



Department for
Business, Energy
& Industrial Strategy

SUB-NATIONAL ELECTRICITY AND GAS CONSUMPTION STATISTICS

Regional and Local Authority

January 2018

A decorative blue arc that starts on the left side of the page, curves upwards and then downwards, ending with a small blue dot on the right side.

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Executive summary

This publication provides estimates of annual electricity and weather corrected gas consumption below national level. Latest estimates are for 2016.

Total electricity consumption decreased by 3.6% in 2016, to 277,020 GWh and the total number of meters increased by 0.7%. The mean electricity consumption for both domestic and non-domestic meters decreased in 2016. Mean non-domestic electricity consumption decreased by 5.1%.

In 2016 total domestic gas consumption increased very slightly, by 0.3 per cent from 2015, to 309,628 GWh. On the non-domestic side in 2016 total gas consumption increased by 1.9 per cent, to 185,147 GWh, compared to 2015. With increases in both domestic and non-domestic consumption, total national gas consumption increased by 0.9 per cent to 494,775 GWh. The rise in domestic consumption was driven by an increase in meters (1.4 per cent), with both mean and median consumption down compared to 2015 (1.1 and 0.8 per cent respectively). The number of non-domestic meters increased by 0.4 per cent and the non-domestic mean increased by 1.5 per cent, while the median fell by 3.3 per cent.

The rise in domestic gas consumption may be consistent with a general fall in domestic energy consumption, as households switch to gas from other less efficient heating fuels. Indeed, mean domestic electricity consumption in 2016 was down 2.8 per cent compared to the previous year (the median was down 3.7 per cent).

1. Introduction

1.1 Background

This document provides commentary on BEIS's sub-national estimates of electricity and weather corrected 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 for 2016.

Estimates are published from domestic and non-domestic users and broken down by Region/Devolved Administration¹ (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 2016 will be published on 25 January 2018, 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 3.03 of ECUK² should be used. Breakdowns of consumption by property attributes and household/business characteristics are available through the National Energy Efficiency Data-Framework (NEED)³.

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.

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>.

Internally, data are used by BEIS policy colleagues and other analysts to inform policy development and help with monitoring and evaluation of BEIS 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 contact us at EnergyEfficiency.Stats@beis.gov.uk.

Users of this publication are encouraged to provide feedback by completing this short survey so the publishers can make it better meet user needs:
<https://www.surveymonkey.co.uk/r/TN28XL3>.

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 BEIS's annual meter point electricity data collection exercise. The estimates presented for 2016 are provisional and cover the industry defined years:

- Electricity non-half hourly⁴ - 31 January 2016 to 30 January 2017
- Electricity half hourly⁵ - 1 January 2016 to 31 December 2016

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 2016 can be found here:

<https://www.gov.uk/government/collections/sub-national-electricity-consumption-data>.

2.1 Total electricity consumption

During 2016, the total annual electricity consumption in Great Britain was 277,020 GWh (via 30.6 million meters), 3.6 per cent lower than consumption in 2015 (287,451 GWh)⁶.

The number of electricity meters increased in 374 of the 380 local authorities between 2015 and 2016, whilst only 21 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.

Changes in electricity consumption in Great Britain between 2015 and 2016 are summarised in Table 1. Total electricity consumption between 2015 and 2016 ranged from a 2.1 per cent

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.

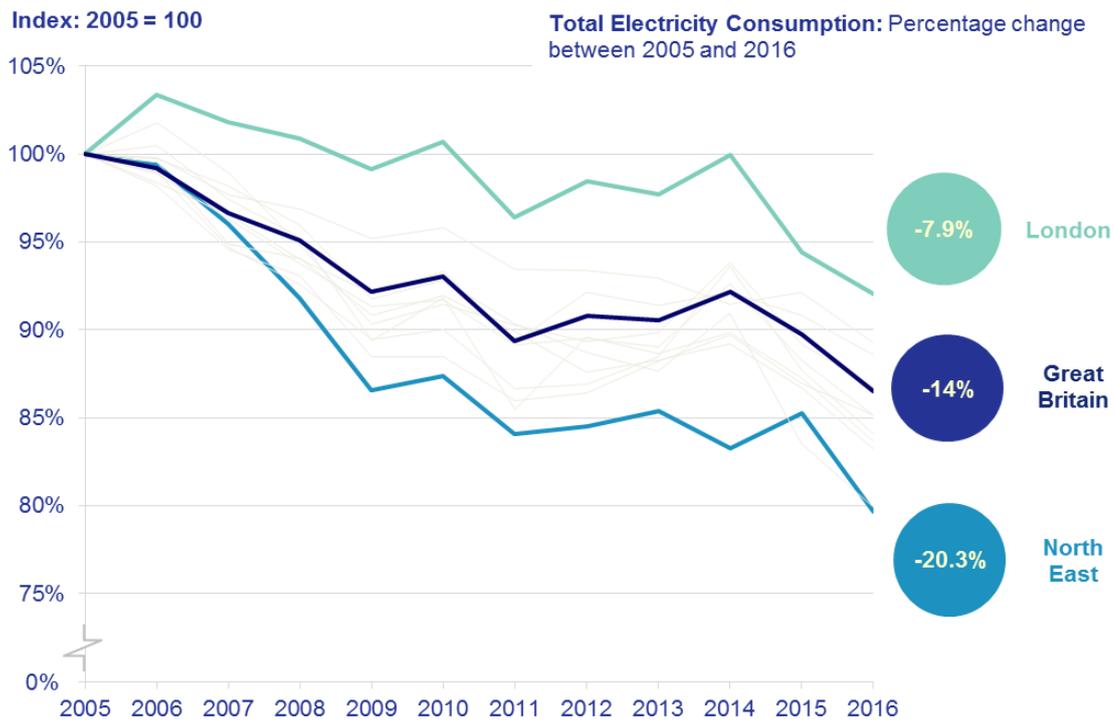
decrease in total consumption in the East Midlands to a 6.5 per cent decrease in the North East. Changes in total consumption levels are usually driven by changes in the non-domestic sector given that it represents 62 per cent of total consumption (in 2016) and tends to be more changeable than domestic consumption.

Table 1: Electricity consumption in Great Britain by region, 2015 and 2016

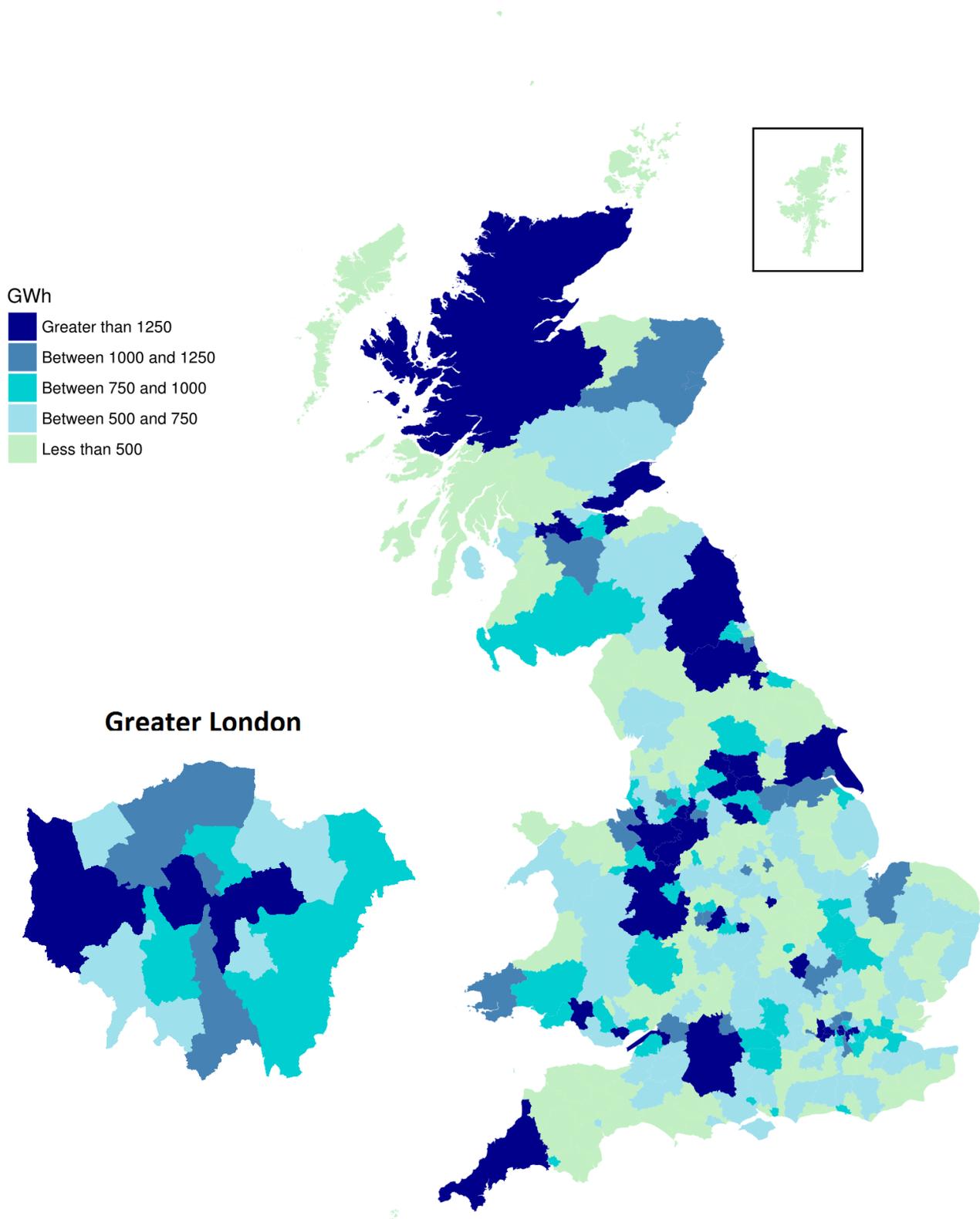
	2015		2016		Percentage Change	
	Total annual electricity consumption (GWh)	Number of meters (thousand)	Total annual electricity consumption (GWh)	Number of meters (thousand)	Total annual electricity consumption (GWh)	Number of meters (thousand)
East Midlands	20,820	2,194	20,391	2,212	-2.1%	0.8%
East	26,591	2,835	25,930	2,858	-2.5%	0.8%
Inner London	21,728	1,722	21,190	1,741	-2.5%	1.1%
Outer London	17,395	2,180	16,954	2,200	-2.5%	0.9%
North East	11,846	1,296	11,074	1,304	-6.5%	0.6%
North West	31,674	3,432	30,369	3,454	-4.1%	0.6%
South East	38,484	4,152	37,274	4,188	-3.1%	0.9%
South West	24,065	2,754	23,226	2,780	-3.5%	0.9%
West Midlands	24,315	2,618	23,648	2,637	-2.7%	0.7%
Yorkshire and the Humber	23,277	2,558	22,340	2,573	-4.0%	0.6%
England	240,196	25,742	232,397	25,946	-3.2%	0.8%
Wales	15,410	1,529	14,775	1,538	-4.1%	0.6%
Scotland	24,645	2,988	23,591	3,001	-4.3%	0.4%
Unallocated	7,200	122	6,257	104	-13.1%	-15.3%
Great Britain	287,451	30,382	277,020	30,589	-3.6%	0.7%

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 an overall decreasing trend. The largest percentage change, between 2005 and 2016, was seen in the North East where consumption decreased by 20.3 per cent from 13,897 GWh to 11,074 GWh. Comparatively, the smallest reduction in consumption has been observed in London with a decrease of 7.9 per cent. Map 1 highlights variation in electricity consumption across local authorities in 2016.

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



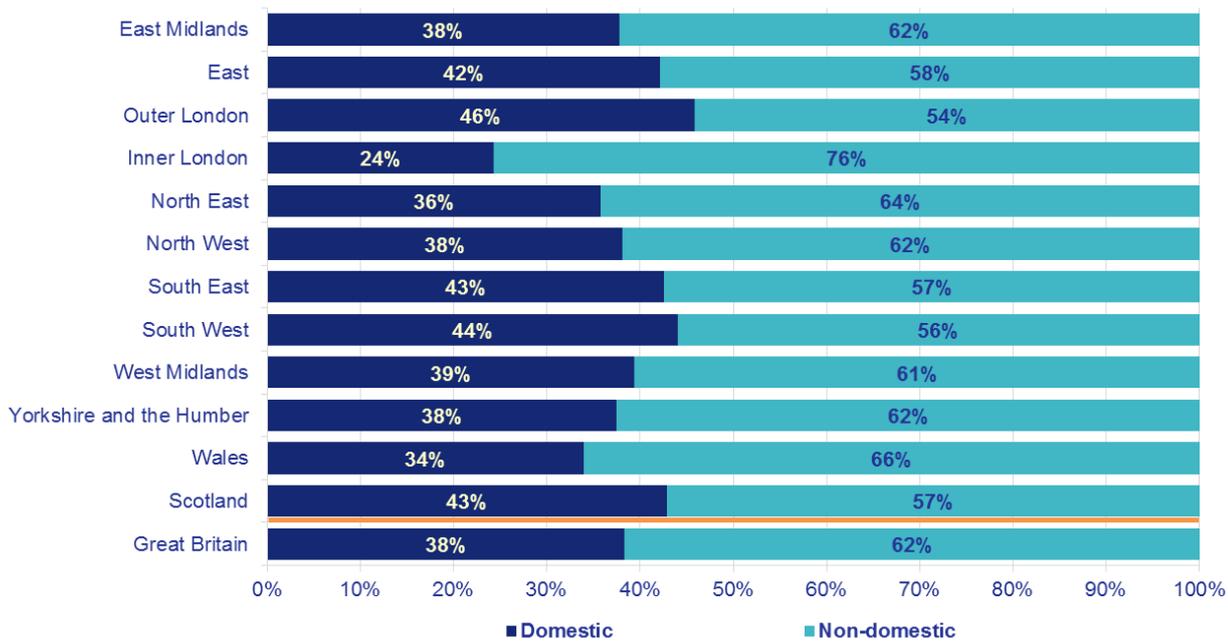
Map 1: Total annual electricity consumption by local authority, 2016



Total electricity consumption can be split between the domestic and non-domestic sectors based on the meter profile assigned by the electricity industry. Despite the fact that the non-domestic sector covers a significantly lower number of meters, the non-domestic sector consumes a much higher proportion of total electricity for all regions across Great Britain (Chart

2). Of the 30.6 million meters operating in 2015, 28.1 million were in the domestic sector, with the remainder (2.4 million) in the non-domestic sector.

Chart 2: Distribution of domestic and non-domestic electricity consumption by region, 2016



Across Great Britain, 38 per cent of electricity is estimated to be consumed in the domestic sector, and 62 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 just 24 per cent of total electricity consumption in Inner London and 34 per cent in Wales compared to 46 per cent in Outer London and 43% in Scotland.

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 five local authorities (City of London, Neath Port Talbot, Westminster, Tower Hamlets, Slough) and as little as 30 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 2016, was estimated to be 106,220 GWh, 2.0 per cent lower than in 2015 (108,443 GWh). 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 3,781 kWh and the median was 3,028 kWh, a difference of 20 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, while the majority of homes with a gas connection use gas for heating).

Mean consumption per meter in 2016 was 2.8 per cent lower than the 2015 level of 3,892 kWh and median electricity consumption was down 3.7 per cent from 3,143 kWh in 2015.

The North East had the lowest mean domestic consumption, 3,142 kWh, whereas Inner London had the lowest domestic median consumption, 2,503 kWh. The East had the highest mean and median domestic consumption, 4,155 kWh and 3,261 kWh respectively. Table 2 shows the mean and median domestic consumption per meter in each region in 2016 further broken down by Standard and Economy 7 meters. Economy 7 meters record electricity consumption at two rates, one for daytime and a cheaper rate during the night.

Table 2: Average domestic electricity consumption per meter by region, 2016

	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	3,761	3,032	2,046	3,426	2,874	66%	4,423	3,401	34%
East	4,155	3,261	2,632	3,739	3,065	71%	5,165	3,913	29%
Inner London	3,424	2,503	1,504	3,244	2,416	91%	5,183	4,106	9%
Outer London	3,823	3,070	2,033	3,634	2,969	84%	4,845	3,842	16%
North East	3,247	2,741	1,220	3,142	2,713	94%	4,998	3,816	6%
North West	3,604	3,005	3,208	3,436	2,941	93%	5,741	4,607	7%
South East	4,123	3,250	3,848	3,851	3,111	82%	5,384	4,196	18%
South West	4,054	3,173	2,522	3,655	2,998	85%	6,381	5,320	15%
West Midlands	3,827	3,125	2,435	3,581	3,022	84%	5,097	3,915	16%
Yorkshire and The Humber	3,510	2,875	2,387	3,362	2,825	93%	5,402	4,173	7%
England	3,812	3,047	23,833	3,546	2,927	84%	5,198	3,991	16%
Wales	3,562	2,937	1,409	3,355	2,870	93%	6,294	4,957	7%
Scotland	3,635	2,923	2,781	3,383	2,848	84%	4,997	3,819	16%
Unallocated	3,354	2,597	70	3,212	2,523	93%	5,234	4,516	7%
Great Britain	3,781	3,028	28,094	3,519	2,915	84%	5,203	3,995	16%

Mean domestic electricity consumption per meter in Great Britain has decreased by 17.8 per cent between 2005 and 2016.

Over the same period, regional reductions in domestic electricity consumption varied between 14.5 per cent in London to 21.5 per cent in the Scotland. Map 2 below shows local authority variation for domestic electricity consumption in 2016. There are a number of factors which may have contributed to these reductions in consumption, including: weather conditions; energy efficiency improvements⁸, such as increased levels of insulation, new boilers and more energy efficient appliances; increased prices⁹; the recession; changes in the building stock; increases

⁸ The energy efficiency of the housing stock improved between 2005 and 2014, the average SAP rating of a dwelling increased by 11.0 points from 49.4 to 60.9. The SAP rating is a measure of the overall energy efficiency of the dwelling. Table 13: English Housing Survey Headline Report 2014-15: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/501065/EHS_Headline_report_2014-15.pdf.

⁹ Between 2005 and 2015, domestic electricity prices contained in Quarterly Energy Prices show an increase of 83.6 per cent (47.9 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-2016>

in solar photovoltaic self-generation by household, and household composition. It should also be noted that 2005, the earliest point for this analysis, is where the Digest of UK Energy Statistics (DUKES) also recorded a peak in domestic electricity consumption to date¹⁰.

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

Map 2: Mean domestic electricity consumption per meter by local authority, 2016

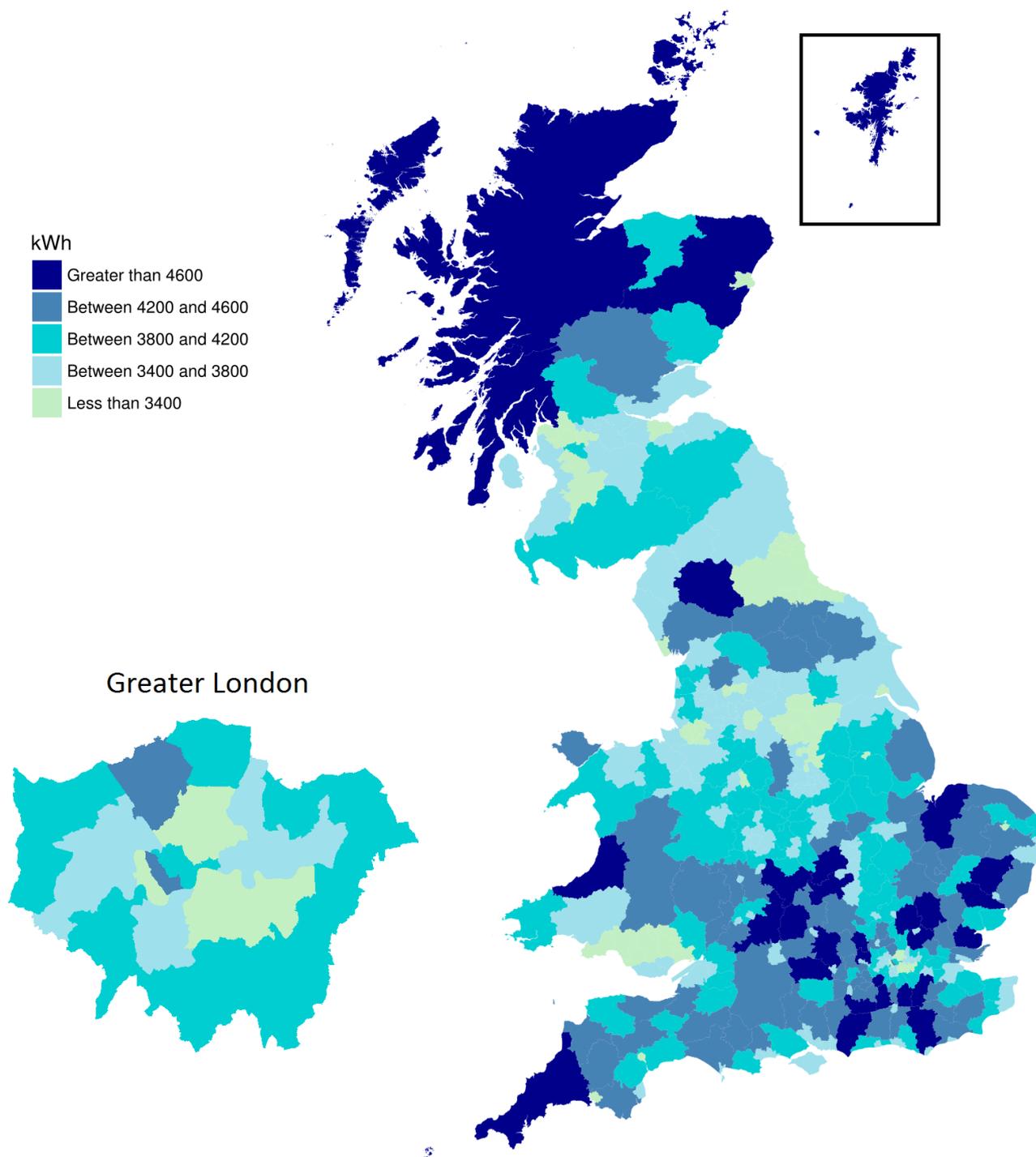


Chart 3 shows the decrease in average domestic consumption by region when comparing 2016 against both 2005, the start of the data series and 2015. The West Midlands has seen the largest decrease in average domestic consumption between 2005 and 2015, however, Scotland has seen the largest decrease compared to 2015.

Chart 3: Change in mean domestic electricity consumption per meter, 2005 and 2016

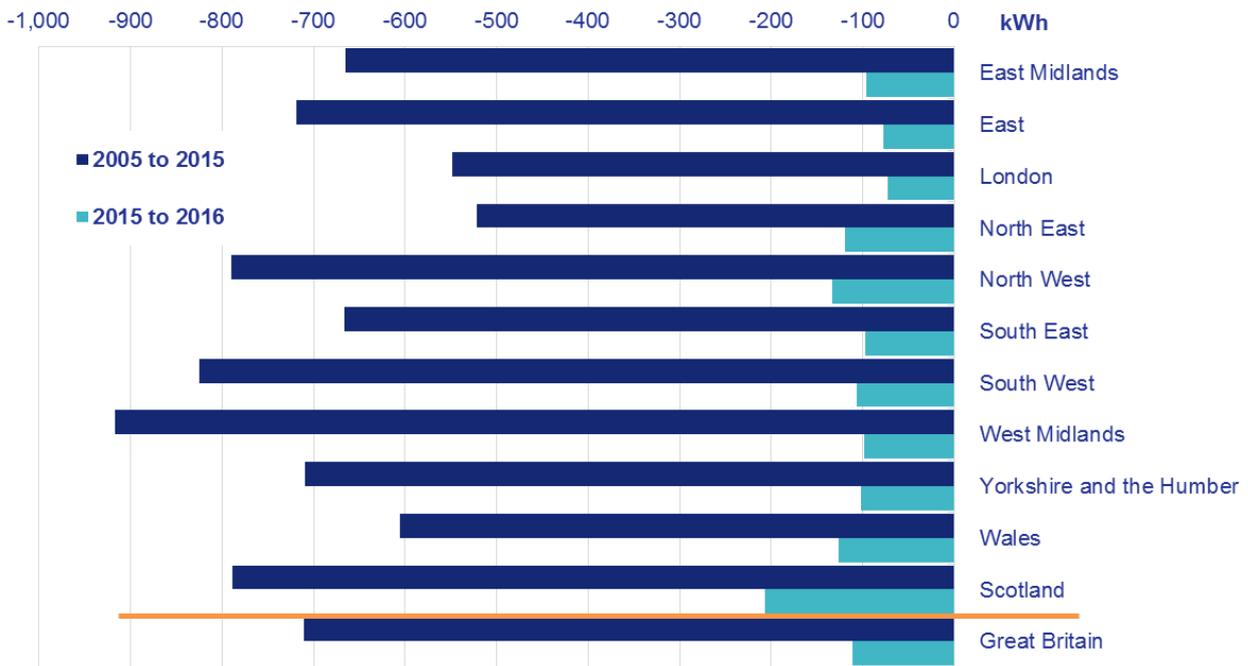
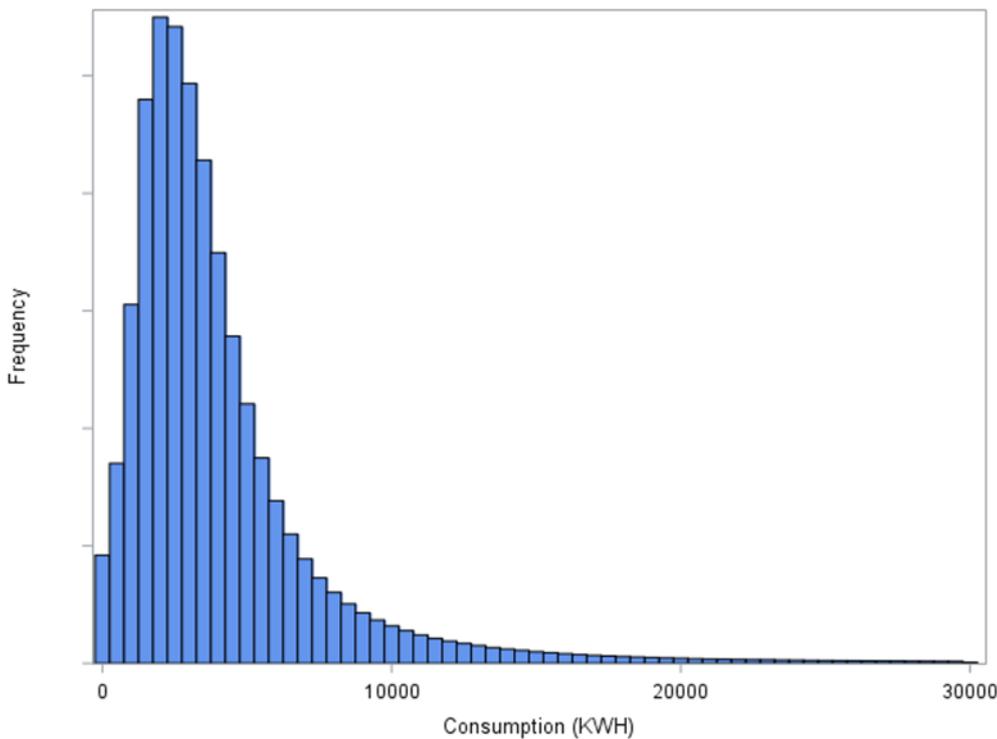


Chart 4 below highlights most households consume between 1,000 kWh and 5,000 kWh of electricity per annum with the average sitting at 3,781 kWh.

Chart 4: Histogram of Average Electricity Consumption for Each Household in 2016:



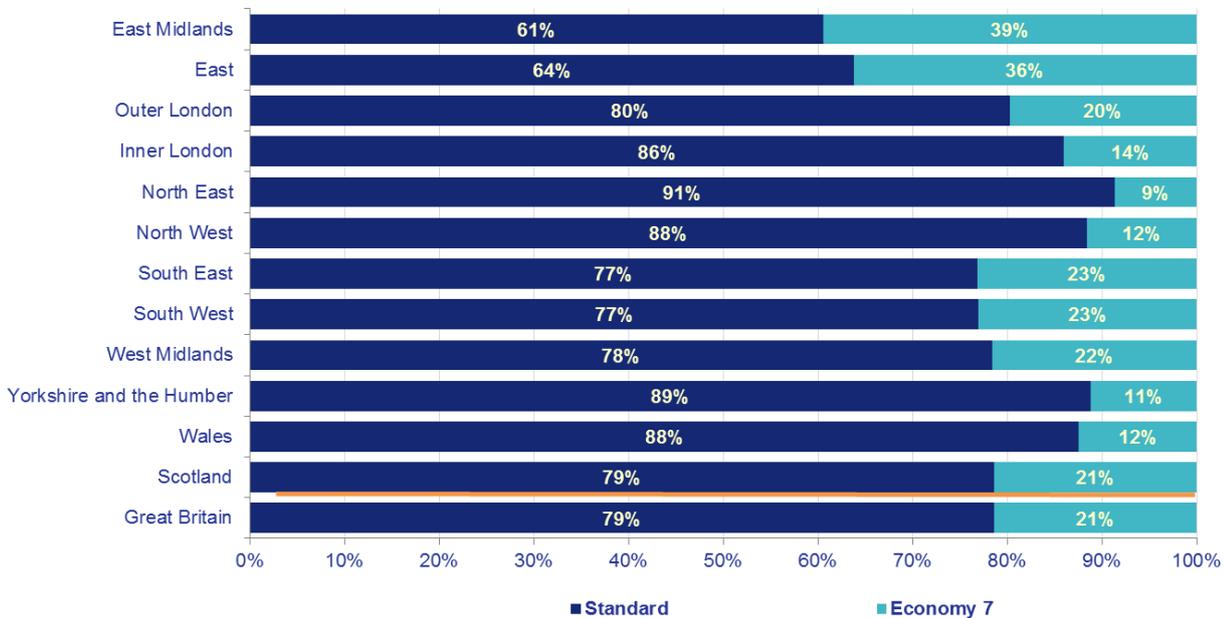
Ordinary domestic and Economy 7 consumption

Mean consumption for customers with standard domestic meters was 3,519 kWh (median consumption was 2,915 kWh) compared to 5,203 kWh for households with an Economy 7 meter¹¹ (median consumption was 3,995 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 2016 was the South West (6,381 kWh mean and 5,320 kWh median) followed closely by Wales (6,294 kWh mean and 4,957 kWh median) whilst East Midlands had the lowest average per Economy 7 meter (4,423 kWh mean and 3,401 median). As mentioned earlier, 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.

Chart 5 shows the distribution between households with ordinary standard domestic meters and Economy 7 meters at regional level in Great Britain. For Great Britain, 79 per cent of total domestic consumption was attributed to ordinary domestic meters and 21 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 61:39 per cent split in the East Midlands.

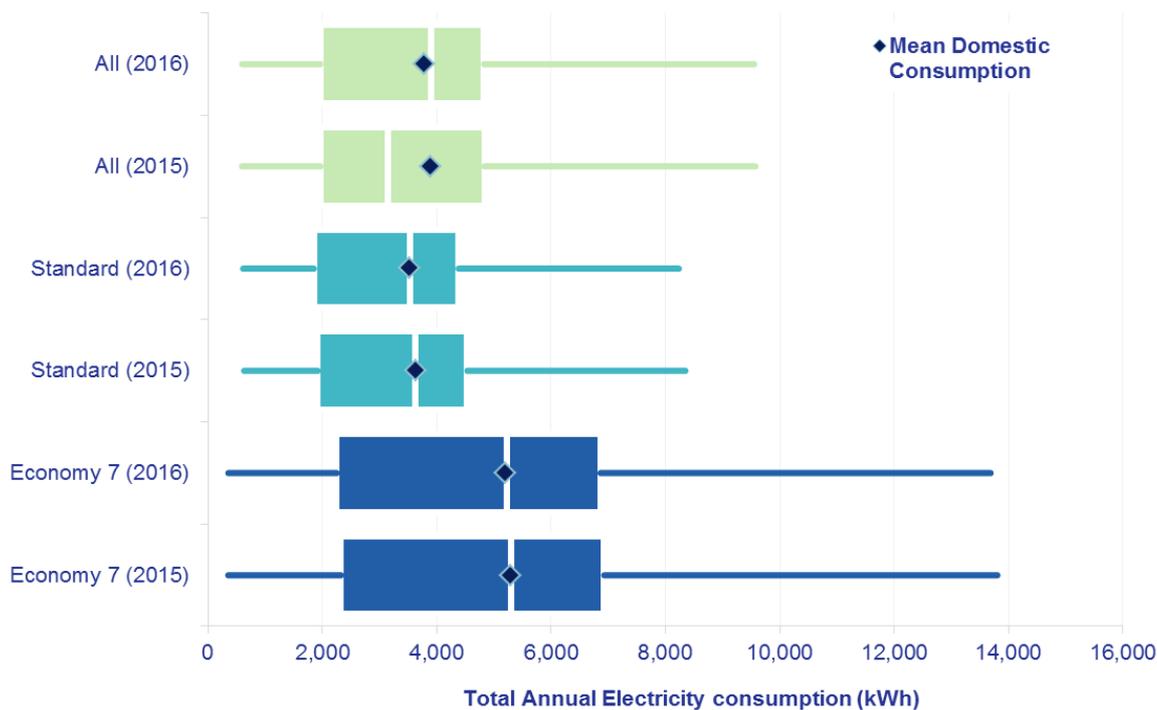
Chart 5: Distribution of total domestic electricity consumption by profile, 2016



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.

Chart 6 shows box plots illustrating the distribution of domestic consumption for Economy 7 meters, standard meters, and all domestic meters in Great Britain. The spread of consumption is much larger for Economy 7 meters, with an interquartile range of 4,600 kWh in both 2015 and 2016; compared with standard meters, which had interquartile ranges of 2,600 kWh and 2,500 kWh, in 2015 and 2016 respectively.

Chart 6: Box plot of average domestic electricity consumption for Economy 7 and standard meters, 2015 and 2016



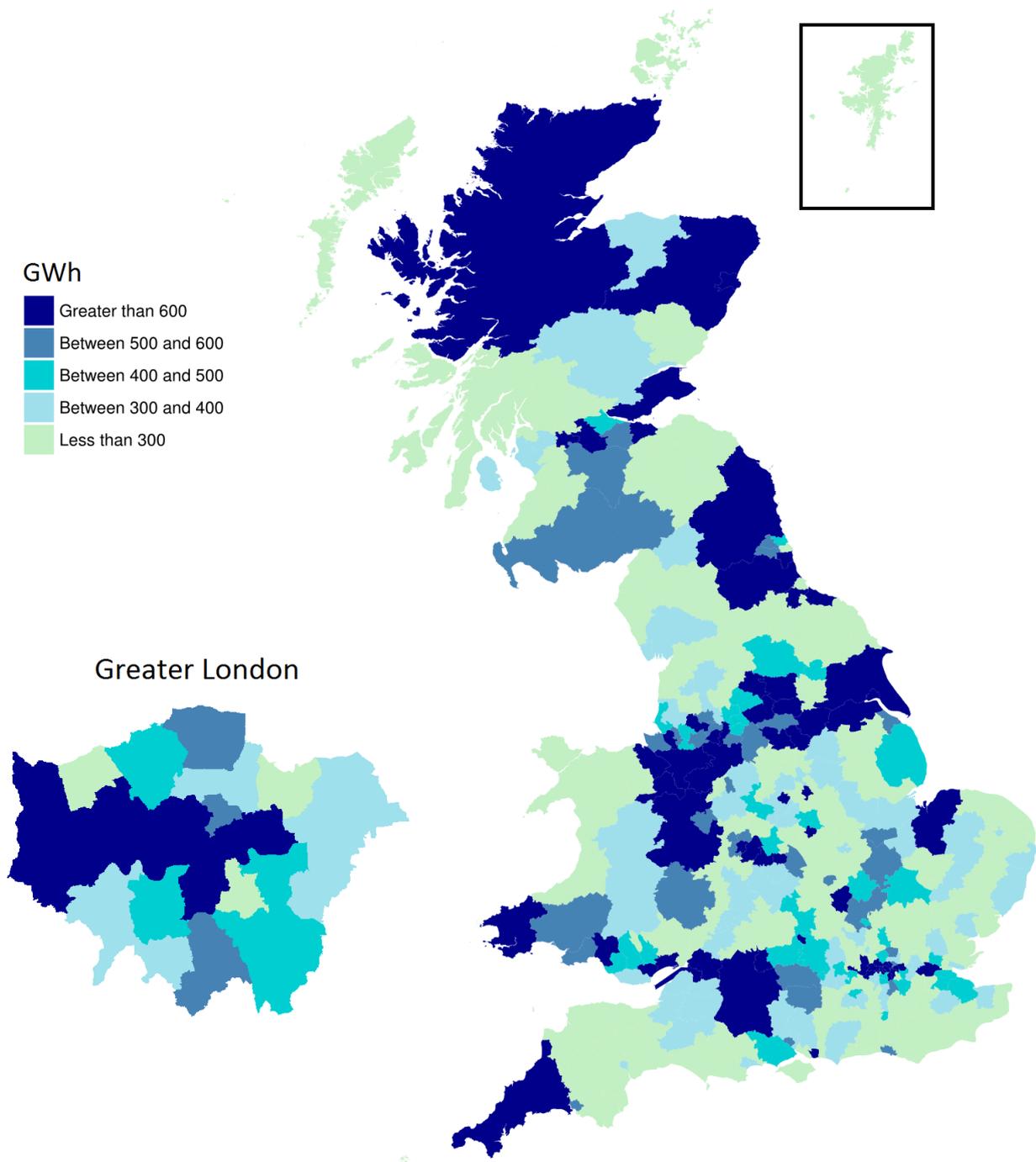
Rather than using the absolute minimum and maximum values this box-plot uses the 5th and 95th percentiles as the minimum and maximum values.

2.3 Non-domestic electricity consumption

Total non-domestic consumption

In 2016, total non-domestic electricity consumption in Great Britain was 170,800 GWh, 4.6 per cent lower than non-domestic consumption in 2015 (179,008 GWh). Since 2005, non-domestic electricity consumption has decreased by 15.0 per cent (30,086 GWh) in Great Britain.

Map 3: Total non-domestic electricity consumption by local authority, 2016



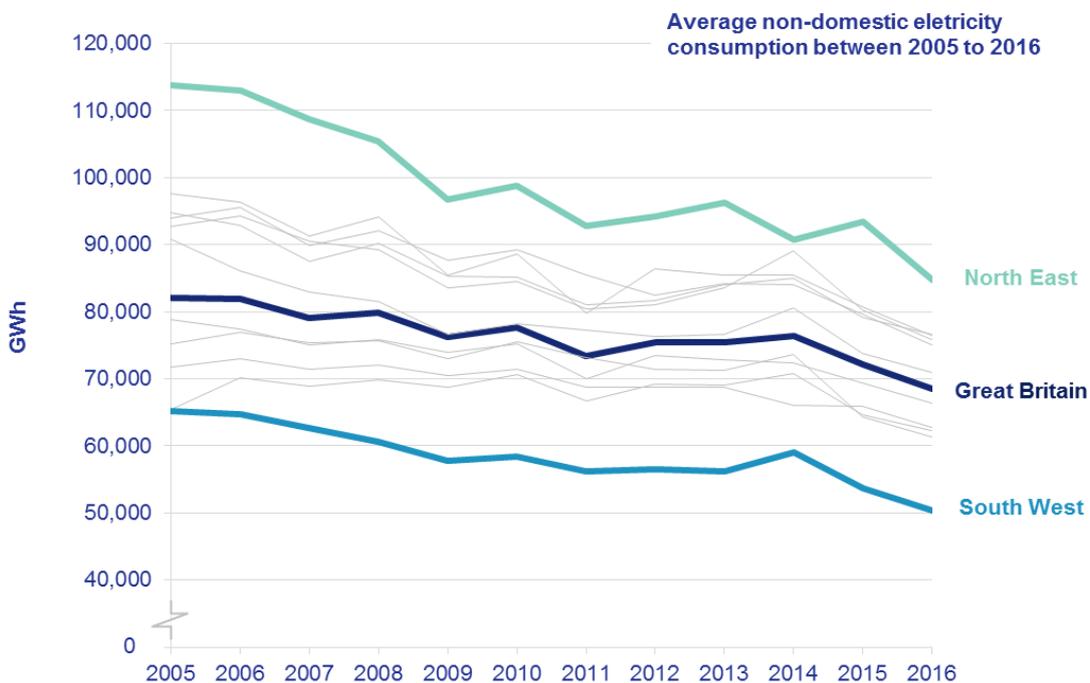
Average non-domestic consumption

In 2016, the mean annual non-domestic electricity consumption per meter, in Great Britain, was 68,460 kWh and the median was 8,046 kWh.

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 and Stockton-on-Tees where the mean is more than 20 times the median. The City of London had the highest median annual non-domestic consumption of 21.4 MWh, whereas Hammersmith and Fulham had the smallest median annual non-domestic consumption of 3.5 MWh.

Chart 7 highlights that the North East had the largest percentage decrease (25.5 per cent) in average non-domestic consumption between 2005 and 2016, with London only decreasing by only 4.7 per cent. The energy efficiency of buildings and recent economic recession will have had an impact on consumption and this will have varied between regions.

Chart 7: Average non-domestic electricity consumption for selected regions, 2005 to 2016



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

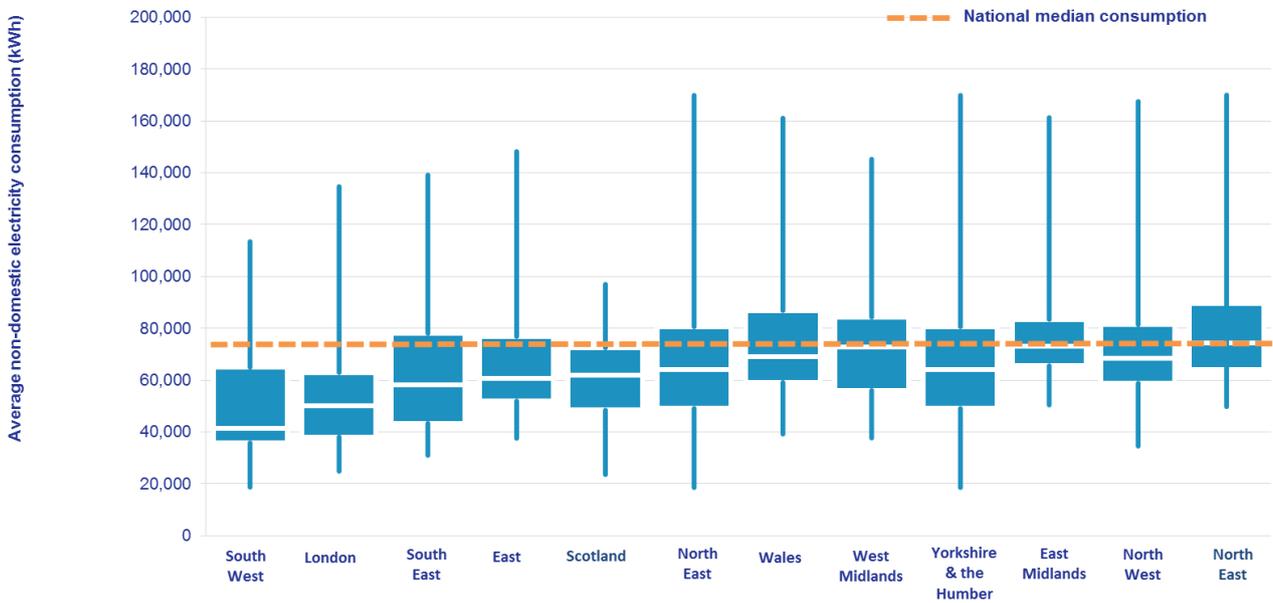
Table 4: Average non-domestic electricity consumption per meter by region, 2016

	All non-domestic meters		
	Mean consumption (kWh)	Median consumption (kWh)	Number of non-domestic meters (thousand)
East Midlands	76,604	9,768	166
East	66,375	8,944	226
Inner London	67,627	5,794	237
Outer London	54,806	7,097	168
North East	84,737	7,787	84
North West	76,400	9,072	246
South East	62,820	8,020	341
South West	50,445	7,045	258
West Midlands	70,969	8,778	202
Yorkshire and the Humber	75,012	8,792	186
England	66,981	8,038	2,113
Wales	75,828	7,344	129
Scotland	61,337	8,597	220
Unallocated	181,021	8,055	33
Great Britain	68,460	8,046	2,495

Distribution of non-domestic consumption

Chart 8 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.

Chart 8: Box plot of average non-domestic electricity consumption for local authorities within each region, 2016



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. 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 BEIS's annual meter point gas data exercise. The estimates for 2016 cover the gas year between 1 October 2015 and 30 September 2016 and are supplied to BEIS as weather corrected data.

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 73,200 kWh it is defined as a domestic meter, and non-domestic if it consumes 73,200 kWh or more. The method used to distinguish domestic and non-domestic gas meters is likely to over-estimate the number of domestic meters and domestic gas consumption owing to commercial consumers with annual consumption below 73,200 kWh that are currently classified as domestic consumers. Xoserve estimate that an additional 500,000 non-domestic meters may be classified as domestic. This should be taken into consideration when interpreting gas consumption data, as the true domestic mean will be below the figure reported.

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 2016, the total annual gas consumption in Great Britain was 494,775 GWh (via 24.0 million meters), 0.9 per cent higher than consumption in 2015 (490,528 GWh). As gas data are weather corrected, this represents an increase after weather is accounted for.

Total consumption increased in 154 of the 377 local authorities between 2015 and 2016, where gas data is available. 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'¹². 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.

Table 5 shows the changes in gas consumption and number of meters in Great Britain between 2015 and 2016 for each region. It 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.

Table 5: Gas consumption in Great Britain by region, 2015 and 2016

	2015		2016		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	37,997	1,796	37,881	1,825	-0.3%	1.6%
East	43,338	2,098	41,779	2,130	-3.6%	1.6%
Inner London	25,998	1,235	25,844	1,237	-0.6%	0.1%
Outer London	34,524	1,826	33,948	1,837	-1.7%	0.6%
North East	23,050	1,116	23,988	1,130	4.1%	1.3%
North West	62,387	2,938	63,736	2,970	2.2%	1.1%
South East	62,147	3,251	61,965	3,306	-0.3%	1.7%
South West	32,874	1,877	32,669	1,914	-0.6%	2.0%
West Midlands	45,242	2,139	45,101	2,167	-0.3%	1.3%
Yorkshire and The Humber	50,203	2,150	52,951	2,172	5.5%	1.0%
England	417,761	20,426	419,862	20,689	0.5%	1.3%
Wales	22,826	1,134	24,044	1,150	5.3%	1.3%
Scotland	46,879	2,023	46,775	2,066	-0.2%	2.1%
Unallocated ¹	3,062	79	4,094	78	33.7%	-0.4%
Great Britain	490,528	23,662	494,775	23,983	0.9%	1.4%

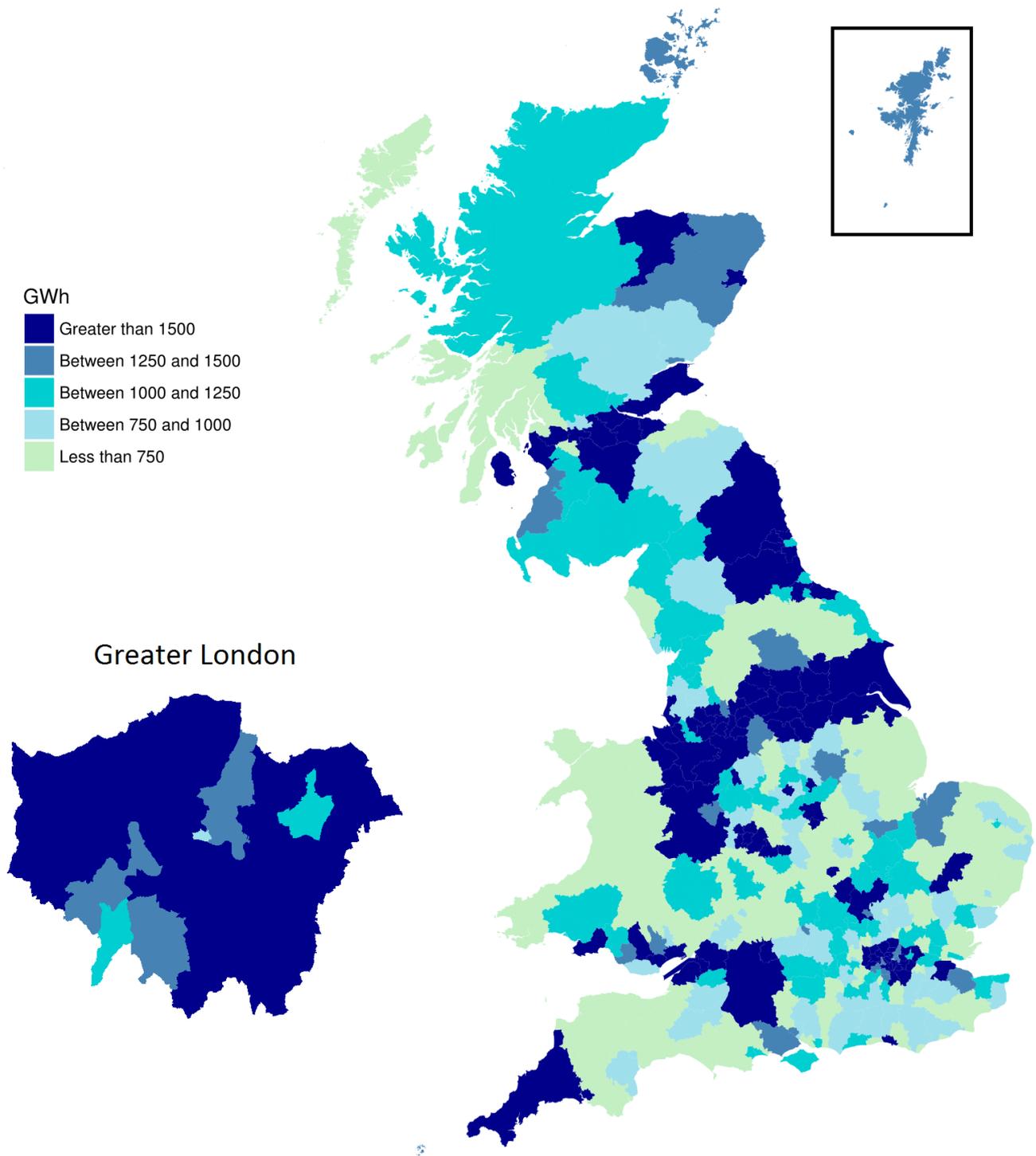
A small number of meters in Great Britain, cannot be described as being in a specific area (0.3 per cent). These meters are therefore categorised as 'Unallocated'.

Total consumption of gas fell in eight of the 11 regions between 2015 and 2016, with the largest decline (3.6 per cent) in the East of England. The largest increase was in Wales, where consumption grew by 5.3 per cent. In Great Britain as a whole, there was an overall increase in consumption of 0.9 per cent.

In 2016, the City of London had the highest local authority mean gas consumption at 227,200 kWh, compared with Na h-Eileanan Siar (Scotland) with the lowest mean gas consumption at 8,963 kWh. This reflects the different compositions of these areas, with the City of London having a far higher concentration of large business consumers. Map 4 shows the distribution of annual electricity consumption for each local authority.

¹² 'Unallocated' meters are meters with insufficient address information to assign their consumption to a geographical area

Map 4: Total annual gas consumption, by local authority, 2016



3.2 Domestic gas consumption

Average domestic gas consumption

The mean and median annual gas consumption per domestic meter in 2016 were 13,057 KWh and 11,618 KWh respectively, with a total domestic gas consumption of 309,628 GWh. Mean domestic consumption was lower than in 2015, by 1.1 per cent.¹³ Total consumption however was up by 0.3 per cent, as the fall in the mean was outweighed by a 1.4 per cent increase in the number of homes consuming gas. As mentioned on page 21, the average domestic consumption figures are likely to be overestimates, due to smaller commercial consumers being misclassified as domestic.

Table 6 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 2016.

Table 6: Mean domestic gas consumption per meter by region, 2016

	Number of domestic meters (thousands)	Total domestic consumption (GWh)	Mean domestic consumption (kWh)	Median domestic consumption (kWh)
East Midlands	1,806	24,059	13,322	12,114
East	2,108	28,082	13,321	11,890
Inner London	1,215	13,785	11,349	9,238
Outer London	1,817	26,090	14,356	12,694
North East	1,119	14,852	13,271	12,175
North West	2,939	37,565	12,779	11,500
South East	3,266	44,041	13,484	11,806
South West	1,894	21,935	11,578	10,195
West Midlands	2,143	28,269	13,190	11,965
Yorkshire and the Humber	2,148	28,827	13,418	12,091
England	20,457	267,503	13,077	11,641
Wales	1,139	13,831	12,142	11,055
Scotland	2,043	27,459	13,442	11,842
Unallocated ¹	76	835	10,997	9,127
Great Britain	23,714	309,628	13,057	11,618

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'.

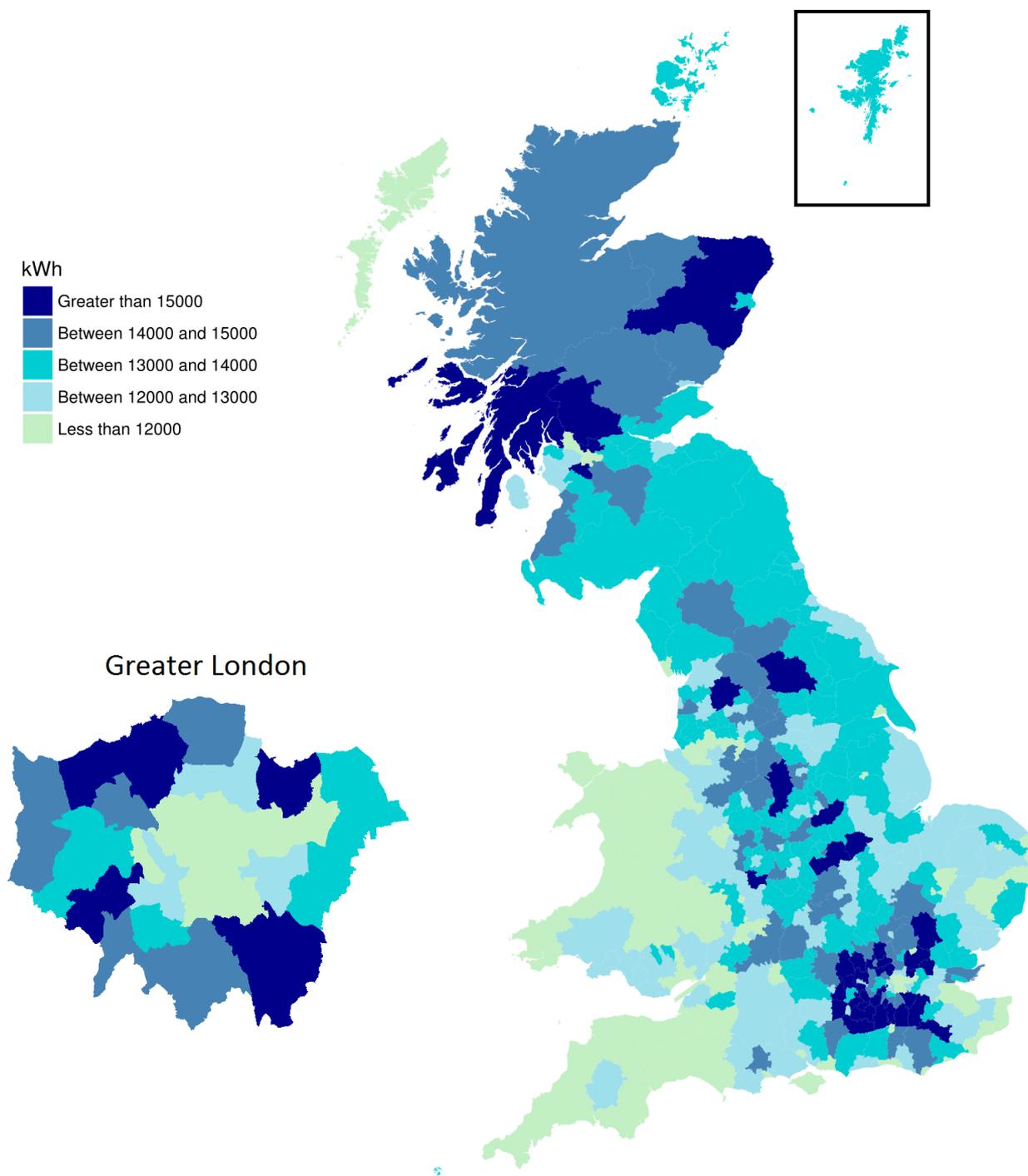
The South East had the highest mean domestic consumption with 13,484 kWh per meter (median consumption of 11,806 kWh), closely followed by Scotland with 13,442 kWh per meter (median consumption of 11,842). With Inner London and the South West having the lowest at 11,349 and 11,578 kWh per meter respectively.

¹³ The sub-national data is weather corrected, however unadjusted domestic gas consumption estimates are available in Table 3.03 of Energy Consumption in the UK (ECUK): <https://www.gov.uk/government/collections/energy-consumption-in-the-uk>. Estimates in Table 3.03 show an increase in overall temperature corrected domestic consumption between 2015 and 2016 (from 315,778 GWh to 321,116 GWh) and average consumption (from 13,997kWh to 14,233kWh).

In terms of total domestic gas consumption for Great Britain, the South East consumed 14.2 per cent of all domestic gas, followed by the London (12.8 per cent) and North West (12.1 per cent). Wales and Inner London consumed the least, both consuming 4.4 per cent per cent.

Map 5, shows average (mean) domestic gas consumption per meter by local authority in 2016. South Bucks (South East) had the highest mean gas consumption in 2016 at 19,318kWh compared with the lowest in Na h-Eileanan-Siar (Scotland) at 7,320 kWh.

Map 5: Average domestic gas consumption per meter by local authority, 2016



Mean domestic gas consumption per meter in Great Britain decreased by 31.4 per cent between 2005 and 2016. There are a number of factors which may have contributed to the

reductions in consumption, including; energy efficiency improvements¹⁴, such as increased levels of insulation, new boilers and more energy efficient appliances; increased prices¹⁵ and the recession; and changes in the building stock and household composition. Also, while temperature is corrected for, other weather effects may have an impact on consumption.

Chart 9 shows the decrease in average domestic gas consumption per meter point between 2005 and 2016 at regional level. Mean domestic consumption in 2016 was lower than 2015 in all regions, with the West Midlands showing the smallest reduction.

Chart 9: Decrease in average domestic consumption per meter point between 2005 and 2015, and between 2015 and 2016

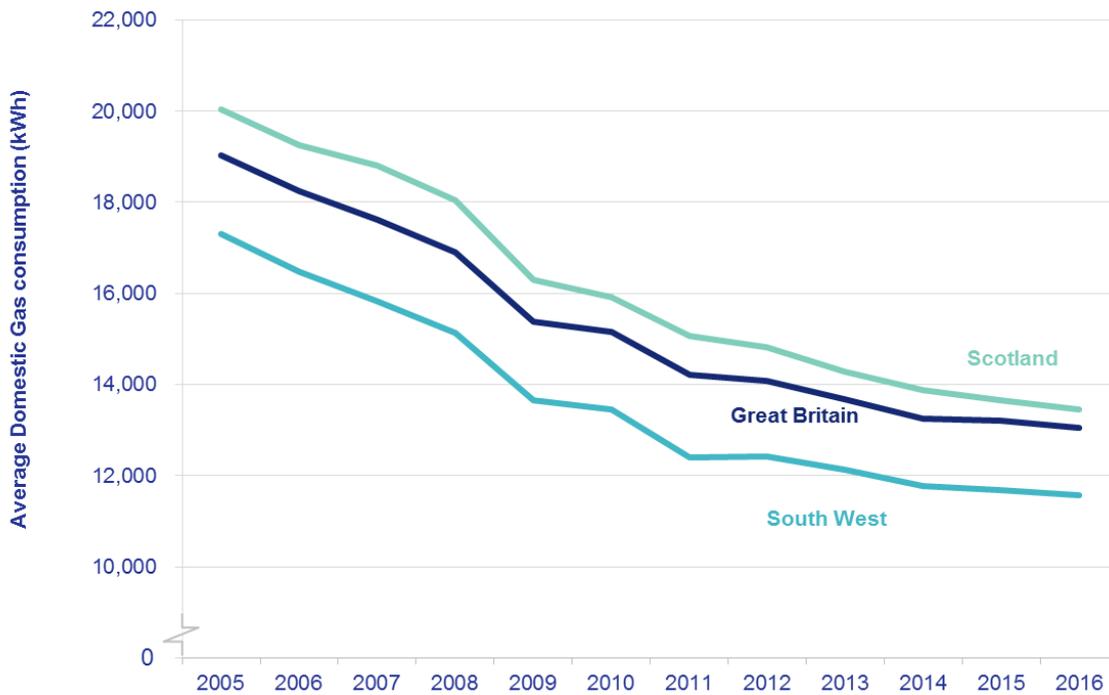


Chart 10 shows the mean domestic gas consumption per meter for Scotland, the South West and Great Britain between 2005 and 2016. These regions have been selected as they had the highest and lowest average domestic gas for 2015 and 2016. The average consumption for all other regions in Great Britain was between the lines shown for Scotland and the South West and all regions followed a similar trend.

¹⁴ The energy efficiency of the housing stock improved between 1996 and 2015, the average SAP rating of a dwelling increased by 17.0 points from 45.0 to 62.0. The SAP rating is a measure of the overall energy efficiency of the dwelling. Figure 2.9: English Housing Survey Headline Report 2014-15: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/658478/2015-16_EHS_Headline_Report.pdf.

¹⁵ Between 2006 and 2016, domestic gas prices contained in Quarterly Energy Prices show an increase of just under 70 per cent (40 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-december-2017>

Chart 10: Mean domestic gas consumption for selected regions, 2005 to 2016



Distribution of domestic consumption

Chart 11 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 3,068 kWh per meter), whereas the inter-quartile range for the Wales was 702 kWh, as indicated by the shorter box.

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 7,320 kWh (Na h-Eileanan-Siar) in Scotland to 12,431 kWh (South Tyneside) in the North East. The largest average domestic consumption per meter varies from 13,228 kWh (Merthyr Tydfil) in Wales to 19,318 kWh (South Bucks) in the South East.

Chart 11: Box plot of mean domestic gas consumption for local authorities within each region, 2016

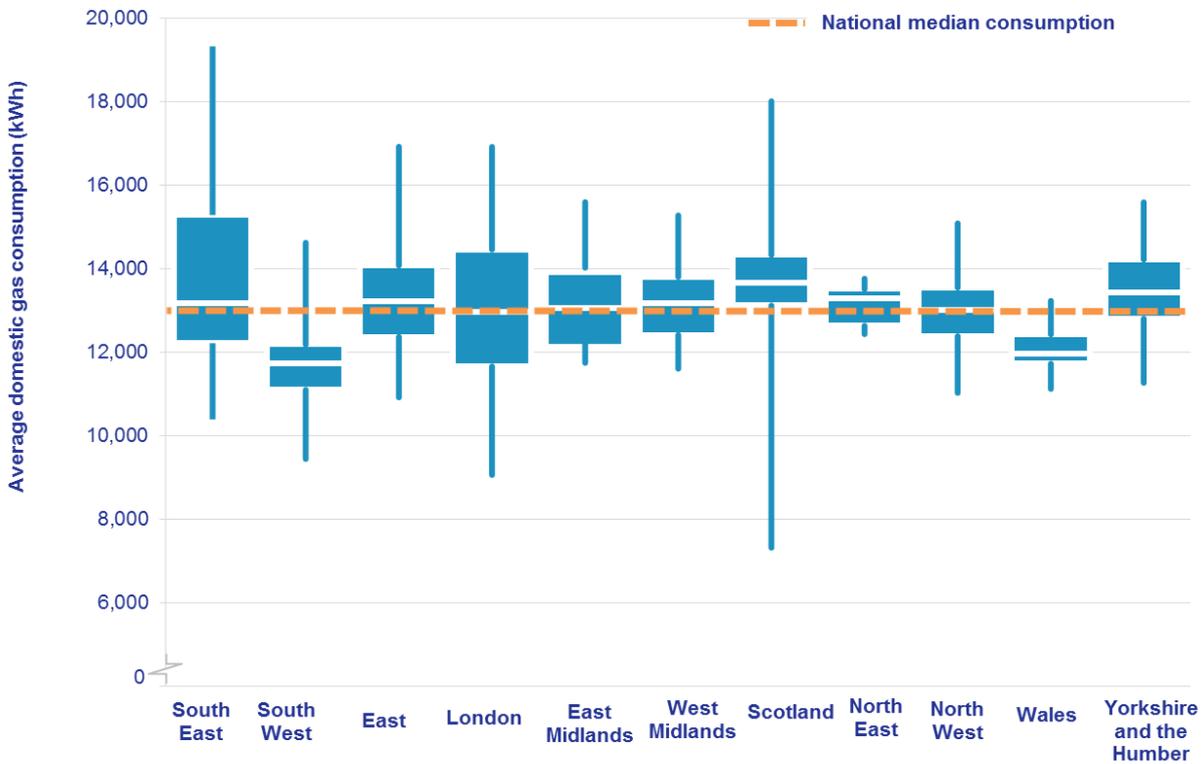
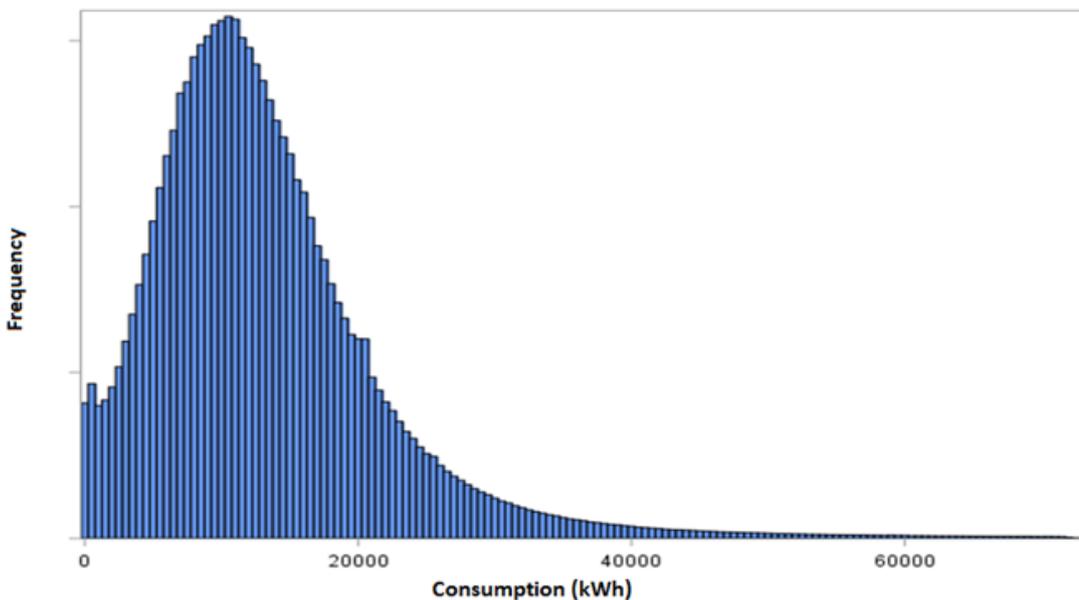


Chart 12 below shows the distribution of annual domestic gas consumption using all domestic meters in England, Scotland and Wales, where the median consumption is 11,600 kWh and the mean is just above 13,000 kWh. The majority of households consume between 4,000 kWh and 18,000 kWh of gas.

Chart 12: Histogram of domestic gas consumption using all meters in England, Scotland and Wales



3.3 Non-domestic gas consumption

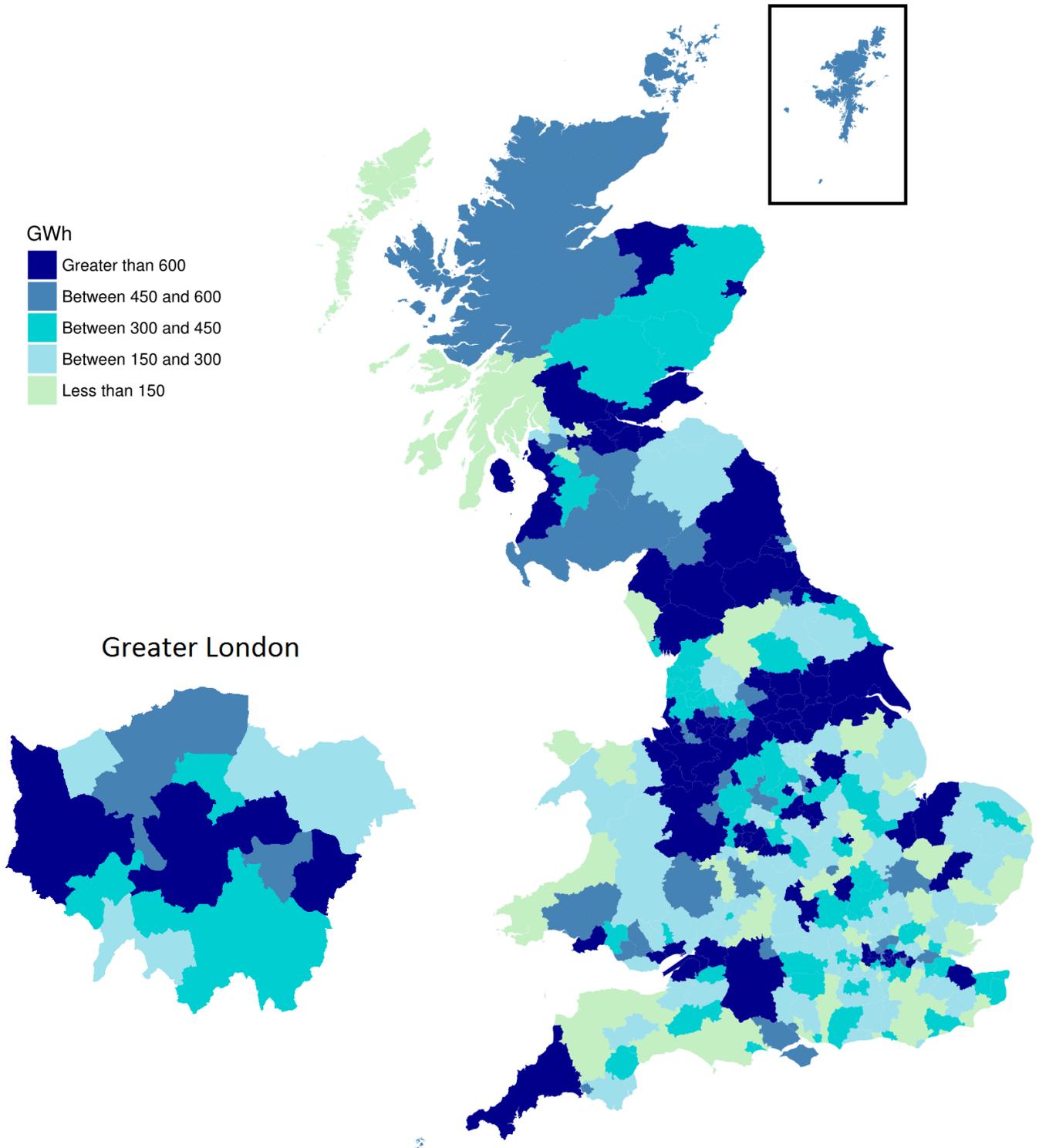
Total non-domestic consumption

In 2016, total non-domestic annual gas consumption in Great Britain was 185,147 GWh (via 268,594 meters), 1.9 per cent higher than consumption in 2015 (181,676 GWh).

Non-domestic consumption increased in 124 local authority areas¹⁶ between 2015 and 2016. Map 6 below shows the spread of annual non-domestic gas consumption for each local authority.

¹⁶ The local authorities of Na h-Eileanan-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, 2016



Average non-domestic consumption

Average annual non-domestic gas consumption per meter was 689,364 kWh in 2016, 1.5 per cent higher than in 2015 (679,348 kWh).

Table 7 shows the average (mean) non-domestic gas consumption per meter and total non-domestic consumption in each of the regions. The North West accounted for 14.1 per cent of all non-domestic gas consumption, compared to Outer London and the North East which consumed 4.2 and 4.9 per cent respectively. Wales and Yorkshire and the Humber 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 has a more service sector orientated and had the lowest mean non-domestic consumption in 2016.

Table 7: Average non-domestic gas consumption per meter and total non-domestic gas consumption by region, 2016

	Number of non-domestic meters (thousands)	Total non-domestic consumption (GWh)	Average non-domestic consumption (kWh)
East Midlands	19	13,822	733,961
East	22	13,697	618,491
Inner London	22	12,060	537,276
Outer London	19	7,859	407,981
North East	11	9,136	805,118
North West	31	26,172	845,614
South East	39	17,924	453,778
South West	20	10,734	541,232
West Midlands	24	16,831	710,874
Yorkshire and the Humber	24	24,124	1,007,847
England	232	152,359	656,920
Wales	11	10,213	972,616
Scotland	24	19,316	815,592
Unallocated ¹	2	3,260	1,322,874
Great Britain	269	185,147	689,364

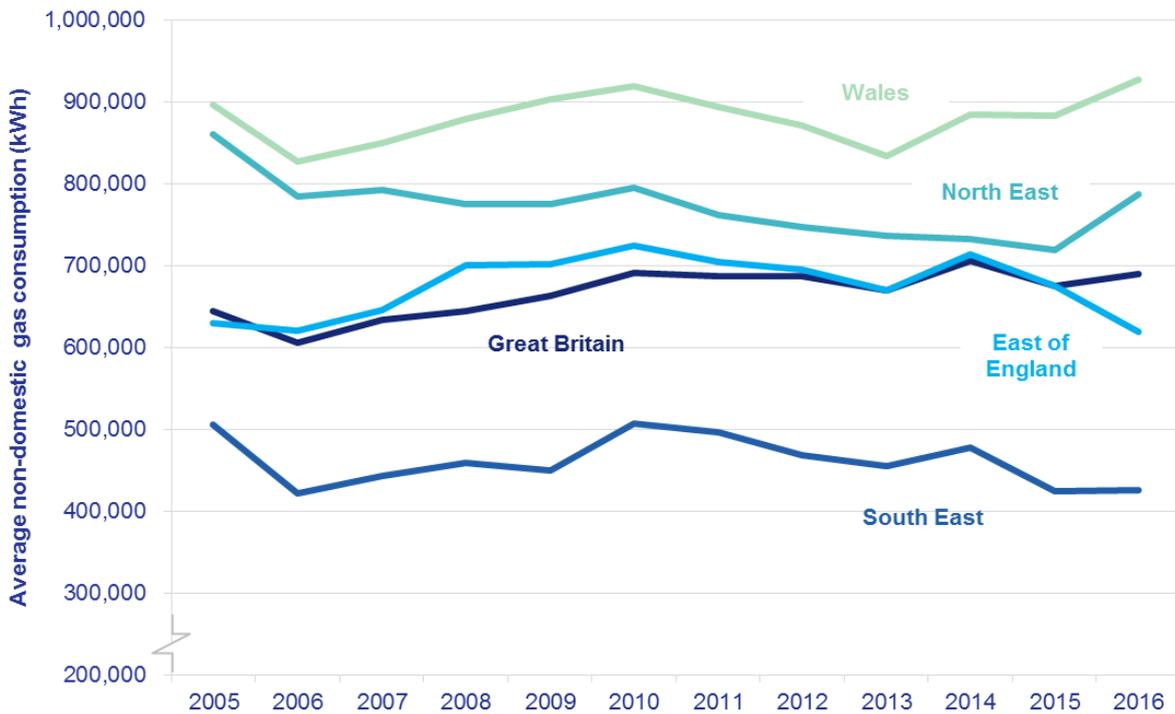
¹ A small number of meters in Great Britain, cannot be described as being in a specific area (0.9 per cent). These meters are therefore categorised as 'Unallocated'.

Chart 13 shows the trends in mean non-domestic gas consumption for the East of England, Wales, the North East, London, 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 2016 and also between 2015 and 2016.

Between 2015 and 2016 some regions saw a reduction in average consumption per non-domestic gas meter and some showed an increase. Ranging from an 8.2 per cent decrease in the East of England, to a 9.5 per cent increase in the North East.

At a local authority level, Selby (Yorkshire and the Humber) had the highest mean gas consumption in 2016 at 5,613,031 kWh compared with 198,254 kWh in Tandridge (South East), which had the lowest mean.

Chart 13: Average non-domestic gas consumption for selected regions, 2005 to 2016

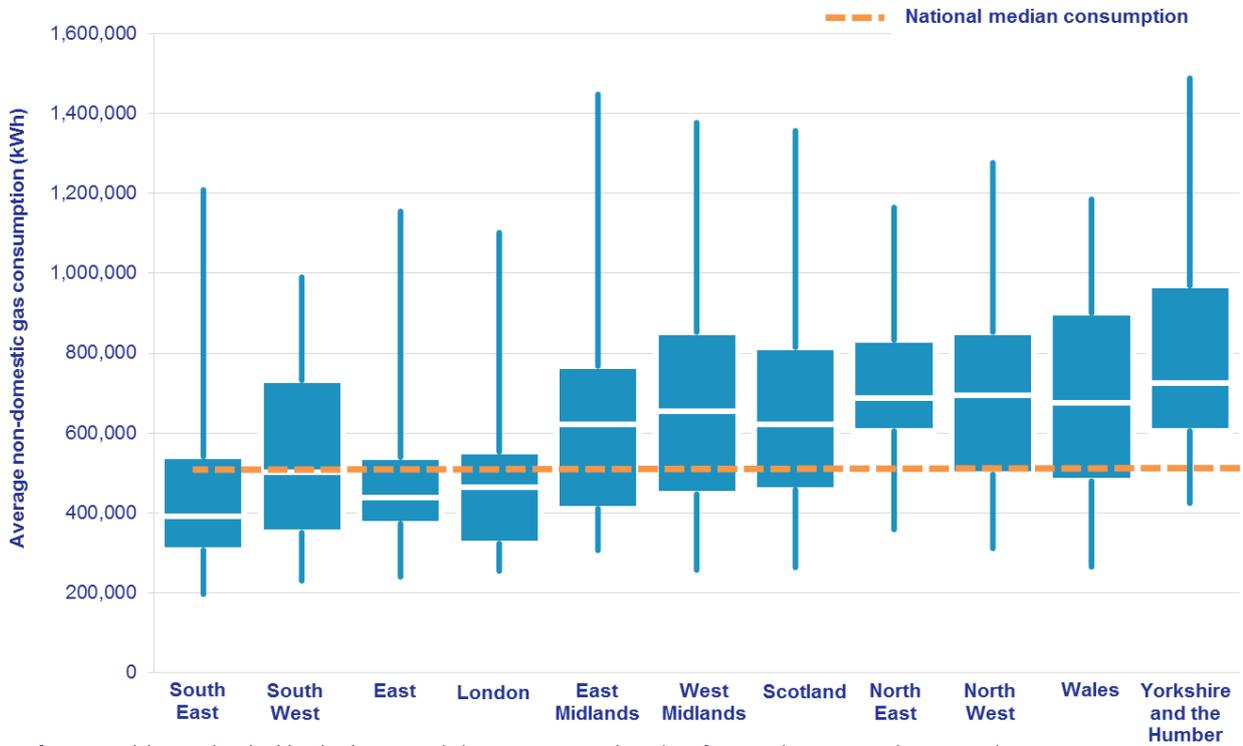


Distribution of non-domestic consumption

Chart 14 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 their magnitude, 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 Wales (420 MWh), whereas the South East had the smallest spread (166 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.

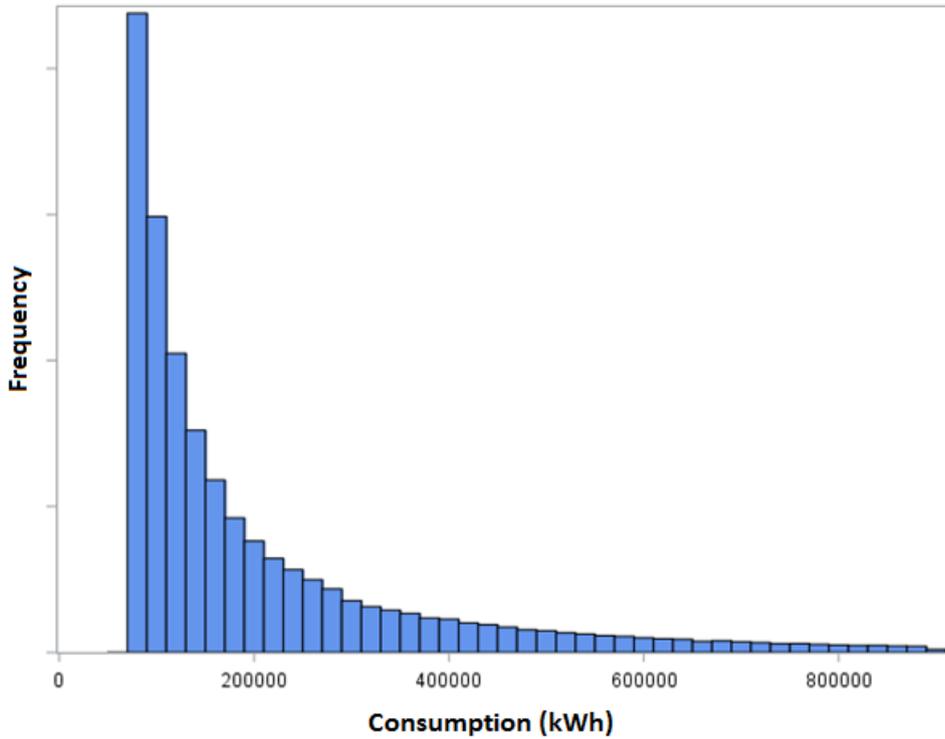
Chart 14: Box plot of average non-domestic gas consumption for local authorities within each region



Data from 26 outlying Local Authorities that have recorded a mean consumption value of greater than 1,500 GWh per meter have been removed from this chart for readability.

Chart 15 below shows the distribution of annual non-domestic gas consumption using all meters in England, Scotland and Wales. The mean consumption is 689,400 kWh, which is due to a minority of meters with very high levels of consumption. The initial spike is because an annual consumption of 73,200 kWh is the threshold for non-domestic classification.

Chart 15: Histogram of non-domestic gas consumption using all meters in England, Scotland and Wales



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, BEIS produces 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. 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 does 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 73,200 kWh, 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.

- Some meters cannot be allocated to a local authority due to insufficient or incomplete address information¹⁷. Approximately 0.3 per cent of domestic meters could not be allocated to a local authority in 2016.
- 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 2016 and therefore does not include any changes which may have occurred since 2016.

Estimates of households not connected to the gas grid

Table 8 below shows the estimated proportion and number of households that are not connected to the gas network in each region of Great Britain.

It is estimated that 13.9 per cent of households in Great Britain are not connected to the gas grid. For comparison, an analysis for fuel poverty produces an estimate of 13.4 per cent of households being off the gas grid¹⁸. According to the estimate used in this report, the South West and Inner London had the highest proportion of properties without a gas meter (21.3 per cent and 20.2 per cent respectively). The North East and North West have the lowest with 6.3 and 7.3 per cent of households not connected to the gas network.

¹⁷ These meters are included in the overall estimates for Great Britain, but are aggregated in the 'Unallocated' row in the sub-national statistics outputs.

¹⁸ Table 10 of the publication <https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2017> contains data which can be used to calculate the percentage of households off the gas grid. The methodology of this calculation can be found <https://www.gov.uk/government/publications/fuel-poverty-statistics-methodology-handbook>.

Table 8: Estimated proportion of households not connected to the gas network using 2011 Census data, by region (2016)

	Number of domestic gas meters (thousands)	Number of households estimated from 2011 census (thousands) ²	Estimated number of "off gas" households (thousands)	Estimated proportion of "off gas" households
East Midlands	1,984	1,806	205	10.3%
East	2,563	2,108	471	18.4%
Inner London	1,518	1,215	307	20.2%
Outer London	2,071	1,817	257	12.4%
North East	1,161	1,119	73	6.3%
North West	3,111	2,939	227	7.3%
South East	3,752	3,266	515	13.7%
South West	2,380	1,894	508	21.3%
West Midlands	2,390	2,143	271	11.3%
Yorkshire and the Humber	2,300	2,148	190	8.2%
England	23,229	20,456	3,024	13.0%
Wales	1,342	1,139	225	16.8%
Scotland	2,452	2,042	495	20.2%
Unallocated ¹	76			
Great Britain	27,098	23,638	3,744	13.9%

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'.

² Estimates made based on values from ONS: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-household-projections#based-live-tables>

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

Estimates for local authority (2016 data) have been published at:

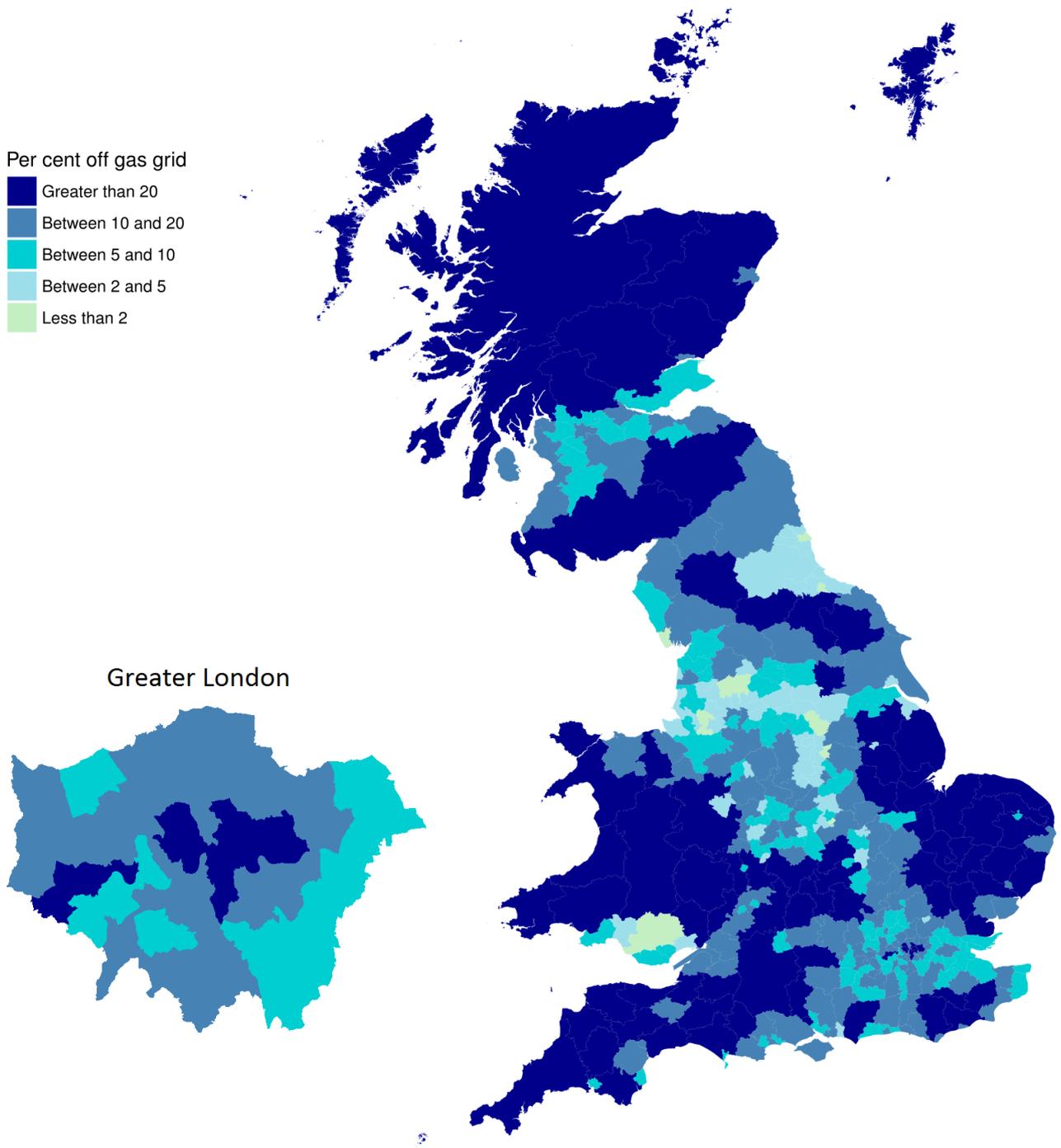
<https://www.gov.uk/government/collections/sub-national-gas-consumption-data>.

Estimates for lower level super output area (2016 data) will also be available from this link from 25 January 2018.

BEIS 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/>

Map 7: Percentage of meters that are off the gas grid by local authority, 2016



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 areas¹⁹. Data for Scotland are also published for intermediate geographies (equivalent to MSOAs). BEIS 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 LSOAs²⁰ 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 people²¹.

Gas and electricity estimates for 2011 and later are based on 2011 Census geographies. Data prior to 2011 are based on the 2001 Census boundaries²². Estimates for 2017 will be published on 26 January 2019 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 Britain²³. Local authority codes and names are also provided.

¹⁹ 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).

²⁰ For an illustration of LSOAs within an MSOA please see Annex D.

²¹ Further information about England and Wales or Scotland's statistical geographies can be accessed at: <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/super-output-areas--soas-/index.html> and <http://www.scotland.gov.uk/Publications/2005/02/20697/52626>.

²² 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](#)

²³ 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.

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.
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, BEIS 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, BEIS 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 BEIS 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 suppliers²⁵. It is recommended for DUKES data to be used for headline analysis, and sub-national data to be used for regional analysis.

Table 9 below compares the total consumption based on meter points to the corresponding DUKES total.

Table 9: Comparison with published UK statistics for 2016

Total final consumption (UK)	GWh	
Great Britain total consumption from meter point data		
Domestic	106,220	
Non-domestic	170,800	
	<u>277,020</u>	
Implied UK total consumption		
Great Britain total consumption (above)	277,020	
Plus Northern Ireland ¹	7,630	
Plus Sales direct from high voltage lines ²	3,373	
Implied UK sales of electricity	<u>288,023</u>	
DUKES total UK sales (DUKES 2017 Table 5.5)	<u>288,129</u>	
Statistical difference	106	0.04% of UK sales

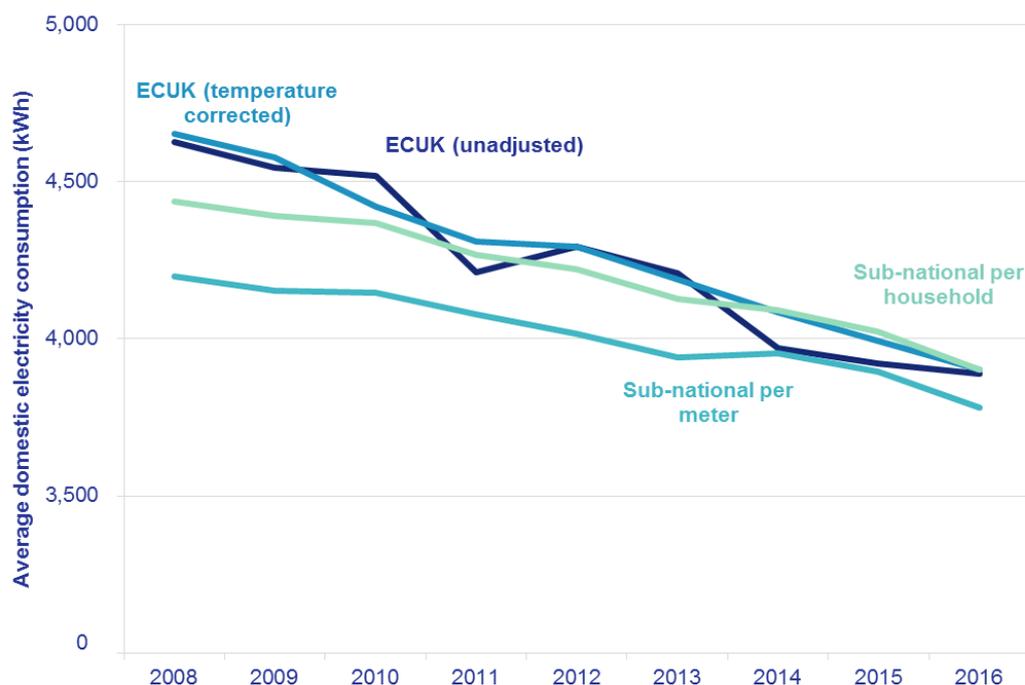
¹ Northern Ireland data are based on data for electricity distributed provided by Northern Ireland Electricity.

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 106 GWh, 0.04 per cent of total UK sales reported in DUKES.

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 16.

Chart 16: Comparison of source, average (mean) annual electricity consumption per household, 2008 to 2016



5.2 Gas

BEIS 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 3.03 (derived from DUKES Table 1.1.5). Table 6 below contains estimates between 2008 and 2016.

Weather correction factors and temperature adjustments can cause variability between the estimates and Table 10 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 10: Average domestic gas consumption (kWh) and heating season external temperatures (Celsius), 2008 to 2016

	2008	2009	2010	2011	2012	2013	2014	2015	2016
ECUK 3.03¹ (UK, Calendar year, non-weather corrected basis)	16,546	15,767	17,774	13,252	15,551	15,417	12,404	12,962	13,801
ECUK 3.03¹ (UK, Calendar year, weather corrected basis)	16,967	16,214	15,573	14,968	15,488	14,755	14,202	13,983	14,233
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	13,202	13,057
Average Temperature² (January to March, October to December)	6.4	6.3	4.3	7.5	6.6	5.9	7.6	7.6	6.7
Average Temperature² (October [y-1] to March)	6.9	5.8	5.6	5.4	7.7	5.2	7.5	7.0	7.8

¹ Table 3.03, 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 reassurance to users of the sub-national data provided here. The difference between the ECUK and sub-national average domestic gas consumption figures will in part be driven by the different denominators used to calculate the two figures. There also will be some non-domestic meters included in the sub-national data which may underestimate the average. BEIS is looking to standardise it's approach to estimating customer numbers to reduce this discrepancy in the future.

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, the average temperature in 2016 decreased in comparison to 2014 and 2015 which had the highest average temperatures in the time-series. 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).



