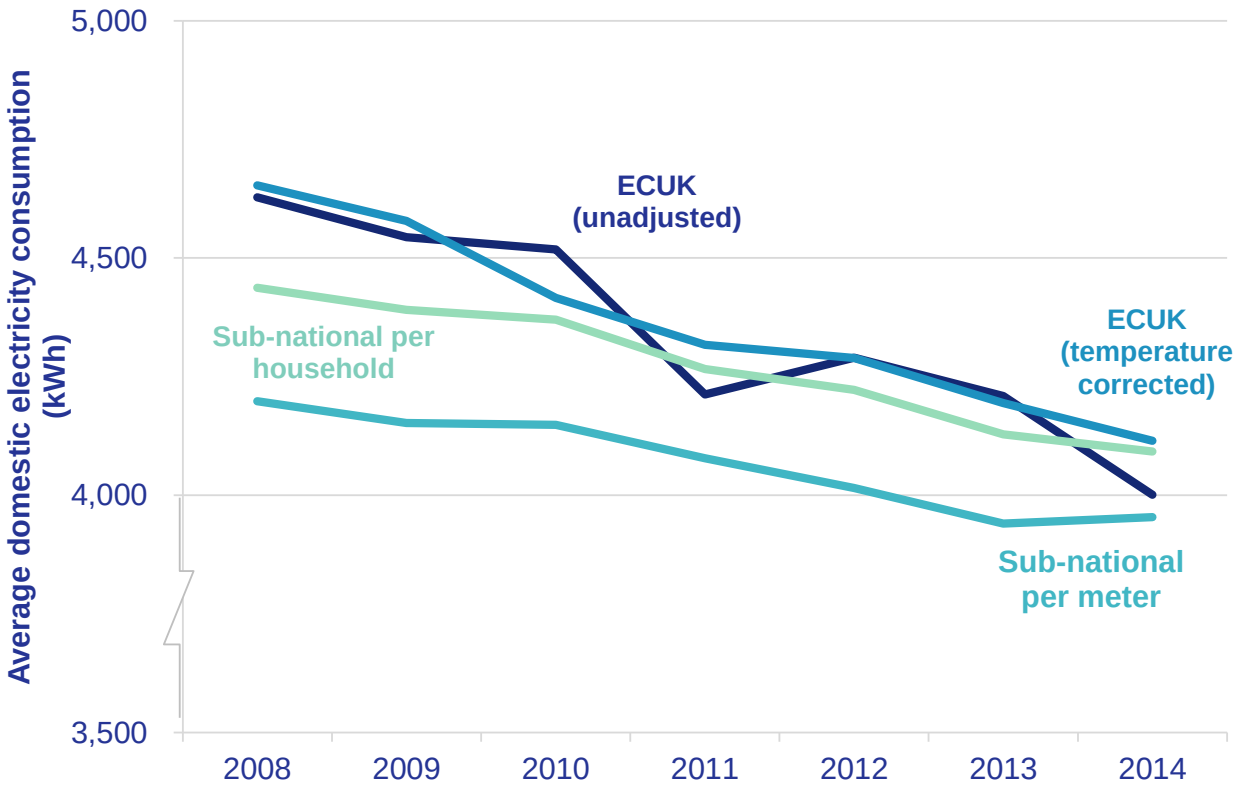
After taking into account consumption not included in the sub-national estimates (total consumption for Northern Ireland and sales from high voltage lines) there was a statistical difference of 15,905 GWh, -5 per cent of total UK sales reported in DUKES.

One of the main factors behind this difference is that the non-half hourly data covers the period from the start of February 2014 to the end of January 2015 and not the calendar year 2014 as covered by DUKES. Some of this difference may also be explained by the fact that approximately 20 per cent of the data in the sub-national exercise are based on estimated rather than actual meter readings, and some further meters will have been estimated by suppliers. Therefore the sub-national totals may not reflect the full scale of changes in consumption between years.

A comparison with the average annual consumption per household published in Energy Consumption in the UK (ECUK) Table 3.07 (and based on data from DUKES Table 1.1.5) also shows that the trend over time is consistent for the two sources, see Chart 13.

[25] Detailed electricity figures available in DUKES can be accessed here: https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/electricity-statistics.

Chart 13: Comparison of source, average (mean) annual electricity consumption per household, 2008 to 2014



5.2 Gas

DECC publish estimates of gas consumption in other sources, which can be used to derive estimates of average domestic gas consumption as published in ECUK Table 3.07 (derived from DUKES Table 1.1.5). Table 9 below contains estimates between 2008 and 2014. These sources include:

Weather correction factors and temperature adjustments can cause variability between the estimates and Table 9 below also contain data for average external temperatures during the heating season (defined as January to March and October to December), for both calendar years and the gas year (October to March).

Table 9: Average domestic gas consumption (kWh) and heating season external temperatures (Celsius), 2008 to 2014

	2008	2009	2010	2011	2012	2013	2014
ECUK 3.07[1] (UK, Calendar year, non-weather corrected basis)	16,546	15,767	17,774	13,252	15,551	15,373	12,404
ECUK 3.07[1] (UK, Calendar year, weather corrected basis)	16,967	16,214	15,573	14,968	15,488	14,728	14,263
Sub-national statistics (October [y-1] to September, weather corrected basis)	16,906	15,383	15,156	14,205	14,076	13,680	13,246
Average Temperature[2] (January to March, October to December)	6.4	6.3	4.3	7.5	6.6	5.9	7.6
Average Temperature[2] (October [y-1] to March)	6.9	5.9	5.6	5.4	7.7	5.2	7.5

[1] *Table 3.07, Energy Consumption in the UK (https://www.gov.uk/government/statistics/energy-consumption-in-the-uk)*

[2] *Table 7.1: Average temperatures and deviations from the long term mean (https://www.gov.uk/government/statistics/energy-trends-section-7-weather)*

The table shows that – in broad terms – the data series are consistent, which provides reassurances to users of the sub-national data provided here.

There are differences in average temperature depending upon whether the calendar or gas year is used. Based on the heating season associated with the gas year, 2014 had the highest average temperature of any year shown in the table. As the sub-national estimates are weather corrected the impact of the temperature on household consumption should be eliminated from the time series. The impact of temperature on average consumption can be seen more clearly when comparing the ECUK non-weather corrected data with the calendar year temperature. The lowest average temperature (4.3) occurs in 2010 the same year as the highest average consumption (17,800 kWh).

6. Developments and future plans

6.1 Developments during the year

Based on the previous feedback received from users we have continued to make changes to the suite of sub-national electricity and gas consumption statistics. The changes made are summarised below:

- **Publication of MSOA and LSOA estimates in January 2016**

  Previously, LA estimates have been published in December and MSOA and LSOA estimates the following March. For 2013 consumption, MSOA and LSOA estimates were published on 29 January 2015, bringing the release date forward by two months. The 2014 MSOA and LSOA statistics will be published on 28 January 2016.

- **Postcode level electricity and gas consumption statistics.**

  At the end of March 2015, DECC published 2013 experimental statistics on domestic gas and electricity consumption at postcode level. These can be found on here https://www.gov.uk/government/collections/sub-national-electricity-consumption-data (electricity) and https://www.gov.uk/government/collections/sub-national-gas-consumption-data (gas). If you have any feedback on these statistics, please contact us at the email address given below, since this will determine whether this becomes part of the longer term regular publications.

- **Interactive Off-gas map**

  DECC recently completed analysis with AWS and Kiln to underpin a map showing properties off the gas grid. The map helps to identify the location of off-gas grid properties, their distances from the gas network and the typical characteristics of properties within that area. The map can be accessed here https://www.nongasmap.org.uk/.

- **Cartogram Maps**

  DECC have also developed some cartogram maps to display average domestic electricity and gas consumption. The size of each local authority area has been adjusted according to its population (map 2 and map 5). This can help interpretation as it prevents densely populated areas being underrepresented. For example, London accounts for 15 per cent England's population, but only 1.2 per cent of land area; the cartogram expands the area of London to account for this.

6.2 Future plans

- **Electricity and gas consumption data published by 10 kWh bandings.**

  A dataset showing number of electricity and gas meters in each 10kWh band has previously been supplied to Ofgem to support its review of typical domestic consumption values [26]. Given DECC's awareness of the interest in the distribution of consumption by a wider group of users it is intended that this dataset will be created again for 2013 and 2014 consumption and published on the DECC website.

[26] The Review of typical domestic consumption values (Ofgem) can be accessed here: https://www.ofgem.gov.uk/ofgem-publications/74735/tdcv-review-consultation.pdf

- **Gas and Electricity Infographics**

  In line with the publication of the 2014 MSOA and LSOA estimates, DECC will also be publishing a set of infographics to aid user understanding of the sub-national consumption estimates. If you have comments or feedback on these outputs, please contact us on the email address below.

If you have comments or feedback regarding any of the above proposals or any additional comments/suggestions, these can be sent to: EnergyEfficiency.Stats@decc.gsi.gov.uk.

We periodically update our users relating to publication releases and changes made to datasets. If you are interested in being added to the sub-national statistics mailing list, please send a request to the email address above.

Annex A: Highest and lowest local authority averages, 2014

Electricity 2014, domestic and non-domestic highest and lowest consuming local authorities

Local Authority	Domestic			Local Authority	Non-domestic		
	Number of MPANs (thousands)	Sales (GWh)	Averages domestic consumption (KWh)		Number of MPANs (thousands)	Sales (GWh)	Averages non-domestic consumption (KWh)
Northumberland UA	151	578	3,832	Redcar and Cleveland UA	4	859	231,281
South Tyneside	70	221	3,140	Darlington	4	201	56,848
NORTH EAST	**1,198**	**4,096**	**3,418**	**NORTH EAST**	**82**	**7,479**	**90,810**
Eden	25	127	5,140	Knowsley	3	551	191,278
Barrow-in-Furness	33	113	3,411	Copeland	3	120	43,569
NORTH WEST	**3,158**	**12,029**	**3,809**	**NORTH WEST**	**241**	**20,582**	**85,494**
Ryedale	25	112	4,497	North Lincolnshire UA	6	961	160,146
Kingston upon Hull, City of UA	118	393	3,316	Craven	4	155	42,582
YORKSHIRE AND THE HUMBER	**2,349**	**8,642**	**3,679**	**YORKSHIRE AND THE HUMBER**	**182**	**15,298**	**84,102**
Daventry	34	166	4,902	Rutland	2	315	175,205
Chesterfield	49	162	3,328	Rushcliffe	3	158	48,616
EAST MIDLANDS	**2,005**	**7,783**	**3,881**	**EAST MIDLANDS**	**161**	**13,696**	**85,069**
Stratford-on-Avon	55	274	5,035	Telford and Wrekin	5	921	168,512
Stoke-on-Trent UA	112	385	3,434	Malvern Hills	3	153	44,854
WEST MIDLANDS	**2,392**	**9,540**	**3,988**	**WEST MIDLANDS**	**199**	**16,028**	**80,557**
Uttlesford	34	175	5,105	Thurrock UA	4	653	149,357
Norwich	64	207	3,208	Tendring	5	218	40,466
EAST ENGLAND	**2,577**	**11,042**	**4,284**	**EAST ENGLAND**	**220**	**15,927**	**72,315**
Barnet	144	634	4,410	City of London	7	2,304	343,603
Islington	101	325	3,208	Lewisham	16	523	33,573
LONDON	**3,449**	**13,201**	**3,828**	**LONDON**	**398**	**28,201**	**70,809**
South Bucks	28	149	5,286	Slough UA	4	662	148,847
Portsmouth UA	90	322	3,591	Rother	5	144	31,468
SOUTH EAST	**3,761**	**16,149**	**4,294**	**SOUTH EAST**	**334**	**22,034**	**66,008**
Isles of Scilly UA	1	8	6,610	Swindon UA	6	802	132,583
Weymouth and Portland	32	113	3,565	Torridge	5	141	30,998
SOUTH WEST	**2,467**	**10,383**	**4,209**	**SOUTH WEST**	**252**	**14,879**	**59,084**
Ceredigion	33	162	4,855	Neath Port Talbot	4	1,527	373,519
Blaenau Gwent	32	105	3,263	Powys	11	386	35,275
WALES	**1,389**	**5,189**	**3,735**	**WALES**	**126**	**11,262**	**89,095**
Shetland Islands	17	103	5,946	West Lothian	5	588	111,421
Glasgow City	329	1,068	3,251	Orkney Islands	2	68	29,542
SCOTLAND	**2,760**	**10,805**	**3,915**	**SCOTLAND**	**217**	**16,026**	**73,712**
Unallocated	105	310	2,962	Unallocated	24	4,737	201,441
GREAT BRITAIN	**27,611**	**109,170**	**3,954**	**GREAT BRITAIN**	**2,436**	**186,150**	**76,402**

Gas 2014, domestic and non-domestic highest and lowest consuming local authorities

Local Authority	Domestic		
	Number of MPANs (thousands)	Sales (GWh)	Averages domestic consumption (KWh)
Northumberland UA	118	1,648	14,018
Middlesbrough UA	58	751	12,921
NORTH EAST	**1,096**	**14,790**	**13,489**
Ribble Valley	21	318	15,511
Knowsley	63	704	11,231
NORTH WEST	**2,893**	**37,508**	**12,966**
Harrogate	57	899	15,821
Kingston upon Hull, City of UA	111	1,278	11,473
YORKSHIRE AND THE HUMBER	**2,115**	**28,898**	**13,663**
Rushcliffe	44	694	15,798
Lincoln	41	479	11,781
EAST MIDLANDS	**1,759**	**23,774**	**13,513**
Bromsgrove	36	561	15,477
Worcester	40	469	11,654
WEST MIDLANDS	**2,102**	**27,872**	**13,263**
Three Rivers	34	577	17,075
Norwich	58	633	10,874
EAST OF ENGLAND	**2,056**	**27,576**	**13,411**
Harrow	82	1,405	17,049
Tower Hamlets	77	704	9,110
LONDON	**3,015**	**39,850**	**13,218**
South Bucks	26	502	19,562
Portsmouth UA	79	825	10,488
SOUTH EAST	**3,188**	**43,539**	**13,655**
East Dorset	33	494	14,818
Plymouth UA	107	1,030	9,662
SOUTH WEST	**1,840**	**21,639**	**11,763**
Merthyr Tydfil	26	358	13,762
Gwynedd	30	333	11,194
WALES	**1,118**	**14,002**	**12,527**
East Renfrewshire	34	640	18,570
Glasgow City	248	2,829	11,427
SCOTLAND	**1,986**	**27,549**	**13,872**
Unallocated	72	837	11,640
GREAT BRITAIN	**23,239**	**307,832**	**13,246**

Local Authority	Non-domestic		
	Number of MPANs (thousands)	Sales (GWh)	Averages non-domestic consumption (KWh)
Darlington UA	0.49	988	776,812
South Tyneside	0.59	345	570,769
NORTH EAST	**11.36**	**8,323**	**733,018**
Eden	0.14	251	962,201
Copeland	0.23	636	1,489,861
NORTH WEST	**30.68**	**26,257**	**855,748**
Selby	0.20	469	503,076
Craven	0.29	1,058	867,036
YORKSHIRE AND THE HUMBER	**23.78**	**22,847**	**960,758**
Corby	0.34	554	1,310,534
Oadby and Wigston	0.30	351	731,062
EAST MIDLANDS	**18.63**	**14,130**	**758,535**
Stoke-on-Trent UA	1.10	130	302,925
Malvern Hills	0.27	222	471,989
WEST MIDLANDS	**23.46**	**17,339**	**739,140**
King's Lynn and West Norfolk	0.40	128	258,558
Three Rivers	0.50	497	642,995
EAST OF ENGLAND	**22.17**	**15,838**	**714,334**
Bexley	0.63	377	421,784
Barnet	2.06	731	591,189
LONDON	**41.69**	**21,309**	**511,108**
Gravesham	0.25	319	498,553
Tandridge	0.54	397	492,879
SOUTH EAST	**39.21**	**18,750**	**478,169**
West Somerset	0.08	62	238,226
East Dorset	0.26	436	526,948
SOUTH WEST	**19.33**	**11,688**	**604,677**
Wrexham	0.47	125	563,432
Conwy	0.56	175	398,627
WALES	**10.50**	**9,287**	**884,357**
Moray	0.38	97	260,618
East Renfrewshire	0.37	2,504	706,881
SCOTLAND	**23.76**	**20,501**	**862,904**
Unallocated	1.51	1,561	1,034,178
GREAT BRITAIN	**266.08**	**187,829**	**705,920**

Annex B: Sub-national consumption publications

This factsheet is part of a series of sub-national factsheets and datasets. Before using any of the datasets, it is highly advised to refer to the related chapter in the Sub-national methodology and guidance booklet: https://www.gov.uk/government/publications/regional-energy-data-guidance-note.

Electricity consumption statistics

- Electricity consumption statistics, including local authority level and super output area (Great Britain) and experimental local authority statistics for Northern Ireland: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data.

Gas consumption statistics and estimates of household not connected to the gas network

- Gas consumption statistics at local authority level super output area (Great Britain): https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-gas-consumption-data.

Road transport consumption statistics

- Road transport consumption statistics at local authority level (United Kingdom): https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level.

Residual fuel (non-electricity, non-gas, non-road transport fuels) consumption statistics

- Residual fuel consumption statistics at local authority level (United Kingdom): https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-consumption-of-other-fuels.

Total final energy consumption statistics

- Total final energy consumption statistics at local authority level (Great Britain): https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/total-final-energy-consumption-at-sub-national-level.

Annex C: Tools available to analyse sub-national consumption statistics

DECC has published tools to aid the user to further explore the data:

1. **Sub-national electricity and gas consumption statistics analytical tool**
   This tool has been created for analysing electricity and gas consumption at the local authority level, and has been produced to help local authorities and other regional bodies use DECC's sub-national gas and electricity data to better understand changes in consumption over time. The tool allows for three distinct types of analysis:
   - Analysis of individual local authority data in comparison to its respective regional average and the Great Britain average;
   - Comparison between a selected local authority and five additional local authorities;
   - Change between all local authorities in Great Britain.

   The tool can be accessed at: https://www.gov.uk/government/collections/analytical-tools.

2. **Look-up spreadsheets**
   The look-up spreadsheets are published alongside the SOA datasets, and are aimed at users interested in which SOA codes are included in a local authority, or for users who would like to determine which NUTS4 corresponds to which local authority. The spreadsheet also collates annual consumption (kWh), the number of meters and average consumption (kWh) for each SOA, or LA of interest.

   The MSOA and LSOA look-up spreadsheets can be found alongside the latest published data available via this page: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data (electricity) and https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-gas-consumption-data (gas)

Annex D: An illustration of LSOA areas within an MSOA

The map below shows an example of LSOA areas within an MSOA in the local authority of Crawley. The black outline represents the MSOA and the individual codes represent LSOA areas within this MSOA.

For further information about locating SOA codes of interest, please refer to Annex A of the Methodology and guidance booklet available online:

https://www.gov.uk/government/publications/regional-energy-data-guidance-note.

Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW
www.gov.uk/decc
15D/549