



Department
of Energy &
Climate Change

Sub-national electricity and gas consumption statistics

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

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Executive summary

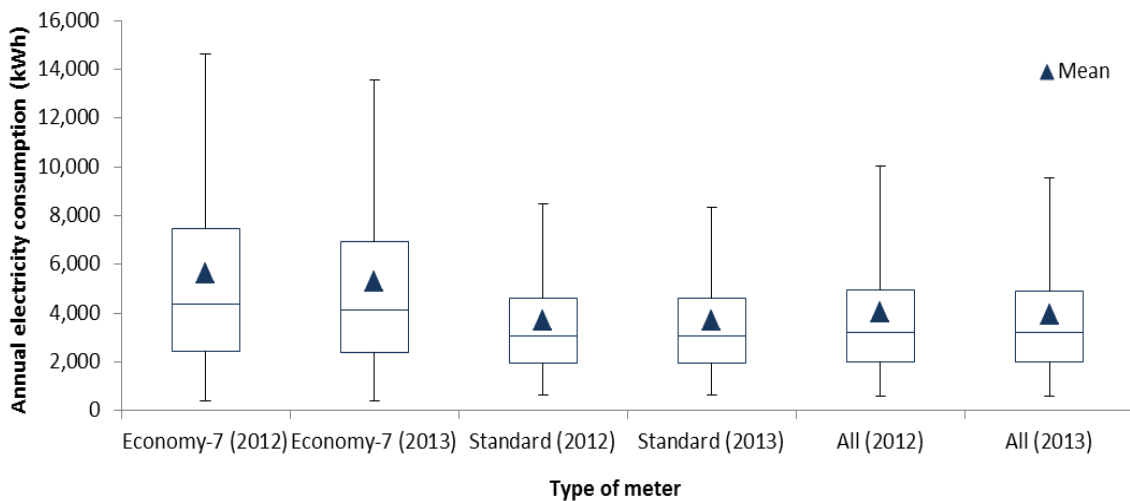
This publication provides estimates of annual electricity and gas consumption below national level. Latest estimates are for 2013, and include a number of developments to improve the quality and value of the estimates for users.

Electricity

During 2013, the total annual electricity consumption in Great Britain was 289,976 GWh (via 29,925,189 meters), 0.3 per cent lower than total consumption in 2012 (290,893 GWh). The number of electricity meters increased in 358 of the 380 local authorities between 2012 and 2013, whilst only 145 local authorities had an increase in total annual consumption.

Estimates of domestic consumption have been broken down by Economy 7 and standard meters at LA level for the first time. Average consumption for customers with standard domestic meters was 3,700 kWh, compared to 5,300 kWh for households with an Economy 7 meter. 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, see Chart 1.

Chart 1 Box plot of average domestic electricity consumption for local authorities within each region, by type of meter, 2012 and 2013



Gas

During 2013, the total annual gas consumption in Great Britain was 498,402 GWh (via 23,346,770 meters), 2.3 per cent lower than consumption in 2012 (510,047 GWh).

Total annual gas consumption increased in 74 local authority areas and the total number of gas meters increased in 213 out of the 376¹ local authorities between 2012 and 2013.

Tables accompanying this publication provide estimates of gas and electricity consumption and numbers of meters for all local authorities in Great Britain, broken down by domestic and non-domestic consumers. Estimates of households not connected to the gas network are also provided.

¹ 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.

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 2013.

Estimates are published from domestic and non-domestic users and broken down by Region/Devolved Administration² (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 2013 will be published on 29 January 2015, and made available here:

<https://www.gov.uk/government/collections/mlsoa-and-lssoa-electricity-and-gas-estimates>.

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 ECUK³ should be used. Breakdowns of consumption by property attributes and household/business characteristics are available through the National Energy Efficiency Data-Framework (NEED)⁴.

1.2 Methodology and revisions

In 2014 a review of the electricity and gas sub-national consumption statistics was undertaken including a request for input from users⁵. As a result of this review some changes have been made to the assumptions underlying the data processes and how data are presented. The main changes include:

- Inclusion of median as well as mean consumption in all published data tables.
- Including an Economy 7 and standard split in the Local Authority domestic tables.
- Bringing forward the publication of MSOA and LSOA data from March to January.
- Publication of CSV versions of the datasets for 2012 and 2013.
- Publication of experimental estimates of gas consumption using the new industry flag to assign properties as domestic or non-domestic have been published alongside the estimates based on the previous methodology (i.e. any property consuming below 73,200kWh classified as domestic).
- Significantly improved rules for the allocation of geographic information for each meter, leading to an increase in the accuracy of the data which have been allocated to geographic areas, but also increasing the number of unallocated meters in Great Britain (at MSOA and LSOA levels).

² 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.

³ <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk>.

⁴ <https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework>.

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/320488/sub_national_user_feedback_request.pdf.

More information on the changes and future planned developments are outlined in section 6 of this report. Revised data for 2012 using the new methodology and breakdowns have also been published alongside the 2013 estimates to give an indication of the change over time without methodological changes. More details of the impacts of the methodological changes are available in Annex E.

1.3 Users

The most significant use of the sub-national consumption data is by Local Authorities and devolved administrations, other external users include 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.

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 2013 are provisional and cover the industry defined years:

- Electricity non-half hourly⁶ - 27 January 2013 to 26 January 2014;
- Electricity half hourly⁷ - 1 January 2013 to 31 December 2013;

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 2013 can be found here: <https://www.gov.uk/government/statistical-data-sets/regional-and-local-authority-electricity-consumption-statistics-2005-to-2011>. Users should note the change in methodology when considering the time series; see section 6 for more details.

2.1 Total electricity consumption

During 2013, the total annual electricity consumption in Great Britain was 289,976 GWh (via 29.9 million meters), 0.3 per cent lower than consumption in 2012 (290,893 GWh)^{8,9}.

The total number of electricity meters increased in 358 of the 380 local authorities between 2012 and 2013, whilst only 145 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 to 'Unallocated'¹⁰. This will have an impact on the estimates provided for some areas. In total, approximately 0.2 per cent of electricity meters covering 1.7 per cent of annual electricity consumption was unallocated in 2013.

The changes in electricity consumption in Great Britain between 2012 and 2013 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.

⁶ A non-half hourly (NHH) meter is generally used for domestic or smaller non-domestic supplies. Reading of NHH meters is normally done manually.

⁷ 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.

⁸ 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 section 5 of this document.

⁹ All comparisons with 2012 included in this document are based on revised estimates for 2012 using the new methodology adopted for 2013 estimates (published December 2014).

¹⁰ 'Unallocated' meters are meters with insufficient address information and the consumption for these meters are unable to be assigned, or allocated, to a local authority.

Changes in total electricity consumption between 2012 and 2013 are more varied, ranging from 2.1 per cent increase in total consumption in the East Midlands to a 1.2 per cent decrease in Scotland. In Great Britain as a whole, there was an overall decrease in consumption of 0.3 per cent. Changes in total consumption levels are usually driven by changes in the non-domestic sector (see section 2.3 for further information) given that it represents 63 per cent of total consumption (in 2013) and tends to be more changeable than domestic consumption.

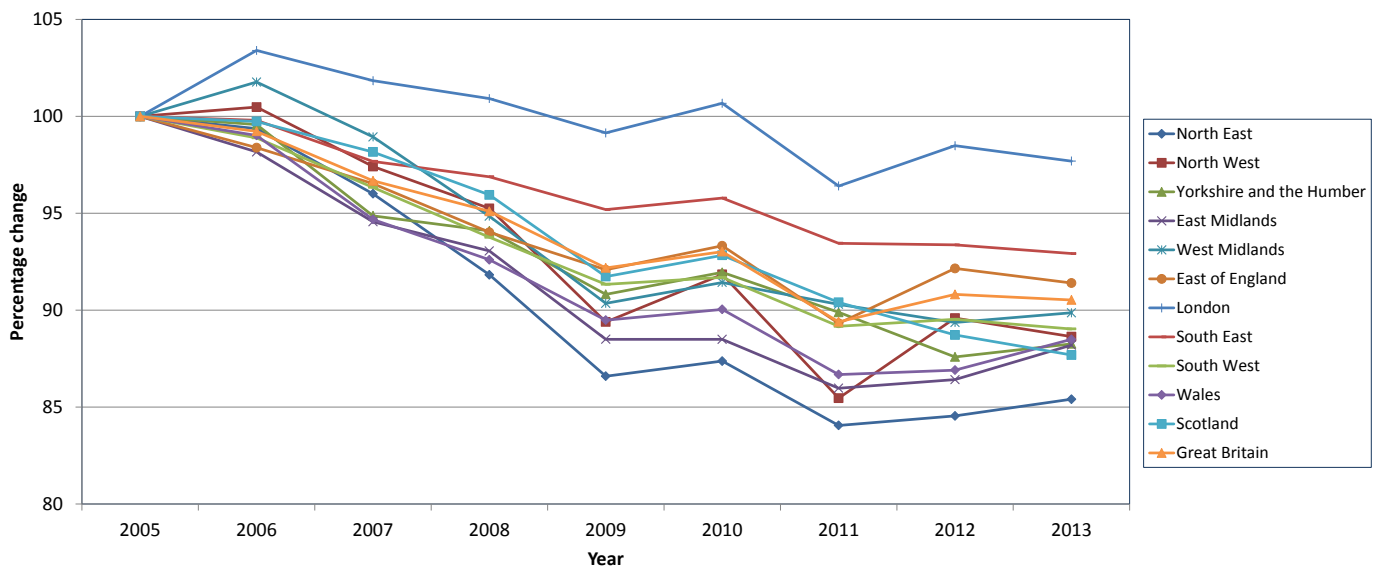
Table 1 Electricity consumption in Great Britain by region, 2012 and 2013

	2012		2013		Percentage change	
	Total annual electricity consumption (GWh)	Number of meters (thousands)	Total annual electricity consumption (GWh)	Number of meters (thousands)	Total annual electricity consumption (GWh)	Number of meters (thousands)
NORTH EAST	11,749	1,277	11,869	1,280	1.0%	0.2%
NORTH WEST	32,515	3,379	32,168	3,389	-1.1%	0.3%
YORKSHIRE AND THE HUMBER	23,505	2,522	23,686	2,528	0.8%	0.2%
EAST MIDLANDS	20,687	2,149	21,113	2,162	2.1%	0.6%
WEST MIDLANDS	24,356	2,572	24,492	2,584	0.6%	0.5%
EAST ENGLAND	26,976	2,777	26,756	2,791	-0.8%	0.5%
LONDON	40,807	3,818	40,478	3,837	-0.8%	0.5%
SOUTH EAST	38,989	4,068	38,802	4,086	-0.5%	0.4%
SOUTH WEST	24,412	2,692	24,277	2,707	-0.6%	0.6%
WALES	15,267	1,505	15,546	1,510	1.8%	0.4%
SCOTLAND	26,177	2,974	25,873	2,979	-1.2%	0.2%
ENGLAND	243,995	25,255	243,640	25,363	-0.1%	0.4%
GREAT BRITAIN¹	290,893	29,808	289,976	29,925	-0.3%	0.4%

¹ A small number of meters, in Great Britain, cannot be described as being in a specific area (0.2 per cent). These meters are therefore categorised as 'Unallocated'. The unallocated meters have been included in the totals for Great Britain, but they cannot be isolated to smaller geographies.

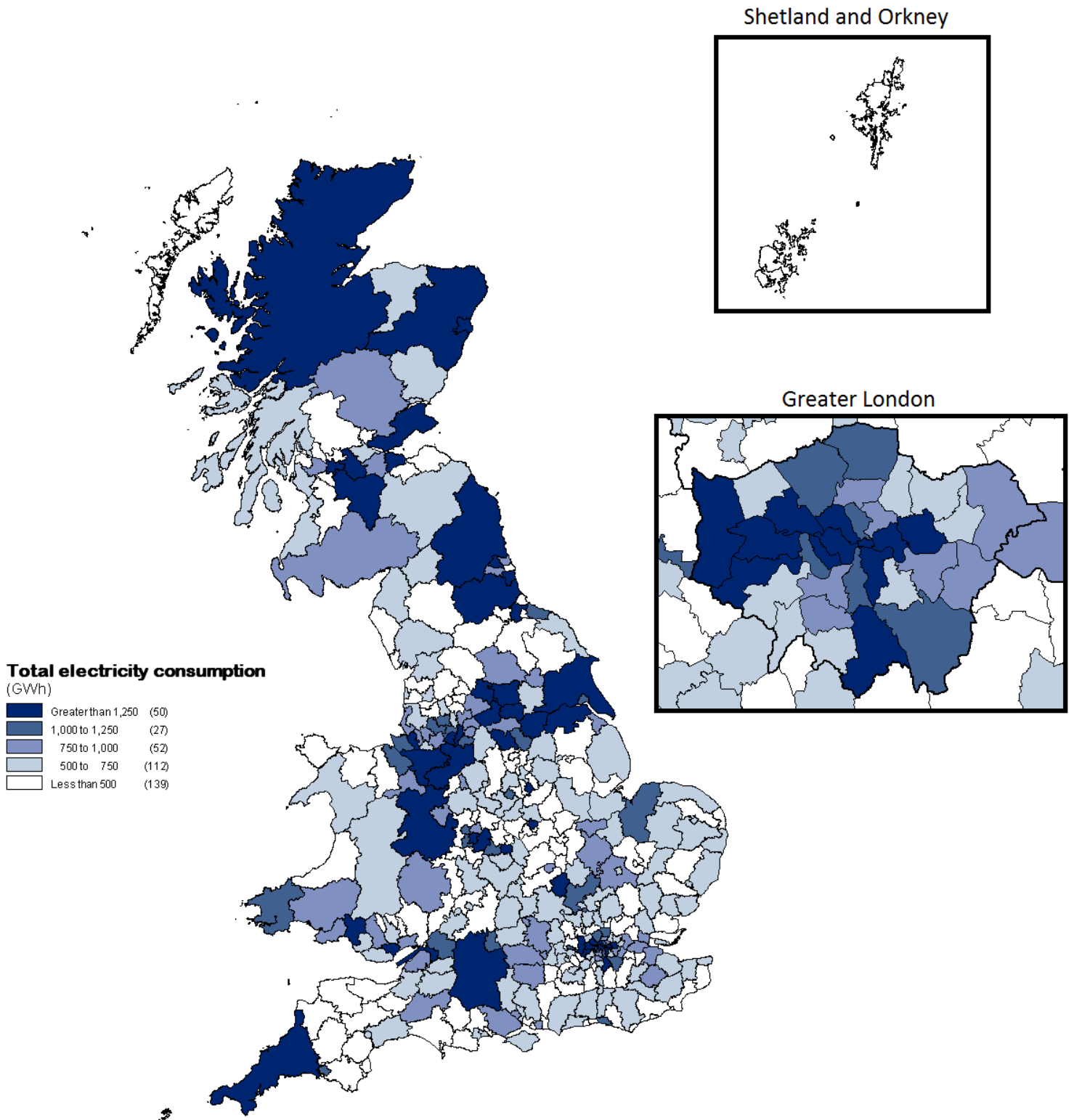
Chart 2 shows, the change in total electricity consumption since 2005 (when the sub-national time series started), taking 2005 as the baseline (2005=100). It can be observed that every region follows a similar decreasing trend. The largest percentage change, between 2005 and 2013, was seen in the North East where consumption decreased by 14.6 per cent from 13,897 GWh to 11,869 GWh). The smallest reduction in consumption was observed in London, where consumption decreased just 2.3 per cent over the period.

Chart 2 Change in electricity consumption over time by region (2005 = 100)



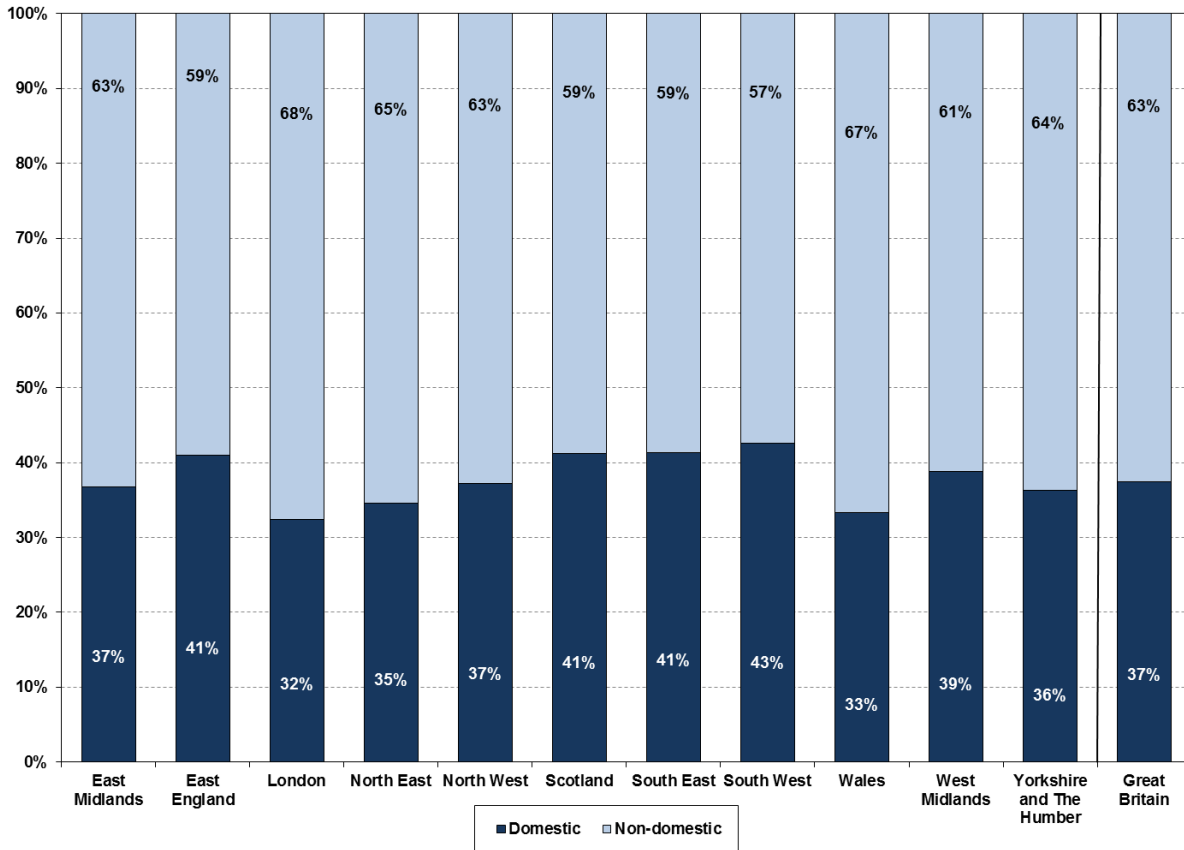
Map 1 below shows the variation in total annual electricity consumption in 2013, by local authority.

Map 1 Total annual electricity consumption by local authority, 2013



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 the total electricity for all regions across Great Britain (Chart 3) despite the non-domestic sector having a significantly lower number of meters. Of the 29.9 million meters in operation in 2013, 27.5 million meters were in the domestic sector and 2.4 million were in the non-domestic sector.

Chart 3 Distribution of domestic and non-domestic electricity consumption by region, 2013



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 Greater London and 43 per cent in the South West. 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, Tower Hamlets, Westminster, Slough and Neath Port Talbot) 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 2013, was estimated to be 108,420 GWh, 1.5 per cent lower than in 2012 (110,066 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 3,900 kWh and the median was 3,200 kWh, a difference of 22.9 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 2013 was 1.9 per cent lower than in 2012 (4,000 kWh) and the median electricity consumption was very similar to the 2012 value of 3,200 kWh.

The North East had the lowest mean and median domestic consumption, 3,400 kWh and 2,900 kWh respectively, whilst the South East had the highest mean and median domestic consumption, 4,300 kWh and 3,400 kWh respectively. Table 2 shows the mean and median domestic consumption per meter in each region in 2013, 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, 2013

	All domestic meters			Standard domestic meters			Economy-7 meters		
	Mean domestic consumption (kWh)	Median domestic consumption (kWh)	Number of domestic meters (thousands)	Mean standard domestic consumption (kWh)	Median standard domestic consumption (kWh)	Percentage of domestic meters	Mean Economy-7 domestic consumption (kWh)	Median Economy-7 domestic consumption (kWh)	Percentage of domestic meters
NORTH EAST	3,400	2,900	1,199	3,300	2,900	94%	5,100	4,000	6%
NORTH WEST	3,800	3,200	3,153	3,600	3,100	92%	5,900	4,800	8%
YORKSHIRE AND THE HUMBER	3,700	3,000	2,348	3,500	3,000	92%	5,500	4,300	8%
EAST MIDLANDS	3,900	3,200	2,003	3,500	3,000	63%	4,500	3,500	37%
WEST MIDLANDS	4,000	3,300	2,388	3,700	3,200	82%	5,200	4,100	18%
EAST ENGLAND	4,300	3,400	2,574	3,800	3,200	68%	5,100	4,000	32%
LONDON	3,800	3,000	3,440	3,600	2,900	86%	5,000	4,000	14%
SOUTH EAST	4,300	3,400	3,755	4,000	3,300	80%	5,400	4,300	20%
SOUTH WEST	4,200	3,400	2,460	3,800	3,200	84%	6,500	5,400	16%
WALES	3,700	3,100	1,386	3,500	3,000	92%	6,500	5,200	8%
SCOTLAND	3,900	3,100	2,765	3,600	3,000	83%	5,300	4,200	17%
ENGLAND	4,000	3,200	23,320	3,700	3,100	82%	5,200	4,100	18%
GREAT BRITAIN¹	3,900	3,200	27,521	3,700	3,100	83%	5,300	4,100	17%

¹ A small number of meters, in Great Britain, cannot be described as being in a specific area (0.2 per cent). These meters are therefore categorised as 'Unallocated'. The unallocated meters have been included in the totals for Great Britain, but they cannot be isolated to smaller geographies.

Mean domestic electricity consumption per meter in Great Britain has decreased by 14.4 per cent between 2005 and 2013. Over the same period, regional reductions in domestic electricity consumption varied between 10.9 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 improvements¹¹, such as increased levels of insulation, new boilers and more energy efficient appliances; increased prices¹²; 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 date¹³.

Map 2 shows average domestic electricity consumption per meter by local authority in 2013.

¹¹ The energy efficiency of the housing stock improved between 2005 and 2013, the average SAP rating of a dwelling increased by 9.5 points from 49.0 to 58.5. The SAP rating is a measure of the overall energy efficiency of the dwelling. Table 13: English Housing Survey Headline Report 2012-13: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284648/English_Housing_Survey_Headline_Report_2012-13.pdf.

¹² Between 2005 and 2013, domestic electricity prices contained in Quarterly Energy Prices show an increase of 81.4 per cent (50.3 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>.

¹³ See Table 5.2 of DUKES: [Electricity: chapter 5, Digest of United Kingdom energy statistics \(DUKES\) - Publications - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284648/DUKES_Chapter_5.pdf).

Map 2

Mean domestic electricity consumption per meter by local authority, 2013

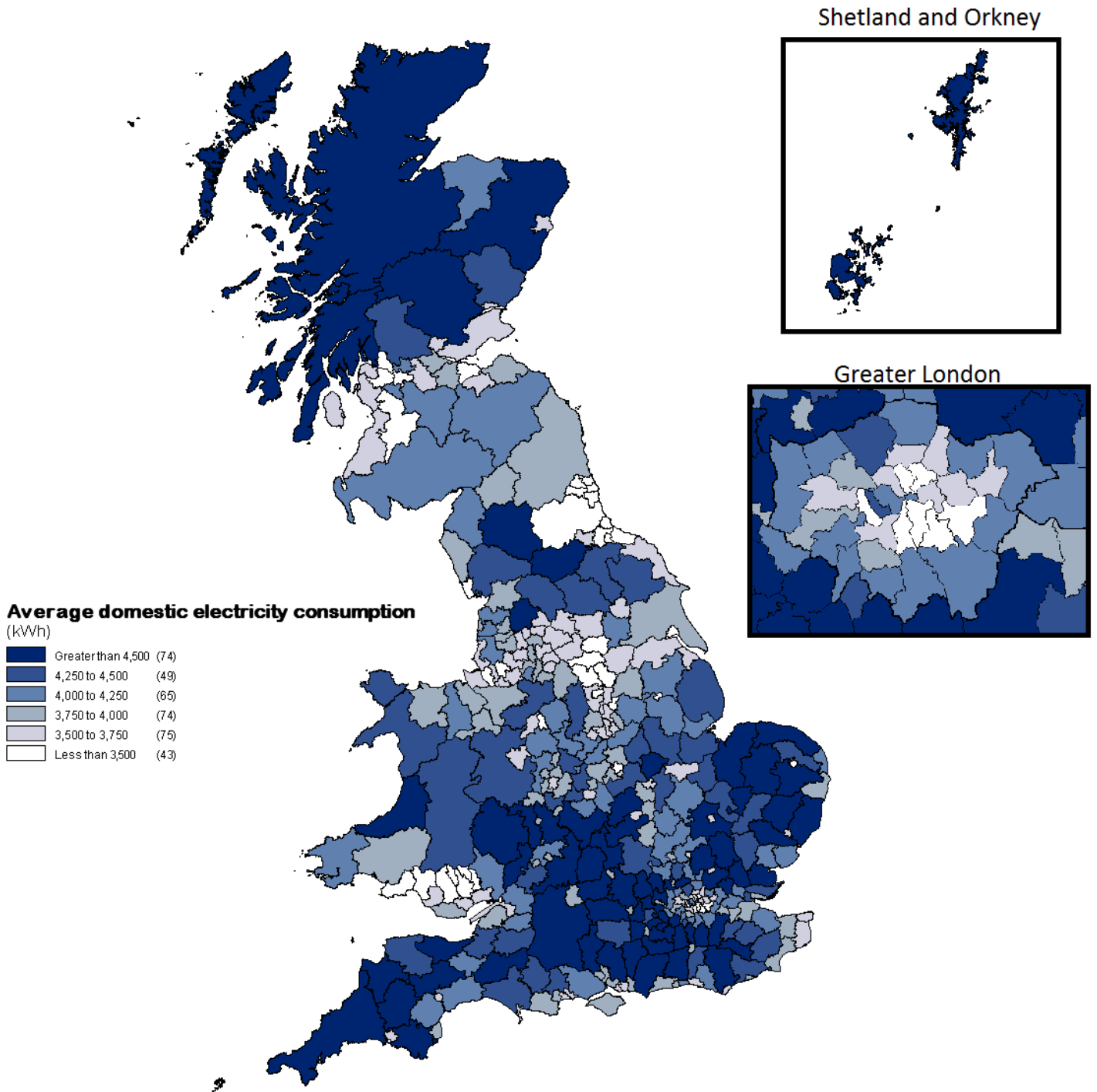
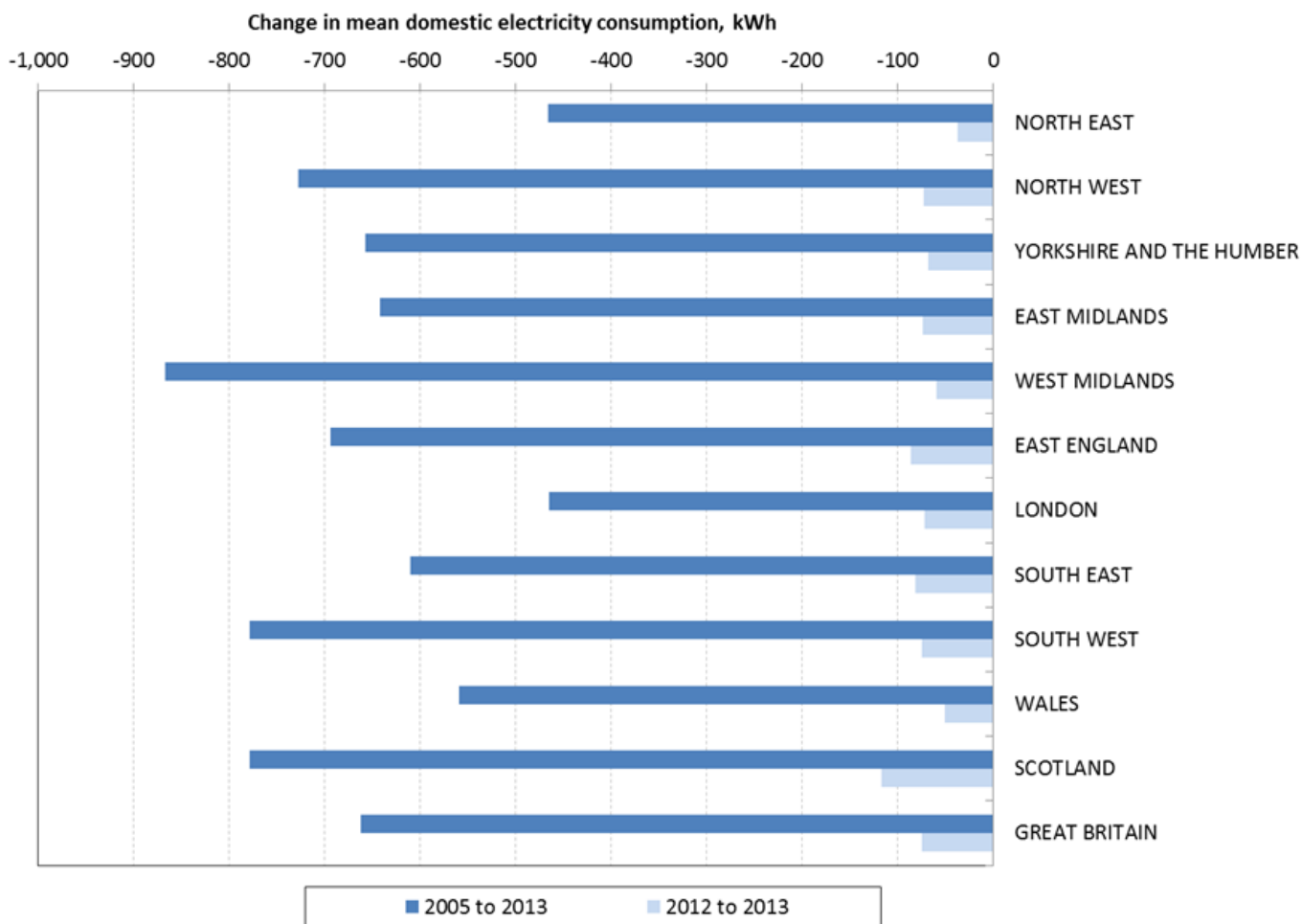


Chart 4 shows the decrease in average domestic consumption by region, between 2005 and 2013, and between 2012 and 2013. Between 2012 and 2013, all regions saw a decrease in mean domestic consumption per meter of between 1.1 per cent (North East) and 2.9 per cent (Scotland). This is consistent with the general trend in a reduction in consumption since 2005.

Chart 4 Change in mean domestic electricity consumption per meter, 2005 and 2013



Ordinary domestic and Economy 7 consumption

Mean consumption for customers with standard domestic meters was 3,700 kWh (median consumption was 3,100 kWh), compared to 5,300 kWh for households with an Economy 7 meter¹⁴ (median consumption was 4,100 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 2013 was Wales (6,500 kWh mean and 5,200 kWh median) followed closely by South West (mean 6,500 kWh and median 5,400 kWh) whilst the East Midlands had the lowest average per Economy 7 meter (4,500 kWh mean and 3,500 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 5 below. For Great Britain, 77 per cent of total domestic consumption was attributed to ordinary domestic meters and 23 per cent to Economy 7 meters, but across Great Britain the ratio between ordinary domestic and Economy

¹⁴ 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.

7 varied from 90 per cent ordinary domestic and 10 per cent Economy 7 in the North East, to a 57:43 per cent split in the East Midlands.

Chart 5 Distribution of total domestic electricity consumption by profile, 2013

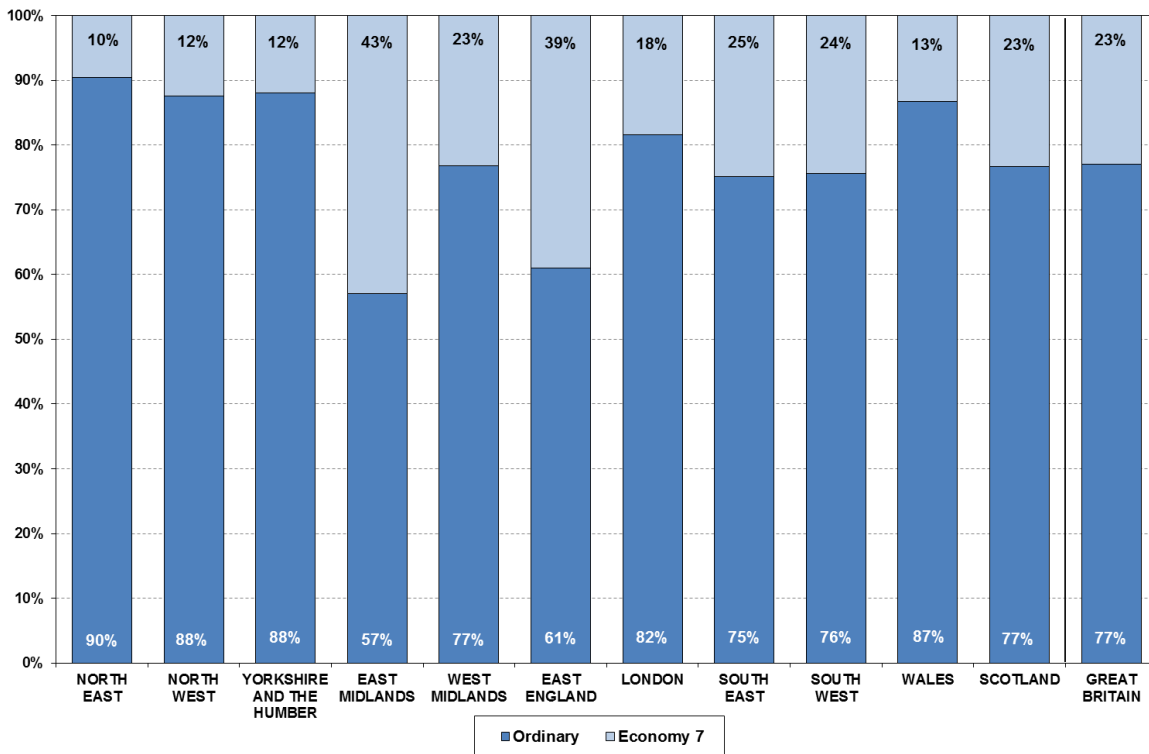
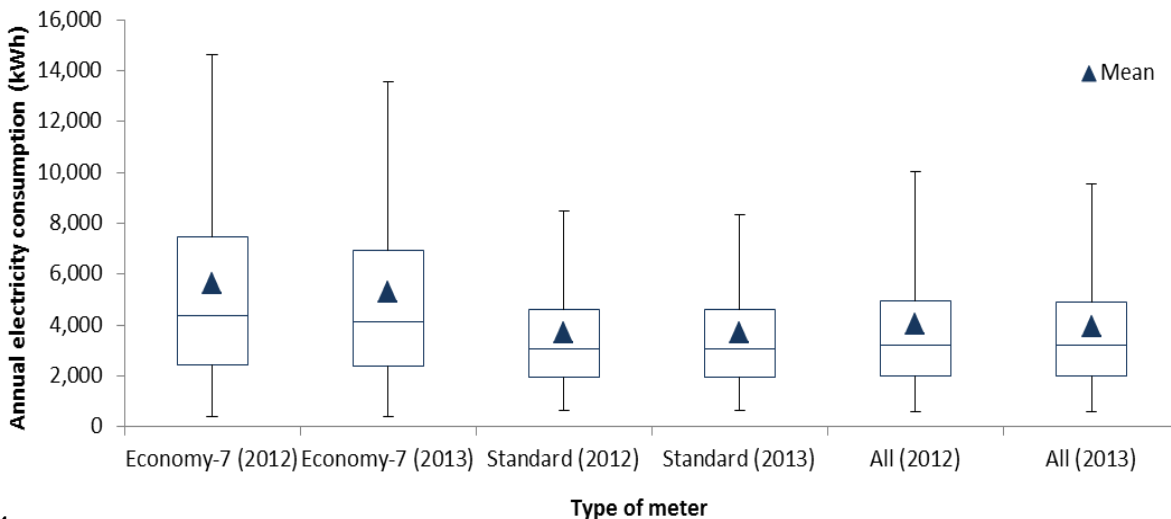


Chart 6 shows box plots illustrating the distribution of domestic consumption for Economy 7 meters, standard meters, and all domestic meters in Great Britain. It is clear that the spread of consumption is much larger for Economy 7 meters, with interquartile range, of 5,000 kWh and 4,600 kWh in 2012 and 2013 respectively; compared with standard meters, which had an interquartile range of 2,700, kWh, in both 2012 and 2013.

Chart 6 also shows that for Economy 7 meters, there was a general reduction in consumption of electricity in 2013, when compared with 2012, whereas there was little change seen in standard meters. In 2012, the mean annual consumption for Economy 7 meters was 5,600 kWh and the median value was 4,400 kWh. In 2013 the mean annual electricity consumption was reduced to 5,300 kWh and the median decreased to 4,100 kWh.

Chart 6 Box plot of average domestic electricity consumption for Economy 7 and standard meters, 2012 and 2013

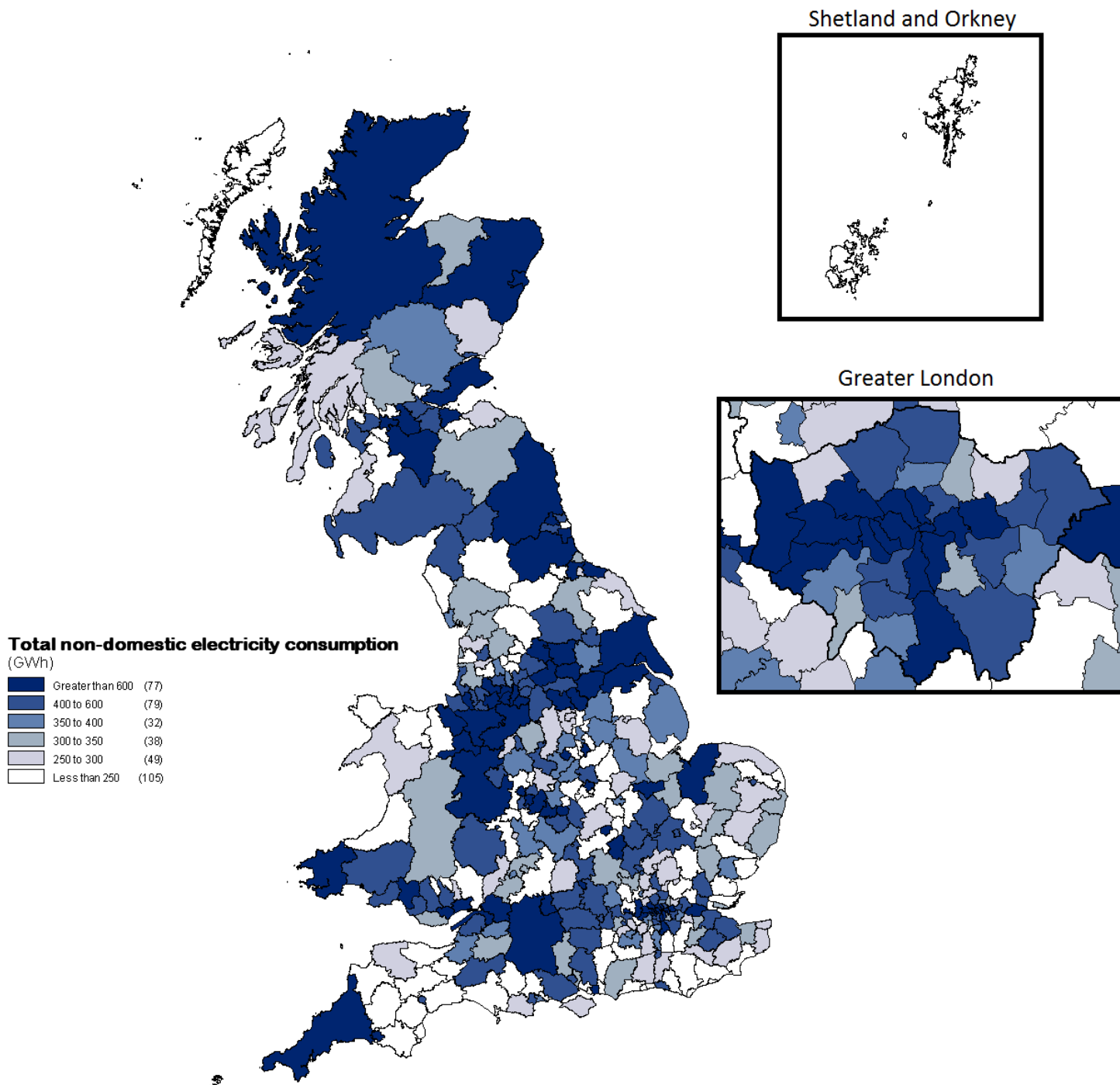


2.3 Non-domestic electricity consumption

Total non-domestic consumption

In 2013 total non-domestic electricity consumption in Great Britain was 181,556 GWh, which was 0.4 per cent higher than non-domestic consumption in 2012 (180,827 GWh). However, since 2005, non-domestic electricity consumption has decreased in Great Britain, falling by 9.6 per cent (200,889 GWh). Map 3 shows non-domestic electricity consumption by local authority in 2013.

Map 3 Total non-domestic electricity consumption by local authority, 2013



Average non-domestic consumption

In 2013, the mean annual non-domestic electricity consumption per meter, in Great Britain, was 75,500 kWh and the median non-domestic consumption per meter was 8,400 kWh, with total non-domestic electricity consumption of 181,556 GWh. Average consumption for non-domestic customers remained within one percentage point of mean consumption in 2012 (75,400 kWh), with total non-domestic consumption also remaining within one per cent lower than in 2012 (180,827 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, 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 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 21 MWh, whereas, Hammersmith and Fulham had the smallest median annual non-domestic consumption of 3 MWh.

The Isles of Scilly (18 MWh) had the lowest average non-domestic consumption per meter in 2013. This low level of non-domestic consumption reflects the rural characteristic of the area and the few commercial/heavy industrial properties.

The West Midlands had the largest percentage decrease (15.6 per cent) in average non-domestic consumption between 2005 and 2013. London was the only region with an increase over this period (5.5 per cent). Between 2005 and 2013 the average non-domestic consumption per meter for Great Britain decreased by 8.0 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 7 shows the trends in average non-domestic electricity consumption for selected regions which have had the greatest variation in the past nine years – North East, North West, West Midlands and the South West. All other regions have seen trends within these extremes.

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. The table also includes average consumption for two different meter types: non-half hourly meters and half hourly meters¹⁵. Half hourly meters are installed for the larger industrial/commercial customers and this is reflected in the typical figures for the two types of meters.

¹⁵ Non-half hourly and half-hourly meters are covered in more detail in Chapter 3 of the Sub-national methodology and guidance booklet.

Chart 7 Average non-domestic electricity consumption for selected regions, 2005 to 2013

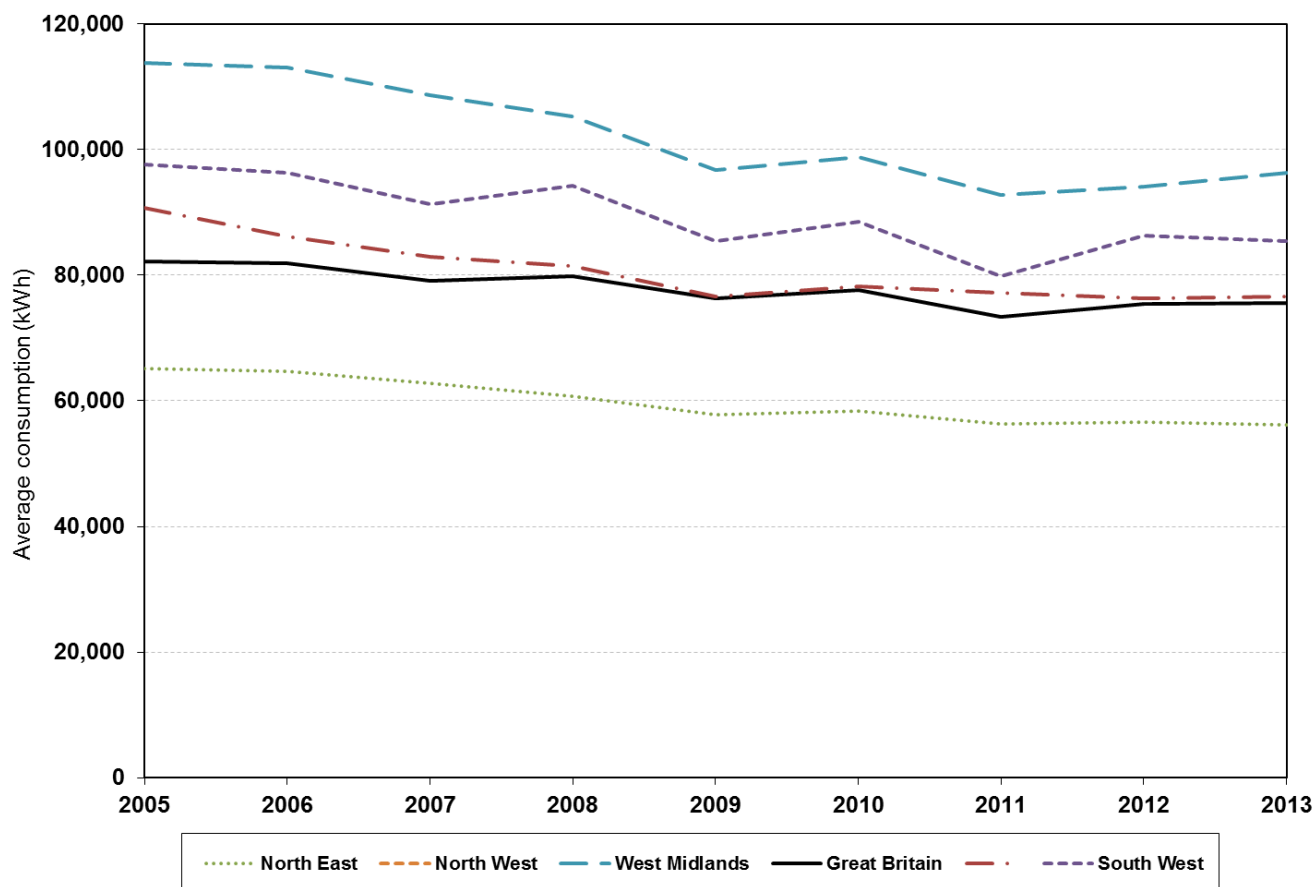


Table 3 Average non-domestic electricity consumption per meter by region, 2013

	All non-domestic meters			Average Non-Half Hourly (NHH) consumption			Average Half Hourly (HH) consumption		
	Mean consumption (kWh)	Median consumption (kWh)	Number of non-domestic meters (thousands)	Mean consumption (kWh)	Median consumption (kWh)	Percentage of non-domestic meters	Mean consumption (kWh)	Median consumption (kWh)	Percentage of non-domestic meters
NORTH EAST	96,300	9,000	81	22,500	8,000	94%	1,276,700	341,300	6%
NORTH WEST	85,400	9,600	236	23,000	8,700	95%	1,182,200	348,700	5%
YORKSHIRE AND THE HUMBER	84,200	9,200	179	22,000	8,300	94%	1,059,800	301,100	6%
EAST MIDLANDS	84,100	10,100	159	22,700	8,900	94%	1,019,100	309,800	6%
WEST MIDLANDS	76,700	9,000	196	21,400	8,000	94%	954,900	313,500	6%
EAST ENGLAND	72,900	9,300	217	22,400	8,300	95%	1,000,100	319,700	5%
LONDON	69,000	6,400	397	18,800	5,700	95%	995,800	311,800	5%
SOUTH EAST	68,800	8,200	331	21,600	7,400	95%	999,600	346,800	5%
SOUTH WEST	56,200	7,200	248	19,000	6,700	96%	955,800	306,600	4%
WALES	83,500	7,700	124	19,400	7,100	95%	1,426,600	311,500	5%
SCOTLAND	71,200	9,400	214	23,200	8,500	95%	990,800	338,800	5%
ENGLAND	74,000	8,300	2,043	21,100	7,500	95%	1,031,800	321,800	5%
GREAT BRITAIN¹	3,900	3,200	2,404	21,200	7,500	95%	1,046,500	322,700	5%

¹ A small number of meters, in Great Britain, cannot be described as being in a specific area (0.2 per cent). These meters are therefore categorised as 'Unallocated'. The unallocated meters have been included in the totals for Great Britain, but they cannot be isolated to smaller geographies.

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. The maximum is also shown where it is below 200,000 kWh. In three regions (North East, Greater London and Wales) the highest mean non-domestic electricity consumption are greater than

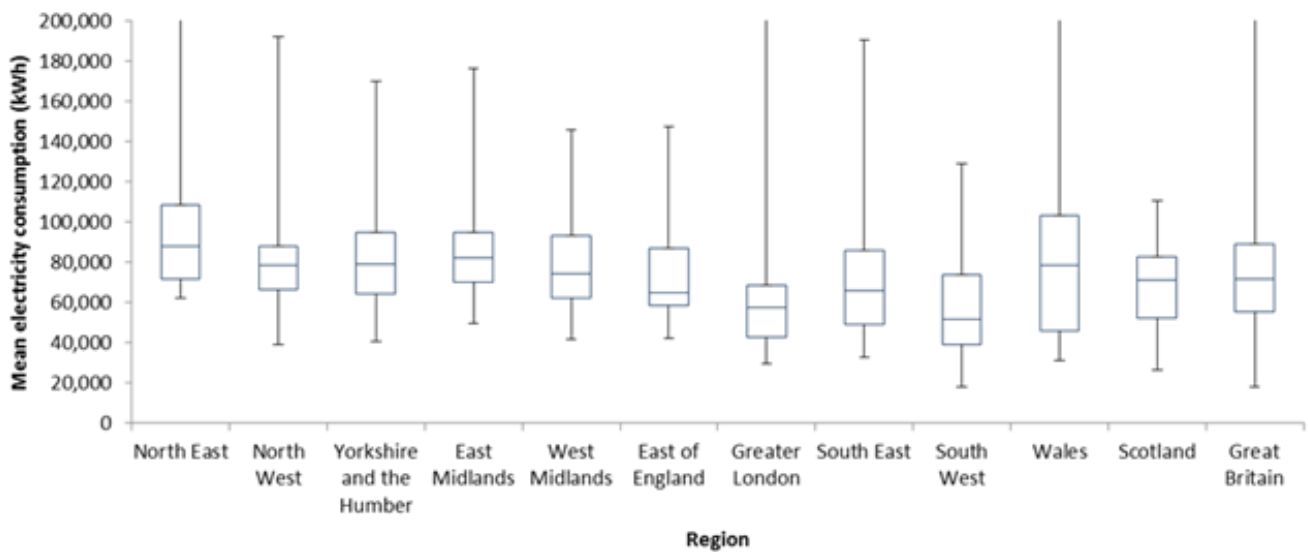
Electricity

200,000 kWh, but are not shown in the chart to allow for a clearer comparison of the other statistics.

The chart shows that the distribution of local authorities in each region varies considerably. For example in the East of England the difference between the median and the upper quartile is much greater than the difference between the median and the lower quartile. While in Wales the opposite is seen.

The North East covers the smallest number of local authorities of any of the regions and also has the highest minimum mean non-domestic consumption (South Tyneside). South Tyneside has lower mean consumption than the median LAs for the South West.

Chart 8 **Box plot of average non-domestic electricity consumption for local authorities within each region, 2013**



The analysis of the electricity meter point data shows that while 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/statistical-data-sets/regional-and-local-authority-electricity-consumption-statistics-2005-to-2011>.

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 2013 cover the gas year between 1 October 2012 and 30 September 2013 and are supplied to DECC as weather corrected data. Estimates presented for 2013 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/statistics/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). Until very recently, there has been no sector indicator within the gas dataset, and to estimate 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. However, recent changes to gas industry systems mean a flag indicating whether a property is domestic or non-domestic is now provided for all meters. Initial analysis comparing the two approaches to allocation of sector has been undertaken and suggests that the new industry supplied variable provides a better indication of whether a property is domestic or not.

Given the significant impact a change in the definition of what is classified as non-domestic would have on estimates of non-domestic consumption no change has been made to the headline estimates at this stage. However, DECC has also published experimental estimates for 2013 based on the industry flag. **Feedback on which approach is more useful would be appreciated so a decision can be made for the 2014 publication in December 2015. Feedback should be provided to EnergyEfficiency.Stats@decc.gsi.gov.uk by 31 March 2015.** Further information about the difference in the two approaches is available in Annex E.

The published gas statistics, including headline estimates and experimental statistics on the alternative approach, can be found here: <https://www.gov.uk/government/collections/sub-national-gas-consumption-data>.

3.1 Total gas consumption

During 2013, the total annual gas consumption in Great Britain was 498,402 GWh (via 23,346,770 meters), 2.2 per cent lower than consumption in 2012 (510,047 GWh). As gas data are weather corrected, this represents a decrease irrespective of weather conditions in the year.

Total consumption decreased in 302 local authority areas whereas the total number of gas meters increased in 368 out of the 376¹⁶ 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'¹⁷. This means that an increase in the number of meters in an area may reflect

¹⁶ The local authorities of Eilean Siar (Western Isles), Orkney Islands, Shetland Islands and Isles of Scilly do not have access to gas.

¹⁷ 'Unallocated' meters are meters with insufficient address information and the consumption for these meters are unable to be assigned, or allocated, to a region. These values appear towards the end of the sub-national gas consumption statistics table which is available alongside this document.

Gas

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 2012 and 2013 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.

Table 4 Gas consumption in Great Britain by region, 2012 and 2013

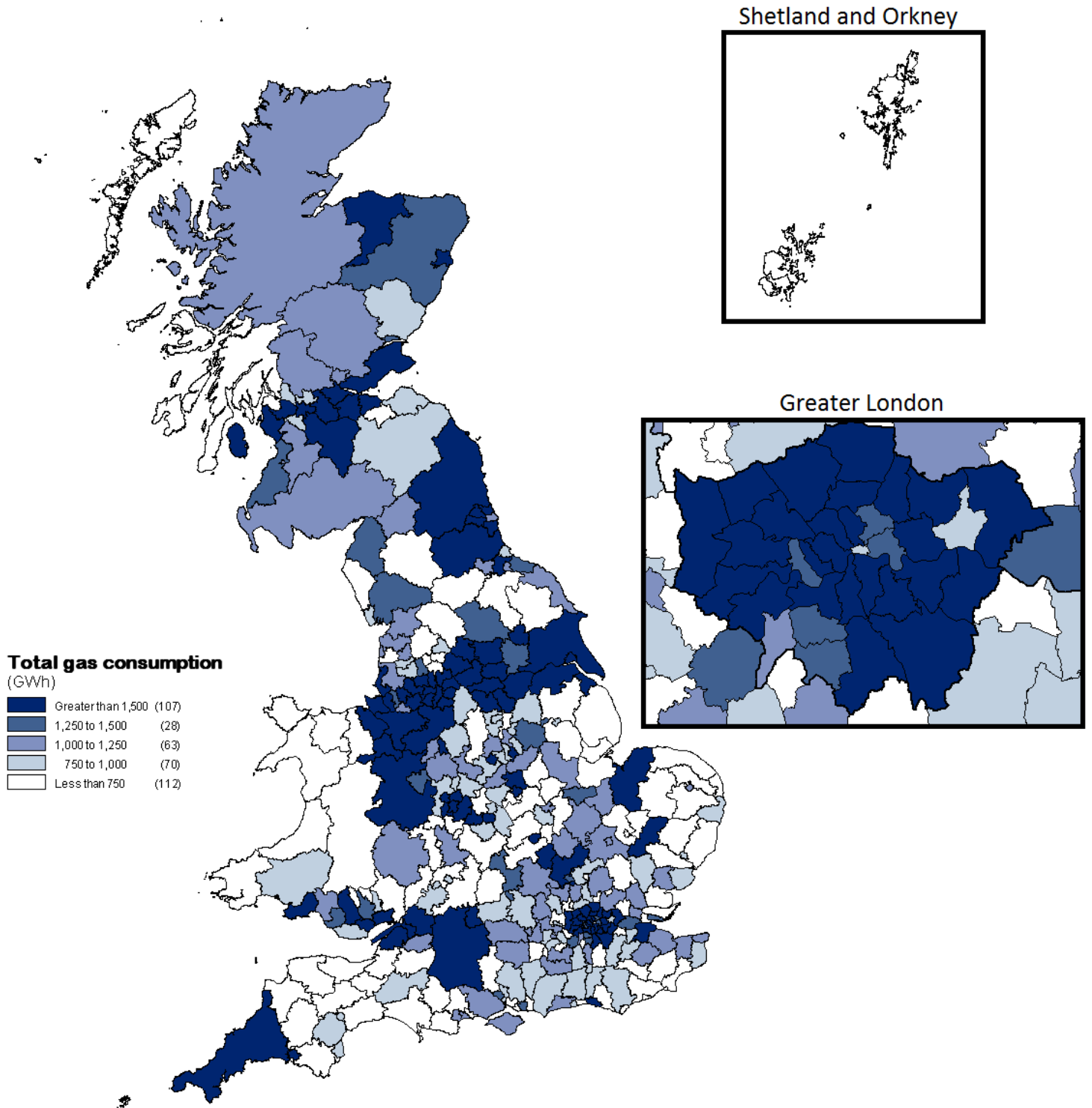
	2012		2013		Percentage change	
	Total annual gas consumption (GWh)	Number of meters (thousands)	Total annual gas consumption (GWh)	Number of meters (thousands)	Total annual gas consumption (GWh)	Number of meters (thousands)
East Midlands	39,212	1,753	38,266	1,764	-2.4%	0.7%
East England	44,598	2,049	43,622	2,063	-2.2%	0.7%
London	63,038	3,046	61,946	3,052	-1.7%	0.2%
North East	24,259	1,097	23,902	1,101	-1.5%	0.4%
North West	66,483	2,896	64,640	2,908	-2.8%	0.4%
South East	64,045	3,193	62,709	3,209	-2.1%	0.5%
South West	33,452	1,827	32,858	1,842	-1.8%	0.8%
Yorkshire and The Humber	52,665	2,119	51,549	2,127	-2.1%	0.4%
West Midlands	45,283	2,104	44,682	2,113	-1.3%	0.4%
Scotland	50,531	1,969	48,618	1,989	-3.8%	1.0%
Wales	24,276	1,116	23,453	1,122	-3.4%	0.5%
England	433,035	20,083	424,176	20,180	-2.0%	0.5%
Great Britain¹	510,047	23,232	498,402	23,347	-2.3%	0.5%

There has been a decrease in total consumption of gas across all regions of Great Britain between 2012 and 2013, ranging from a 1.3 per cent decrease in the West Midlands to 3.8 per cent decrease in Scotland. In Great Britain as a whole, there was an overall decrease in consumption of 2.3 per cent.

In 2013, the City of London (London) had the highest mean gas consumption in 2013 at 216,000 kWh compared with Torrington (South West) with the lowest mean gas consumption at 12,800 kWh.

Map 4 below shows the variation in total annual gas consumption in 2013, by local authority.

Map 4 Total annual gas consumption, by local authority, 2013



3.2 Domestic gas consumption

Average domestic gas consumption

The mean and median annual gas consumption per domestic meter in 2013 was 13,700 kWh and 12,200 kWh respectively, with a total domestic gas consumption of 315,656 GWh. Both mean and total consumption were lower than in 2012, 2.8 and 2.3 per cent respectively¹⁸.

Table 5 shows the average (mean) domestic gas consumption per meter, the total number of domestic meters and total domestic consumption for each region in 2013.

Table 5 Mean domestic gas consumption per meter by region, 2013

	Number of domestic meters (thousands)	Total domestic consumption (GWh)	Mean domestic consumption (kWh)	Median domestic consumption (kWh)
North East	1,089	15,301	14,100	13,000
North West	2,876	39,022	13,600	12,300
Yorkshire and The Humber	2,103	29,506	14,100	12,700
East Midlands	1,745	24,292	14,000	12,700
West Midlands	2,089	28,395	13,600	12,400
East England	2,040	28,259	13,900	12,400
London	3,009	41,065	13,700	11,800
South East	3,169	44,491	14,100	12,400
South West	1,822	22,099	12,200	10,800
Wales	1,111	14,477	13,100	12,000
Scotland	1,965	28,073	14,300	12,800
England	19,944	272,429	13,700	12,200
Great Britain¹	23,074	315,656	13,700	12,300

¹ Includes 54 thousand meters, with a total consumption of 677 GWh that couldn't be allocated at local authority level, representing 0.2 per cent of domestic meters, and less than 0.1 per cent of total meters and consumption.

Scotland had the highest mean domestic consumption with 14,300 kWh per meter (median consumption of 12,700 kWh), with the South West having the lowest at 12,100 kWh per meter.

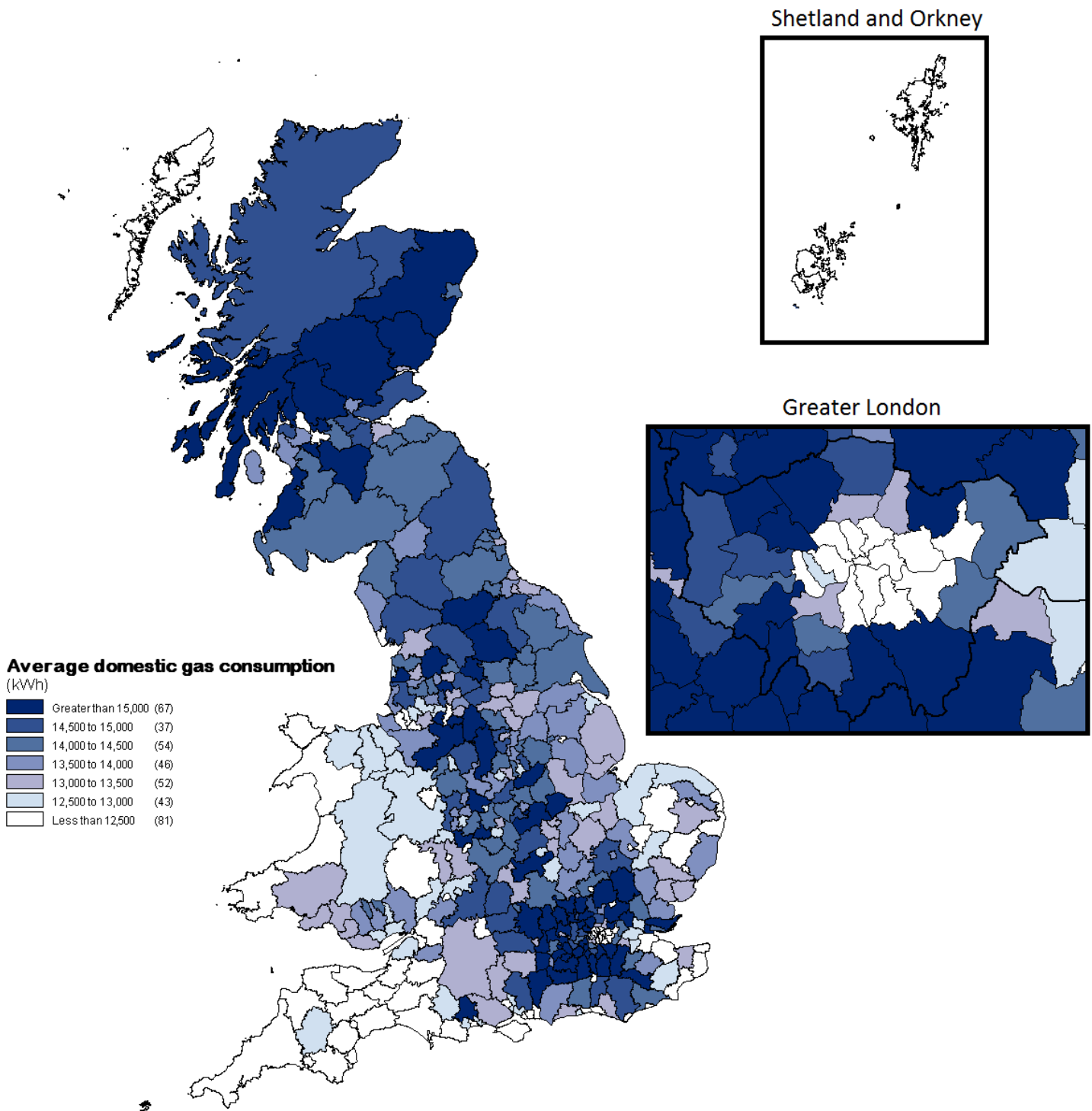
In terms of total domestic gas consumption for Great Britain, the South East consumed 14.1 per cent of all domestic gas, followed by London (13.0 per cent) and the North West (12.4 per cent). The North East and Wales consumed the least, 4.8 and 4.6 per cent respectively.

Map 5 below shows average (mean) domestic gas consumption per meter by local authority in 2013. South Bucks (South East) had the highest mean gas consumption in 2013 at 20,100 kWh compared with the lowest in Tower Hamlets (London) at 9,400 kWh.

¹⁸ 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 2012 and 2013 (from 345,080 GWh to 344,501 GWh) and average consumption (from 15,551 kWh to 15,462 kWh).

Map 5

Average domestic gas consumption per meter by local authority, 2013



Mean domestic gas consumption per meter in Great Britain decreased by 28 per cent between 2005 and 2013. There are a number of factors which may have contributed to the reductions in consumption, including; weather conditions, energy efficiency improvements¹⁹, such as

¹⁹ The energy efficiency of the housing stock improved between 2005 and 2013, the average SAP rating of a dwelling increased by 9.5 points from 49.0 to 58.5. The SAP rating is a measure of the overall energy efficiency of the dwelling. Table 13: English Housing Survey Headline Report 2012-13: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284648/English_Housing_Survey_Headline_Report_2012-13.pdf.

Gas

increased levels of insulation, new boilers and more energy efficient appliances; increased prices²⁰ and the recession; and changes in the building stock and household composition.

Chart 9 shows the decrease in average domestic gas consumption per meter point between 2005 and 2013 at regional level. Mean domestic consumption in 2013 was lower than 2012 in all regions; with the largest decrease occurring in Scotland (a reduction of 500 kWh, or 3.5 per cent), and the least in London (200 kWh, or 1.6 per cent).

Chart 9 Decrease in average domestic consumption per meter point between 2005 and 2013, and between 2012 and 2013

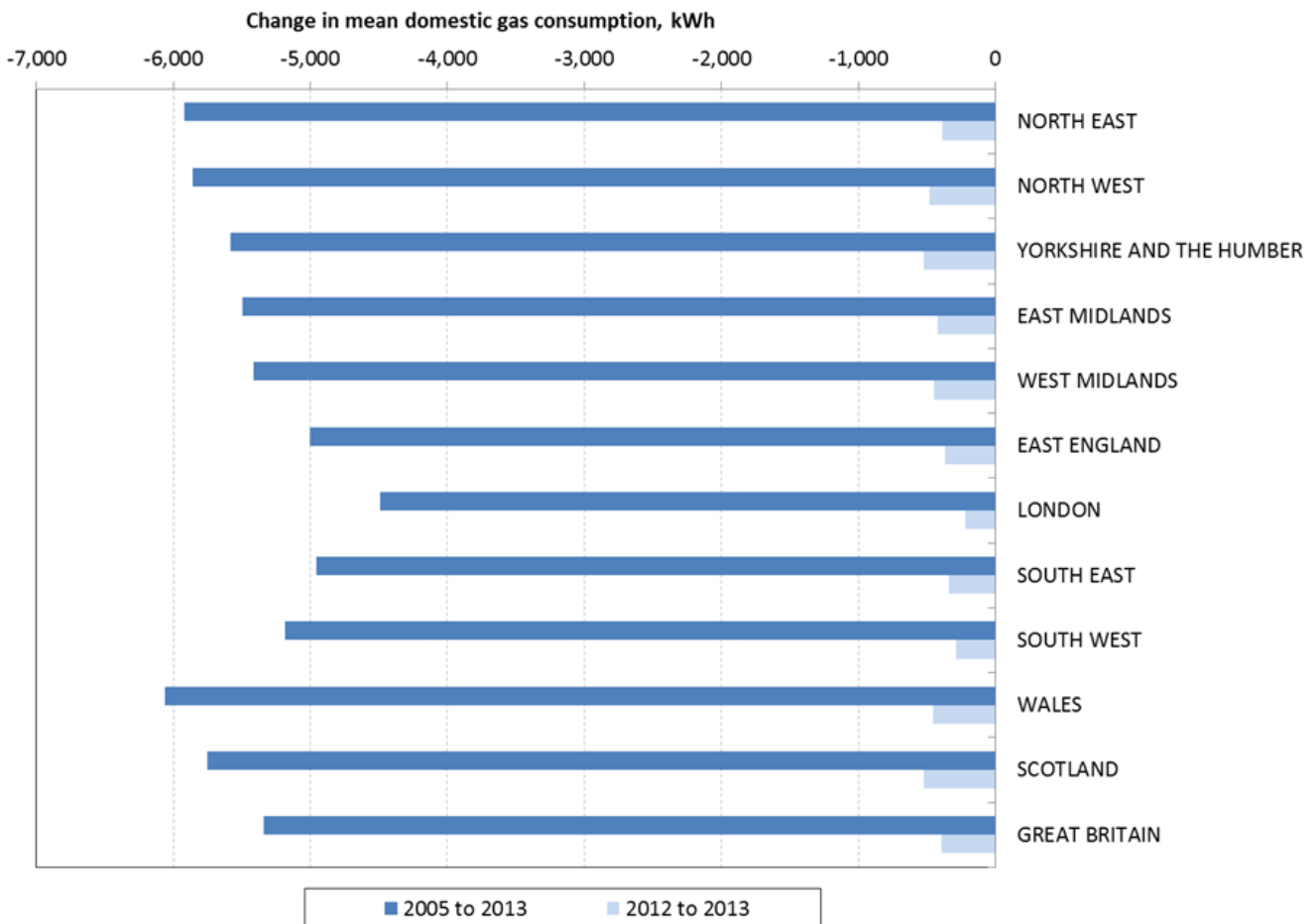
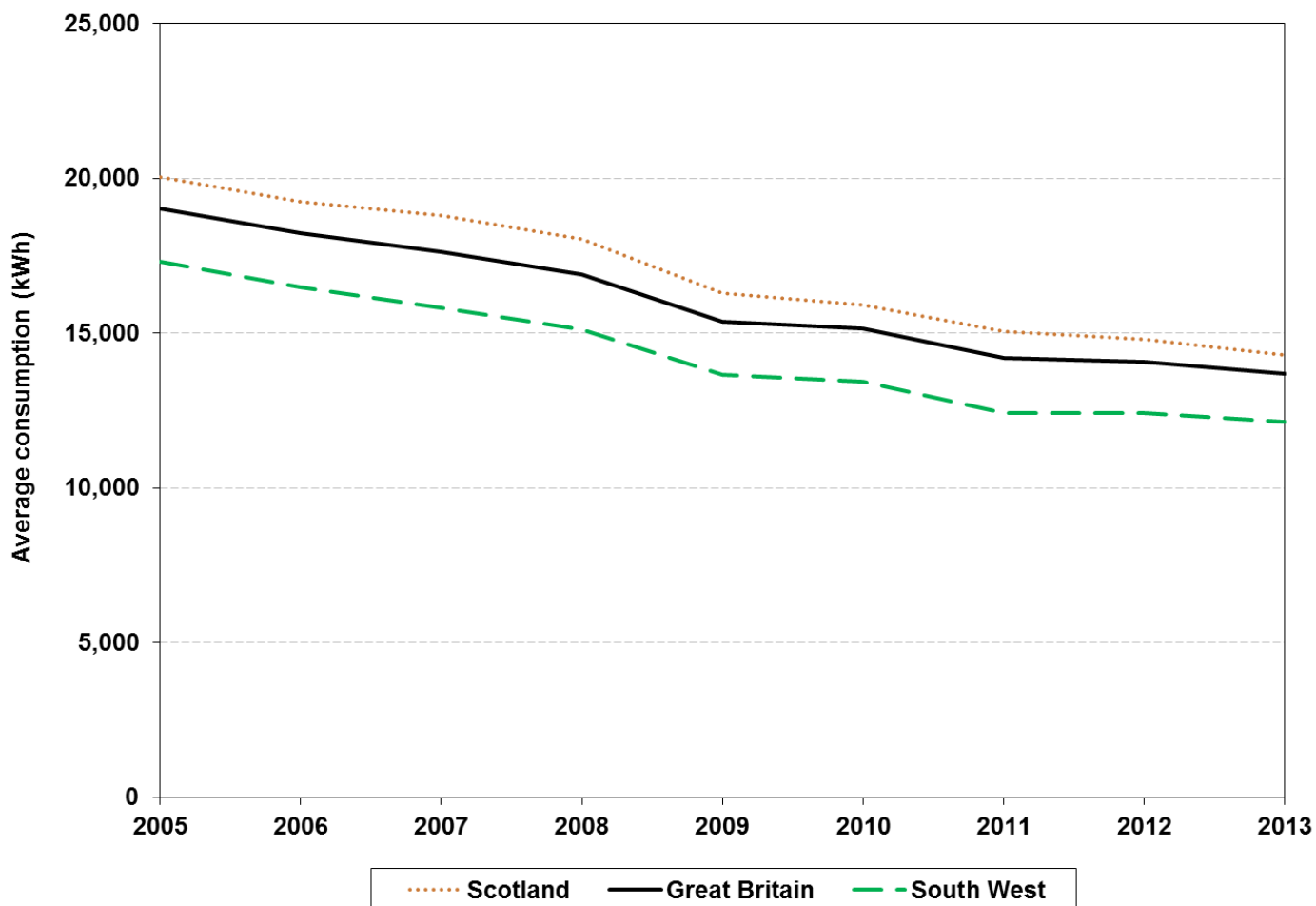


Chart 10 below shows the mean domestic gas consumption per meter for Scotland, the South West and Great Britain between 2005 and 2013. These regions have been selected as they had the highest and lowest average domestic gas consumption for each of the seven years. The average consumption for all other regions in Great Britain was between the lines shown for Scotland and the South West and all regions followed a similar trend.

²⁰ Between 2005 and 2013, domestic electricity prices contained in Quarterly Energy Prices show an increase of 81.4 per cent (50.3 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 10 Mean domestic gas consumption for selected regions, 2005 to 2013

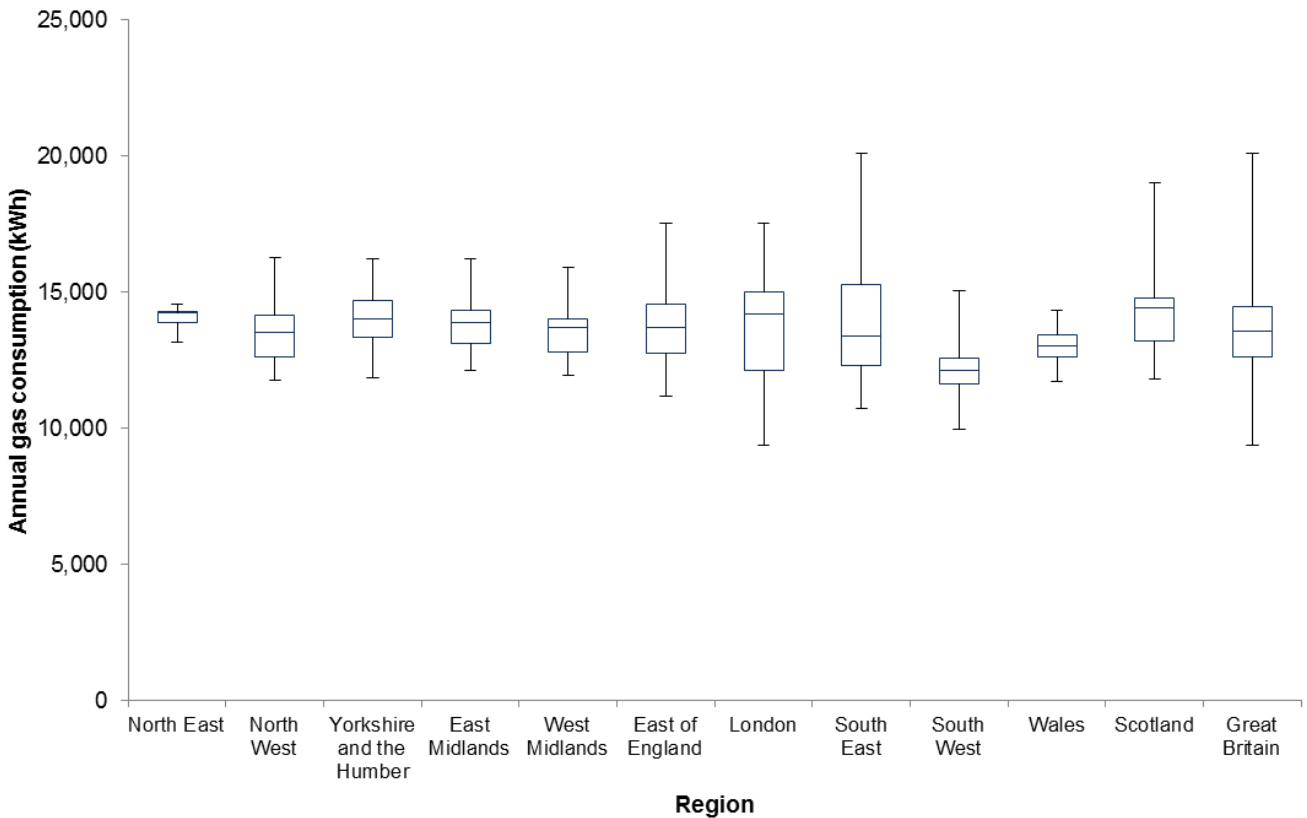


Distribution of domestic consumption

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 are greatest in the South East (a difference of 2,900 kWh per meter), whereas the inter-quartile range for the North East was 300 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 9,391 kWh (Tower Hamlets) in London to 13,200 kWh (South Tyneside) in the North East. The largest average domestic consumption per meter varies from 14,300 kWh (Merthyr Tydfil) in Wales to 20,100 kWh (South Bucks) in the South East.

Chart 11 Box plot of mean domestic gas consumption for local authorities within each region, 2013



3.3 Non-domestic gas consumption

Total non-domestic consumption

In 2013, total non-domestic annual gas consumption in Great Britain was 182,746 GWh (via 272,668 meters), 2.2 per cent lower than consumption in 2012 (186,860 GWh).

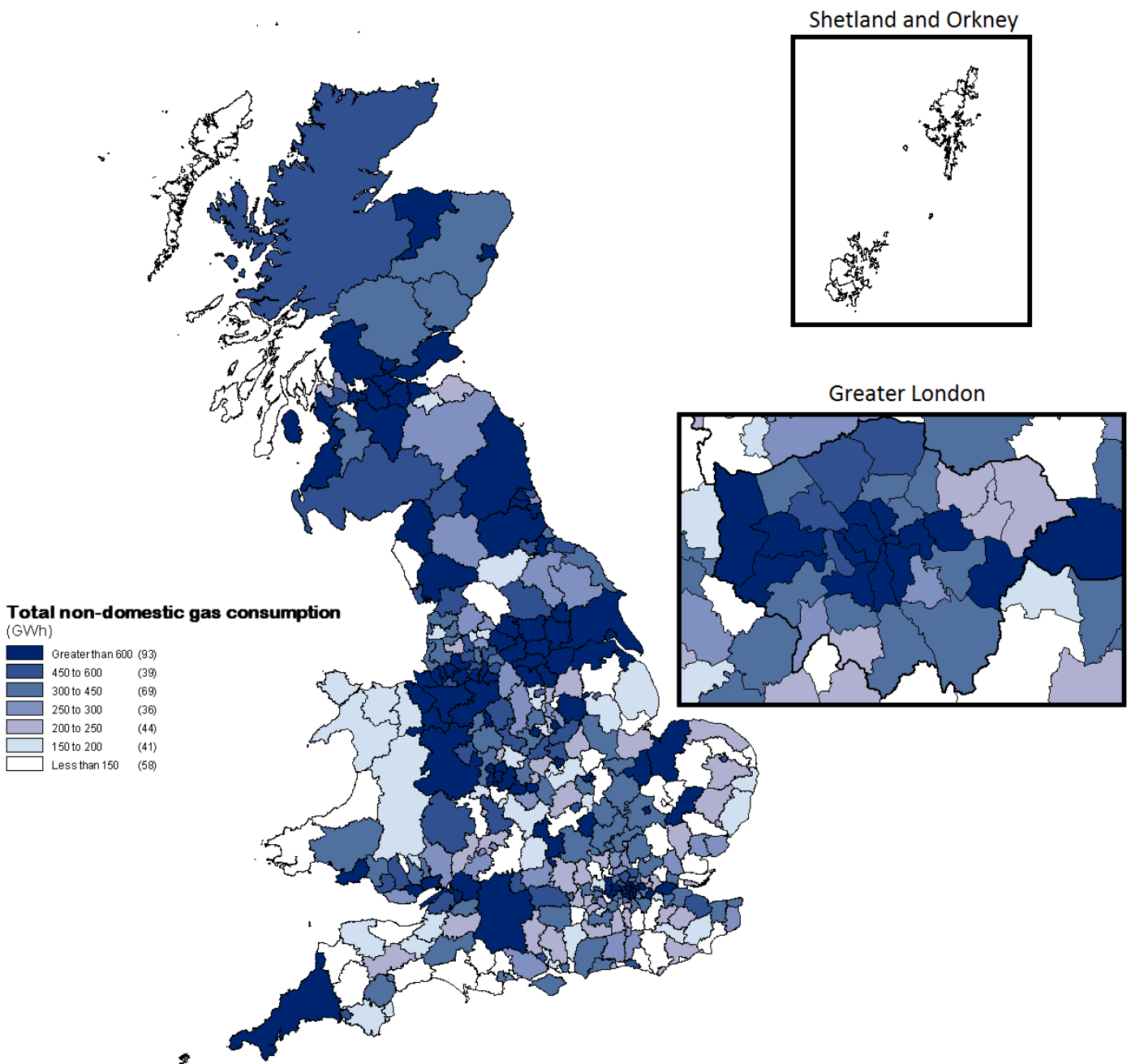
Non-domestic consumption increased in 151 local authority areas²¹ between 2012 and 2013. The total number of gas meters increased in most local authorities (213) between 2012 and 2013.

Map 6 shows total non-domestic gas consumption per meter by local authority in 2013.

²¹ 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 per meter by local authority, 2013



Average non-domestic consumption

Average annual non-domestic gas consumption per meter was 670,200 kWh in 2013, 3 per cent lower than in 2012 (687,500 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 5 per cent each. Yorkshire and the Humber, Scotland and Wales 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 2013.

Table 6 Average non-domestic gas consumption per meter and total non-domestic gas consumption by region, 2013

	Number of non-domestic meters (thousands)	Total non-domestic consumption (GWh)	Average non-domestic consumption (kWh)
East Midlands	19	13,975	735,600
East England	23	15,364	670,000
London	43	20,882	491,200
North East	12	8,600	737,100
North West	32	25,618	805,200
South East	40	18,218	455,100
South West	20	10,760	537,700
West Midlands	24	16,288	683,700
Yorkshire and The Humber	24	22,043	904,800
Scotland	24	20,545	848,000
Wales	11	8,976	833,600
England	236	151,748	642,600
Great Britain¹	273	182,746	670,300

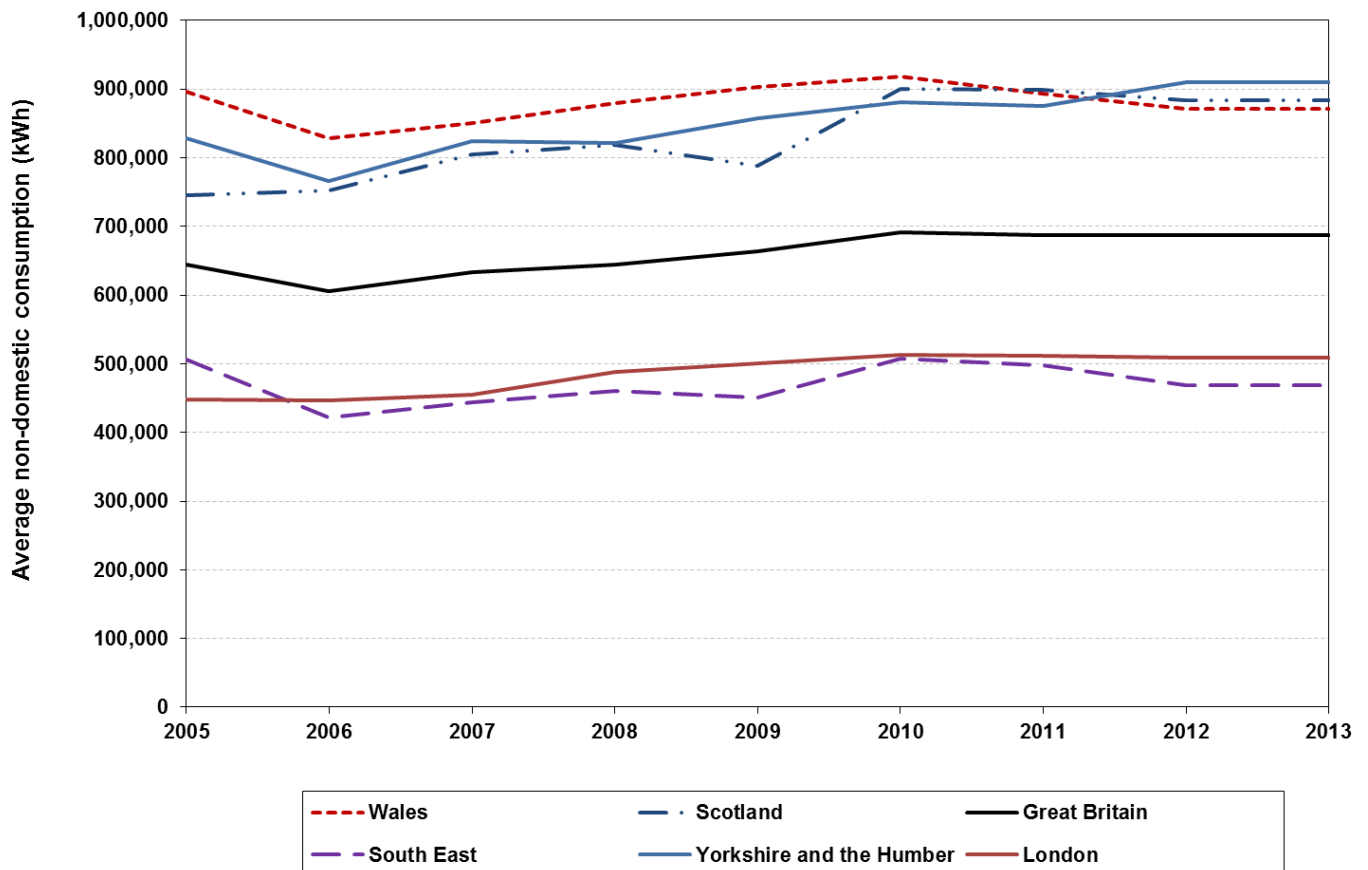
1. Includes 1,502 meters, with a total consumption of 1,477 GWh that couldn't be allocated at local authority level, representing 0.11 per cent of both total meters and consumption.

Chart 12 shows the trends in mean non-domestic gas consumption for Yorkshire and the Humber, Scotland, 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 2013 and also between 2012 and 2013. The average consumption for all other regions was between these levels.

Between 2012 and 2013, ten of the eleven regions saw a reduction in average consumption per non-domestic gas meter – the greatest reductions in consumption were in Wales and Scotland (both with a 4.0 per cent decrease). The only region with an increase in average consumption was the West Midlands, with a 0.7 per cent increase.

At a local authority level, King's Lynn and West Norfolk (East England) had the highest mean gas consumption in 2013 at 5,413,000 kWh compared with 206,100 kWh in Elmbridge (South East).

Chart 12 Average non-domestic gas consumption for selected regions, 2005 to 2013

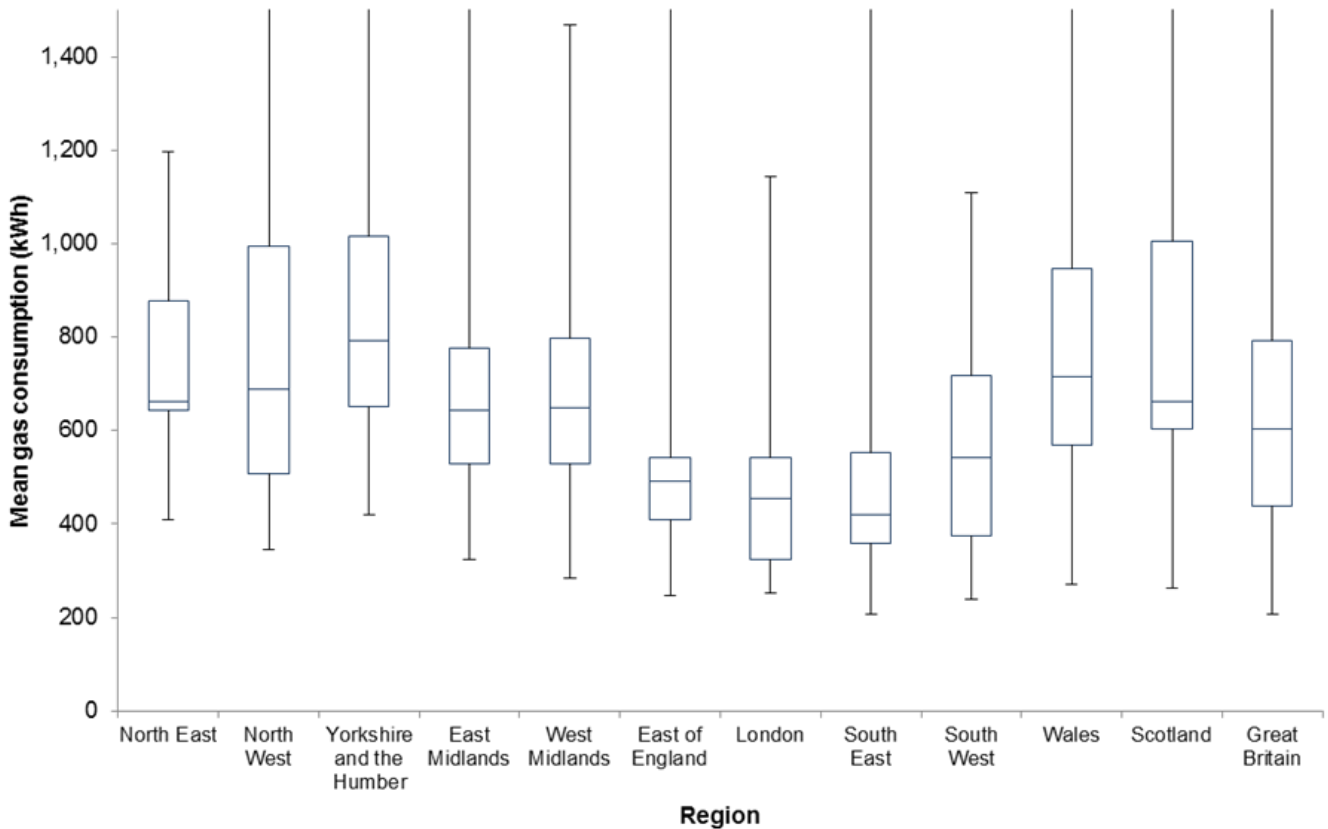


Distribution of non-domestic consumption

Chart 13 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 (486 MWh), whereas East England had the smallest spread (133 MWh) of average non-domestic gas consumption per local authority, reflecting the difference and similarities in businesses in the areas respectively. The median value was close to the lower quartile (the values such that 25 per cent of all data are lower) for the majority of regions, indicating a positive or right skewed distribution. The degree of variability between regions is much greater for non-domestic consumption than domestic.

Chart 13 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 area²². These estimates were published for the first time in December 2013.

The published data do 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.

²² 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 information²³. Approximately 0.2 per cent of domestic meters could not be allocated to a local authority in 2013.
- 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 2013 and therefore does not include any changes which may have occurred since 2013.

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 (20 per cent and 18 per cent respectively). In the North East and North West only around four per cent of households are not connected to the gas network.

Table 7 Estimated proportion of households not connected to the gas network using 2011 Census data, by region (2013)

	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	1,745	1,896	8%	150
East England	2,040	2,423	16%	383
London	3,009	3,266	8%	257
North East	1,089	1,130	4%	40
North West	2,876	3,010	4%	134
South East	3,169	3,555	11%	387
South West	1,822	2,265	20%	442
West Midlands	2,089	2,295	9%	206
Yorkshire and The Humber	2,103	2,224	5%	121
Scotland	1,965	2,373	17%	408
Wales	1,111	1,303	15%	192
England	19,944	22,063	10%	2,120
Great Britain¹	23,074	25,739	10%	2,665

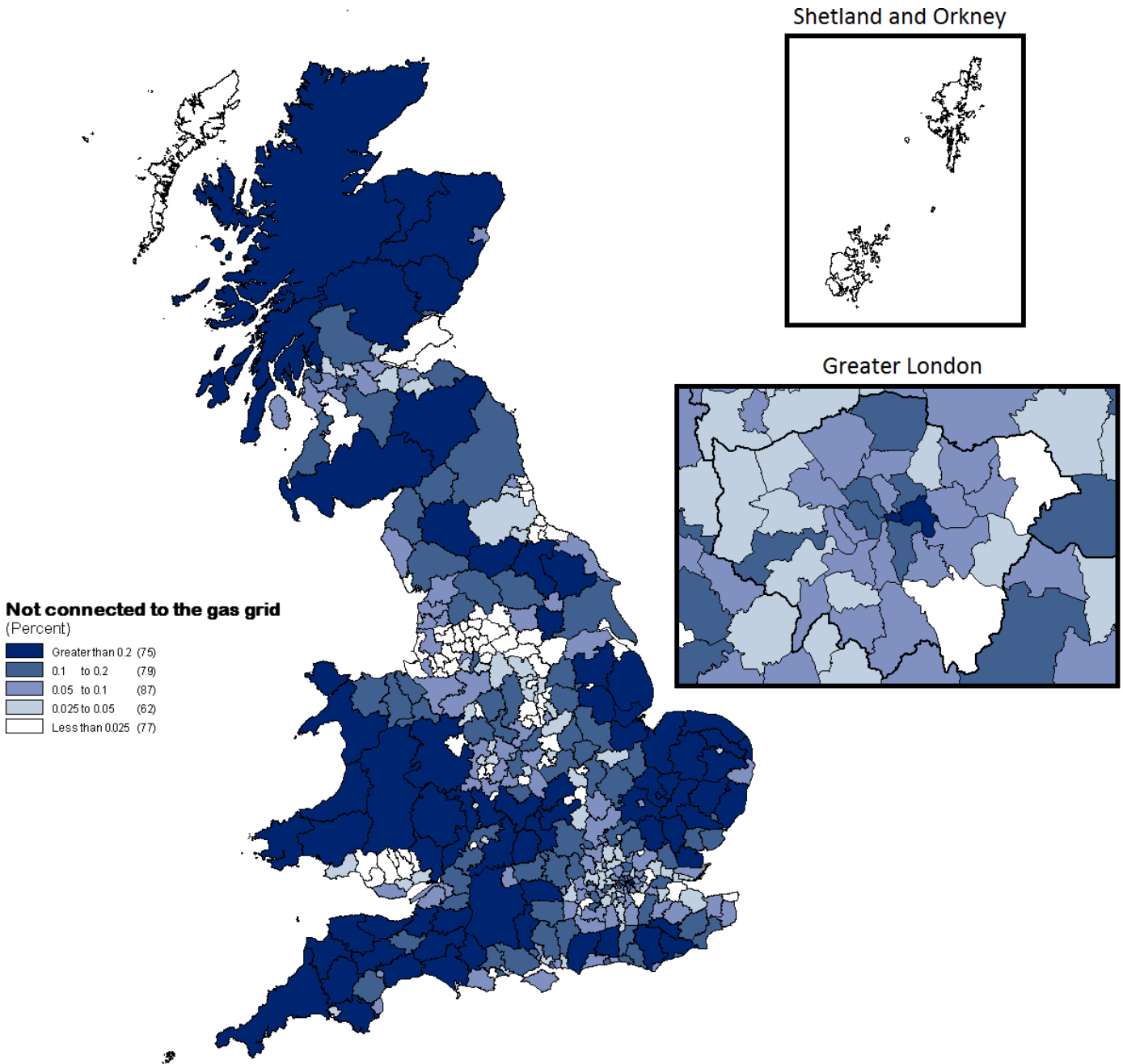
¹ Includes 15 thousand gas meters which could not be allocated at local authority level.

Map 7 shows how the proportion of properties without a gas meter varies across local authorities in Great Britain (the numbers in brackets in the key give the number of local authorities which fall into the relevant band). It shows that in the majority of local authorities fewer than 20 per cent of properties had no gas meter (305 out of 380 local authorities).

²³ 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

Percentage of meters that are off the gas grid by local authority, 2013



Estimates for local authority (2013 data) have been published at:

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

Estimates for lower level super output area (2013 data) will also be available from this link from 29 January 2015.

DECC are also working on a project to map 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. When outputs become available from this project they will be made available via the webpage linked above.

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 areas²⁴. 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 LSOAs²⁵ 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 people²⁶.

Gas and electricity estimates for 2011 and later are based on 2011 Census geographies. Data prior to 2011 are based on the 2001 Census boundaries²⁷. Estimates for 2013 will be published on 29 January 2015 and can be accessed at: <https://www.gov.uk/government/collections/mlsoa-and-lssoa-electricity-and-gas-estimates>.

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 Britain²⁸. 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.

²⁴ 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).

²⁵ For an illustration of LSOAs within an MSOA please see Annex D.

²⁶ 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>
<http://www.scotland.gov.uk/Publications/2005/02/20697/52626>.

²⁷ 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](#)

²⁸ 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.

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, 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/publications/lsoa-estimates-of-households-not-connected-to-the-gas-network>.

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 suppliers²⁹. 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 2013

	GWh	
Total final consumption (UK)		
Great Britain total consumption from meter point data		
Domestic	108,420	
Non-domestic	181,556	
	289,976	
Implied UK total consumption		
Great Britain total consumption (above)	289,976	
Plus Northern Ireland	7,834	
Plus Sales direct from high voltage lines (based on Ofgem data)	3,879	
Implied UK sales of electricity	301,688	
DUKES total UK sales (DUKES 2014 Table 5.4)	306,778	
Statistical difference	- 5,090	-2 per cent of UK Sales

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 7,368, -2 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 end of January 2012 to the end of January 2013 and not the calendar year 2012 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 years³⁰.

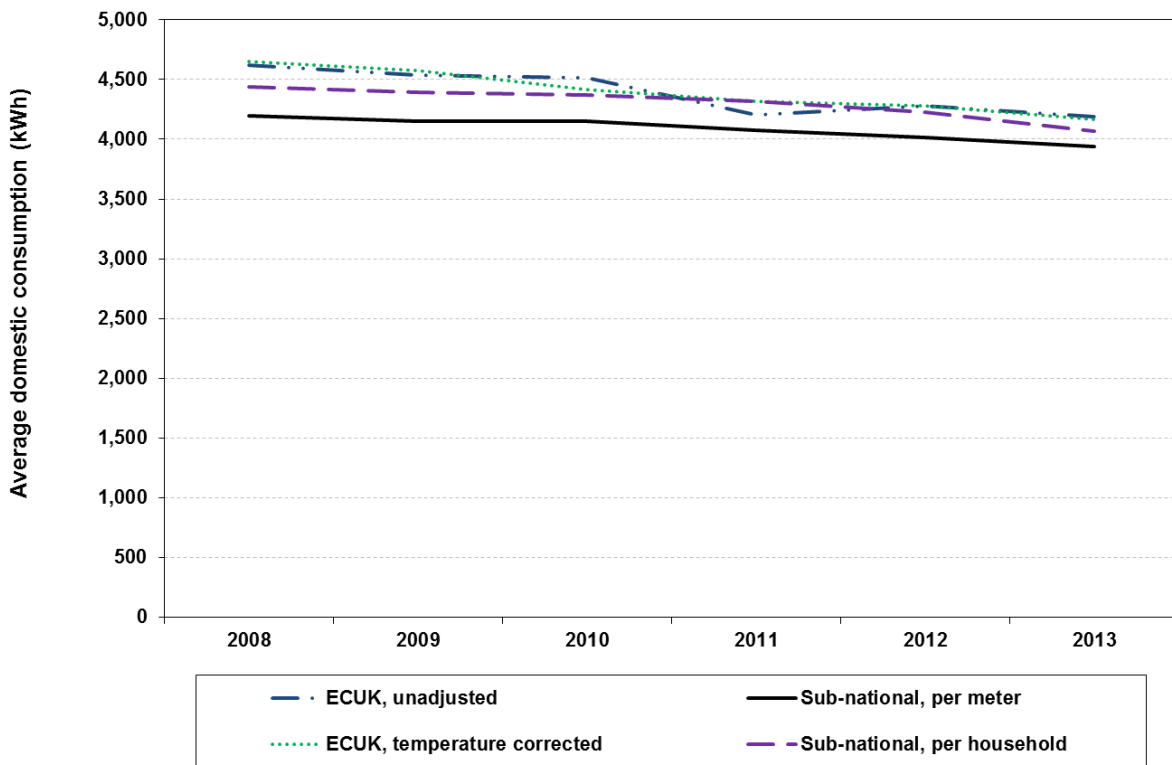
A comparison with the average annual consumption per household published in Energy Consumption in the UK (ECUK) Table 3.07 (and based on data from DUKES Table 1.1.5) also shows that the trend over time is consistent for the two sources, see Chart 14.

²⁹ Detailed electricity figures available in DUKES can be accessed here:

<https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/electricity-statistics>.

³⁰ In around three per cent of cases the same meter reading (kWh) is provided for 2012 and 2013.

Chart 14 Comparison of source, average (mean) annual electricity consumption per household, 2008 to 2013



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 2013. 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 2013

	2008	2009	2010	2011	2012	2013
ECUK 3.07 (UK, Calendar year, non-weather corrected basis)	16,546	15,767	17,774	13,252	15,551	15,462
ECUK 3.07 (UK, Calendar year, weather corrected basis)	16,975	16,212	15,605	14,947	15,494	14,829
Sub-national statistics (October [y-1] to September, weather corrected basis)	16,906	15,383	15,156	14,205	14,076	13,680
Average temperature (January to March, October to December)	6.4	6.3	4.3	7.5	6.6	5.9
Average temperature (October [y-1] to March)	6.9	5.9	5.6	5.4	7.7	5.2

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, 2013 had the lowest 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 Changes following review

During 2013-14 DECC migrated the production of sub-national estimates to a new IT system within DECC. As part of this process a parallel run on both the old and new systems was undertaken. This provided a good opportunity to review the processes and assumptions made in the production of sub-national estimates and user feedback³¹ has been provided earlier this year.

Based on the feedback received in response to the review and user engagement at DECC hosted and external events, a number of changes have been made to the assumptions underlying the data processes and how data are presented. As well as publishing the 2013 data the 2012 data have also been republished on the same basis. The changes made are summarised below:

- **Publishing median consumption.**

To date, the number of meters, total consumption and mean consumption are published at local authority, MSOA and LSOA level. The mean is a useful indicator of changes in consumption behaviour over time, however it does not represent the typical consumption or take into account the spread of the data. We have had feedback that it would be helpful to include the median as well as mean in the published statistics, and these are now included in the publication.

- **Electricity data – domestic statistics split by standard/ordinary and Economy 7 meters.**

Historically, local authority level statistics have been published by a domestic/non-domestic split. A further breakdown of the domestic sector has now been published providing information by type of domestic meter (standard and Economy 7).

- **Gas statistics – sector split.**

Historically gas data has not been supplied with a sector/profile indicator and instead a domestic/non-domestic split has been applied based on the gas industry threshold of 73,200 kWh, such that any meter consuming less than this amount is deemed to be a domestic meter and any meter with a consumption of 73,200 kWh or more is deemed to be non-domestic. Changes have been made to the gas industry systems so that a flag indicating whether a property is domestic or non-domestic is now provided. Initial analysis comparing the two approaches has been undertaken and suggests that the new industry supplied variable provides a better indication than the current threshold used³².

However, there are limitations to both approaches, and potential drawbacks to making a break in the time series, so DECC has published experimental gas consumption data based on the new variable alongside the headline statistics using the 73,200 kWh cut off.

Feedback on which approach is more useful would be appreciated so a decision can be made for the 2014 publication in December 2015. Feedback should be provided to EnergyEfficiency.Stats@decc.gsi.gov.uk by 31 March 2015.

³¹ Details of this review can be accessed here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/320488/sub_national_user_feedback_request.pdf.

³² Comparisons with DUKES data and electricity profile data provided at property level.

- **Updated LA codes published.**

Statistics have been published by NUTS4 code and historic LA code up to 2012. The new ONS LA code has been provided with the 2013 dataset and the updated 2012 dataset. The NUTS4 code has continued to be included in the datasets.

- **Improvements to assignment of geographic areas.**

Following a review of the approach to assigning geographic information to meters in the dataset more strict rules around the geographic allocation for records where there is not sufficient or valid postcode information have been implemented. For the majority of cases there is no difference in the local authority allocation using either approach.

Previously where insufficient or invalid postcode information in the dataset meant it was not possible to match the data to the relevant National Statistics Postcode Lookup (NSPL) file a meter would be allocated to a local authority, MSOA or LSOA based on the historic allocation. This meant that occasionally meters would be assigned to the wrong area, particularly following boundary or code changes. The new approach continues to look at historic information for the relevant MPRN/MPAN, but uses a valid postcode, where one exists, and matches this to the latest NSPL file. The new approach also includes taking partial postcodes (out codes) and allocating them to an LA in circumstances where the out code is entirely within a single LA (based on the NSPL allocation). Finally, the address matching used by DECC for other work has helped to assign some additional postcodes for address which had good address information and no postcode information.

These changes have led to an improved accuracy of the data which have been allocated to geographic areas, improving the quality of the estimates, but it has also increased the number of unallocated meters at MSOA and LSOA levels. The changes have an impact on the estimates for some areas, particularly for non-domestic estimates where large consumers may have been reallocated as a result of these changes.

There is no impact on overall estimates for Great Britain as a result of these changes.

- **Csv files**

Data are also being published as CSV files to aide a range of users and in line with the Government's Open Data commitments.

- **Publication of MSOA and LSOA estimates in January 2015**

Previously, LA estimates have been published in December and MSOA and LSOA estimates the following March. For 2013 consumption, MSOA and LSOA estimates will be published on 29 January 2015. It is intended this will be the new regular date release month for these estimates, but this may have to be reviewed given the challenge to analyse and publish the electricity and gas meter point datasets to this level within three months of being supplied with it.

- **Combining the gas, electricity and super output area factsheets**

Given the condensed release timetable for the super output area data and the overlap of users for the gas and electricity estimates, the factsheets for these three previously separate releases have been combined from December 2014. **Feedback on the content of the factsheet is welcomed.**

6.2 Future plans

In addition to the changes which have already been made, there are a number of further developments planned. These include:

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

DECC is investigating the potential to publish domestic gas and electricity consumption estimates at postcode level. If this is feasible, without requiring aggregation of too many areas to avoid disclosure, then 2013 estimates will be published during 2015. Feedback on the dataset will then determine whether this becomes part of the longer term regular publications. DECC will welcome user feedback on uses of these data.

- **Gas profile split.**

Subject to user feedback, it is proposed that in future the domestic/non-domestic flag provided with the gas dataset will be used instead of the 73,200 kWh cut off to assign meters to the relevant sector.

- **Combined factsheet for road transport, residual fuels and total final energy consumption statistics.**

Road transport consumption statistics³³ are published annually at the end of June, and residual fuels³⁴ and total final energy consumption statistics³⁵ annually at the end of September. Each dataset is published with an accompanying factsheet. It is proposed that instead of publishing three separate factsheets, one single factsheet summarising the key statistics will be published at the same time as the publication of the totals dataset.

- **Electricity consumption statistics in Northern Ireland at district level³⁶.**

The Department monitors the number of users of each of our datasets, and this is one of the least used sets of statistics. It is therefore proposed (unless there is objection) that publication of these statistics are ceased. **Views from any users of these estimates should be provided to EnergyEfficiency.Stats@decc.gsi.gov.uk by 31 March 2015.**

- **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 values³⁷. 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 consumption and published on the DECC website.

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.

³³ Background information and road transport consumption statistics can be accessed here:

<https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level>.

³⁴ Background information and residual fuels consumption statistics can be accessed here:

<https://www.gov.uk/government/collections/sub-national-consumption-of-other-fuels>.

³⁵ Background information and total final energy consumption statistics can be accessed here:

<https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level>.

³⁶ Background information and Northern Ireland electricity consumption statistics can be accessed here:

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

³⁷ The Review of typical domestic consumption values (Ofgem) can be accessed here: <https://www.ofgem.gov.uk/ofgem-publications/74735/tdcv-review-consultation.pdf>

Annex A: Highest and lowest local authority averages, 2013

Electricity 2013, domestic and non-domestic highest and lowest consuming local authorities

Local authority	Domestic consumers		Commercial & industrial consumers		All consumers		Sales per meter (kWh)	
	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Average domestic consumption	Average commercial and industrial consumption
Northumberland	573.9	151.0	908.8	13.2	1,482.8	164.2	3,801	68,826
South Tyneside	222.2	70.4	242.9	3.9	465.1	74.3	3,156	62,161
Redcar and Cleveland UA	213.0	63.0	814.4	3.6	1,027.4	66.6	3,383	225,724
Stockton-on-Tees	292.4	84.2	1,019.1	5.2	1,311.5	89.4	3,471	196,805
TOTAL NORTH EAST	4,102.0	1,199.0	7,767.0	80.6	11,869.1	1,279.6	3,421	96,337
Barrow-in-Furness	112.1	33.0	380.7	2.1	492.8	35.1	3,401	179,395
Eden	124.3	24.7	234.7	4.3	359.0	29.1	5,023	54,042
Knowsley	232.0	64.5	531.9	2.8	763.9	67.3	3,595	191,740
Copeland	130.4	32.7	104.0	2.7	234.3	35.4	3,982	38,698
TOTAL NORTH WEST	11,976.8	3,152.8	20,191.1	236.4	32,167.9	3,389.2	3,799	85,394
Richmondshire	102.6	22.8	123.9	2.9	226.5	25.7	4,501	43,065
Kingston upon Hull, City of	391.3	118.3	705.3	7.8	1,096.6	126.1	3,309	90,132
North Lincolnshire	270.8	73.5	982.5	5.8	1,253.2	79.3	3,682	169,595
Craven	113.5	26.4	144.2	3.5	257.7	29.9	4,302	40,721
HUMBER	8,602.8	2,348.4	15,083.1	179.2	23,686.0	2,527.7	3,663	84,154
Daventry	165.4	33.9	255.3	3.1	420.6	37.1	4,874	81,290
Chesterfield	161.6	48.6	255.3	4.0	416.8	52.7	3,322	63,123
Corby	98.8	27.4	373.2	2.1	472.0	29.5	3,610	176,041
East Lindsey	288.3	65.5	374.7	7.6	663.0	73.1	4,403	49,482
TOTAL EAST MIDLANDS	7,770.4	2,002.9	13,342.5	158.7	21,112.8	2,161.6	3,880	84,092
Stratford-on-Avon	271.2	54.5	368.9	6.1	640.1	60.6	4,976	60,670
Stoke-on-Trent	385.1	111.9	596.5	8.0	981.6	119.9	3,441	74,546
North Warwickshire	118.1	27.2	369.4	2.5	487.5	29.7	4,342	145,832
Malvern Hills	156.2	33.7	140.1	3.4	296.3	37.1	4,631	41,543
TOTAL WEST MIDLANDS	9,494.1	2,388.2	14,997.4	195.6	24,491.5	2,583.9	3,975	76,661
Uttlesford	173.3	34.3	222.9	3.5	396.2	37.8	5,056	63,609
Norwich	206.4	64.4	417.3	6.9	623.7	71.3	3,205	60,632
Thurrock	279.2	66.1	644.2	4.4	923.5	70.5	4,224	147,317
Epping Forest	262.0	54.9	209.3	5.0	471.2	59.9	4,773	42,019
TOTAL EAST ENGLAND	10,956.3	2,574.0	15,799.7	216.8	26,756.0	2,790.8	4,257	72,864

Electricity 2013 (continued)

	Domestic consumers		Commercial & industrial consumers		All consumers		Sales per meter (kWh)	
	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Average domestic consumption	Average commercial and industrial consumption
Local authority								
Barnet	632.6	143.1	525.6	12.0	1,158.2	155.0	4,421	43,961
Islington	320.2	101.0	899.7	17.6	1,219.9	118.5	3,170	51,267
City of London	26.8	6.3	2,412.0	6.8	2,438.8	13.1	4,244	355,070
Lewisham	419.5	121.3	326.9	11.2	746.4	132.4	3,460	29,233
TOTAL LONDON	13,101.7	3,439.9	27,376.3	396.8	40,478.0	3,836.7	3,809	68,998
South Bucks	149.5	28.2	216.2	2.8	365.7	31.0	5,303	76,416
Portsmouth	318.6	89.5	677.6	7.1	996.2	96.6	3,561	95,613
Slough	198.8	51.4	838.8	4.4	1,037.6	55.8	3,871	190,293
Wealden	319.7	66.4	213.3	6.5	533.0	72.9	4,816	32,867
TOTAL SOUTH EAST	16,058.2	3,755.0	22,744.2	330.7	38,802.5	4,085.6	4,277	68,782
Isles of Scilly	8.0	1.2	8.5	0.5	16.5	1.6	6,870	17,952
Weymouth and Portland	111.1	31.5	103.3	2.9	214.4	34.4	3,527	35,843
Swindon	349.3	93.0	762.3	5.9	1,111.7	98.9	3,757	128,683
Torridge	138.1	30.5	130.6	4.5	268.6	34.9	4,533	29,321
TOTAL SOUTH WEST	10,345.6	2,459.7	13,930.9	247.8	24,276.5	2,707.5	4,206	56,225
Ceredigion	160.3	33.3	195.7	5.4	356.0	38.7	4,810	36,102
Blaenau Gwent	105.7	32.0	174.1	2.2	279.8	34.2	3,300	80,392
Neath Port Talbot	218.1	64.7	1,283.7	4.0	1,501.8	68.8	3,368	320,290
Powys	264.9	61.2	334.3	10.8	599.2	72.0	4,331	30,927
TOTAL WALES	5,179.5	26.4	144.2	3.5	257.7	29.9	4,302	40,721
Shetland Islands	101.3	17.3	95.1	1.8	196.5	19.1	5,865	52,306
Glasgow City	1,051.3	330.0	1,961.7	23.6	3,013.1	353.6	3,186	83,155
West Lothian	296.0	78.5	567.6	5.1	863.6	83.7	3,769	110,498
Orkney Islands	79.8	14.3	60.3	2.3	140.0	16.6	5,581	26,438
TOTAL SCOTLAND	10,652.6	2,765.3	15,220.3	213.8	25,872.9	2,979.1	3,852	71,204
Unallocated	179.7	32.8	249.7	0.3	698.496	33.1	13,677	846,528
GREAT BRITAIN	108,419.9	27,521.1	181,555.7	2,404.1	289,975.6	29,925.2	3,940	75,520

Gas 2013, domestic and non-domestic highest and lowest consuming local authorities

Local authority	Domestic consumers		Commercial & industrial consumers		All consumers		Sales per meter (kWh)	
	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Average domestic consumption	Average commercial and industrial consumption
Northumberland UA	1,703.3	116.8	1,143.8	1.3	2,847.1	118.1	14,583	877,144
South Tyneside	891.3	67.7	252.0	0.6	1,143.3	68.3	13,175	409,815
Darlington	644.0	45.3	595.9	0.5	1,239.9	45.8	14,207	1,196,602
Middlesbrough	775.4	57.7	359.0	0.6	1,134.4	58.3	13,434	589,439
TOTAL NORTH EAST	15,301.2	1,089.5	8,600.4	11.7	23,901.5	1,101.1	14,045	737,090
Ribble Valley	329.7	20.2	264.0	0.3	593.7	20.5	16,291	933,036
Knowsley	735.8	62.5	603.1	0.4	1,338.9	62.9	11,775	1,364,538
Allerdale	517.9	36.7	958.0	0.4	1,475.8	37.2	14,101	2,182,187
Sefton	1,641.2	117.6	407.9	1.2	2,049.1	118.7	13,961	344,211
TOTAL NORTH WEST	39,022.2	2,876.0	25,618.2	31.8	64,640.4	2,907.8	13,568	805,173
Harrogate	919.0	56.6	480.2	1.0	1,399.2	57.6	16,223	497,608
Kingston upon Hull, City of UA	1,313.6	110.6	1,034.6	1.2	2,348.2	111.9	11,872	834,317
Selby	372.2	26.5	1,033.2	0.2	1,405.4	26.7	14,043	4,696,427
Craven	308.2	20.6	127.7	0.3	435.9	20.9	14,948	420,141
TOTAL YORKSHIRE AND THE HUMBER	29,505.9	2,103.1	22,043.2	24.4	51,549.2	2,127.5	14,030	904,784
Rushcliffe	707.5	43.6	520.3	0.4	1,227.8	44.0	16,226	1,221,272
Lincoln	490.8	40.4	348.7	0.5	839.5	40.9	12,152	697,440
Corby	342.0	26.3	865.4	0.3	1,207.4	26.6	13,027	2,583,205
Oadby and Wigston	340.6	22.2	104.2	0.3	444.8	22.5	15,375	323,621
TOTAL EAST MIDLANDS	24,291.5	1,745.3	13,974.9	19.0	38,266.5	1,764.3	13,919	735,561
Bromsgrove	574.6	36.1	133.8	0.4	708.3	36.5	15,917	309,694
Worcester	477.7	40.0	229.7	0.5	707.3	40.5	11,948	483,490
Staffordshire Moorlands	528.7	35.4	464.5	0.3	993.2	35.7	14,932	1,469,784
Malvern Hills	285.6	21.2	75.0	0.3	360.6	21.5	13,460	283,073
TOTAL WEST MIDLANDS	28,394.6	2,089.3	16,287.8	23.8	44,682.4	2,113.1	13,590	683,642
Three Rivers	588.1	33.5	125.7	0.5	713.8	34.0	17,537	245,475
Norwich	648.4	58.1	502.6	0.8	1,151.0	58.8	11,168	646,861
King's Lynn and West Norfolk	452.7	35.6	2,208.5	0.4	2,661.2	36.0	12,712	5,413,010
St Edmundsbury	419.1	32.8	1,487.3	0.4	1,906.4	33.3	12,759	3,411,251
TOTAL EAST ENGLAND	28,258.5	2,040.3	15,363.7	22.9	43,622.3	2,063.3	13,850	669,940

Gas 2013 (continued)

	Domestic consumers		Commercial & industrial consumers		All consumers		Sales per meter (kWh)	
	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Sales 2013 - GWh	Number of meters (thousands)	Average domestic consumption	Average commercial and industrial consumption
Local authority								
Barnet	2,218.3	126.6	546.6	2.2	2,764.9	128.8	17,520	252,251
Tower Hamlets	725.7	77.3	731.5	1.2	1,457.2	78.5	9,391	600,075
Bexley	1,260.4	88.8	728.4	0.6	1,988.8	89.4	14,195	1,145,335
Newham	1,102.5	92.9	1,041.2	0.9	2,143.8	93.8	11,864	1,140,467
TOTAL LONDON	41,064.8	3,009.1	20,881.6	42.5	61,946.5	3,051.6	13,647	491,159
South Bucks	512.1	25.5	153.1	0.7	665.3	26.1	20,104	235,229
Portsmouth UA	845.0	78.7	418.7	0.8	1,263.7	79.5	10,738	518,785
Gravesham	501.0	38.5	384.9	0.3	885.9	38.8	12,999	1,503,385
Elmbridge	977.0	51.1	300.9	1.5	1,277.9	52.6	19,114	206,105
TOTAL SOUTH EAST	44,491.1	3,168.8	18,218.3	40.0	62,709.4	3,208.8	14,040	455,026
East Dorset	500.2	33.2	62.9	0.3	563.1	33.5	15,061	239,233
Plymouth UA	1,059.7	106.0	453.2	0.8	1,512.9	106.9	9,993	538,257
Mid Devon	219.7	19.5	230.8	0.2	450.6	19.7	11,278	1,109,800
Forest of Dean	270.0	21.1	216.5	0.2	486.5	21.3	12,802	1,104,796
TOTAL SOUTH WEST	22,098.8	1,822.2	10,759.6	20.0	32,858.4	1,842.2	12,128	537,682
Merthyr Tydfil	371.3	25.9	128.3	0.2	499.6	26.1	14,328	557,981
Gwynedd	346.8	29.6	187.5	0.4	534.3	30.1	11,714	421,307
Wrexham	625.8	49.6	1,108.6	0.5	1,734.5	50.1	12,620	2,348,810
Conwy	569.6	45.0	154.6	0.6	724.2	45.6	12,646	271,706
TOTAL WALES	14,477.0	1,111.2	8,976.2	10.8	23,453.1	1,121.9	13,029.0	833,518
East Renfrewshire	651.4	34.2	102.3	0.4	753.7	34.6	19,046	262,396
Glasgow City	2,906.8	246.4	2,377.8	3.6	5,284.5	249.9	11,799	662,144
Clackmannanshire	308.9	22.1	810.8	0.2	1,119.7	22.3	13,997	3,842,834
East Dunbartonshire	765.6	41.8	146.2	0.4	911.8	42.2	18,337	350,687
TOTAL SCOTLAND	28,073.0	1,964.9	20,545.3	24.2	48,618.3	1,989.1	14,287	847,999
Unallocated	677.2	54.5	1,477.1	1.5	2,154.4	56.0	12,437	983,438
GREAT BRITAIN	315,655.9	23,074.1	182,746.4	272.7	498,402.3	23,346.8	13,680	670,216

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/mlsoa-and-lsoa-electricity-and-gas-estimates>.

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>.

Annex E: Impact of changes

This Annex summarises the impact of changes to the methodology on estimates of sub-national electricity and gas consumption. It covers changes as a result of refinements made to the 2013 publication as well as proposals for a change to the way gas meters are allocated as domestic or non-domestic.

Changes to methodology, 2013 estimates

As described in the report, there have been a number of changes to the methodology which have led to some revisions to the data. Data for 2012 have been republished based on the new methodology to allow users to gain an understanding of the change between 2012 and 2013 irrespective of methodological changes. Analysis below shows the impact of the methodological changes on the 2012 data.

There are two main categories of change, changes to the underlying assumptions. For example, in the way duplicates meters in the dataset are dealt with, and changes to the geographic allocation, leading to changes in the local authority some meters are assigned to. A number of additional gas meters which had been unavailable at the time the 2012 estimates were originally published (primarily domestic) were also received and have an influence on the revised 2012 gas estimates.

Assumptions

The impact of changes to the underlying assumptions can be seen in the change to estimates for Great Britain as a whole. The biggest change in the electricity dataset is a 0.06 per cent increase in average non-domestic consumption for 2012, which is primarily the result of 0.05 per cent decrease in the number of non-domestic electricity meters in the dataset. Any meter which has a negative electricity reading identical to the reading for the previous year is now excluded from the dataset. This means that a number of meters are removed and the average for the remaining meters increases³⁸. All the meters excluded from the 2012 dataset under the new methodology are meters which had negative readings in 2011 and identical negative readings in 2012.

The impact of methodological refinements on gas is slightly greater, but again very small. The greatest difference is a 0.22 per cent increase in non-domestic average annual gas consumption. This is driven by an increase in sales of 0.13 per cent. This increase primarily the result of additional data provided for the revised 2012 estimates. The impact of changes to the assumptions themselves is very small.

Geography allocation

Following the review of the approach to assigning geographic information to meters in the dataset, more strict rules have been implemented. For the majority of cases there is no difference in the local authority allocation using either approach but there are some differences for records where there is not sufficient or valid postcode information to assign a local authority of lower level geography initially. Changes in the geography allocation have no impact on the totals for Great.

³⁸ Negative meter readings can appear in the electricity dataset when a meter has been overcharged in one year and is rebalanced, this should not occur two years in a row, and identical readings suggest the previous year's figure has been rolled forward rather than a further adjustment being required. Therefore these meters are now excluded.

In the domestic sector any changes in mean consumption as a result of reallocation in meters is very small. For electricity, the local authority with the greatest increase in consumption as a result of the change is Westminster where mean domestic consumption increased by 0.3 per cent. The greatest reduction is in West Dunbartonshire where there was a decrease of 0.5 per cent. For gas the range of differences was similar, with the most extreme changes being a 0.5 per cent increase in mean domestic consumption in Weymouth and Portland and a 0.3 per cent decrease in Argyll and Bute.

Larger changes occur in the non-domestic sector, though in the majority of cases (264 out of 380 local authorities for electricity and 323 for gas) the change in mean consumption as a result of reallocations is less than one per cent. There are ten local authorities where the mean non-domestic electricity consumption changes by more than ten per cent and four for gas. Where these larger changes have occurred, it is generally a result of a small number of very large consumers being assigned to a different local authority or joining or leaving the group of unallocated meters. This could occur because of improved postcode information being provided or because the postcode information available is not good enough to make an accurate assessment of the correct local authority.

Changes to domestic non-domestic gas flag

As described in the main part of the report, historically gas data have not been supplied with a sector/profile indicator and instead a domestic/non-domestic split has been applied based on the gas industry threshold of 73,200 kWh, such that any meter consuming less than this amount is deemed to be a domestic meter and any meter with a consumption of 73,200 kWh or more is deemed to be non-domestic. Changes have been made to the gas industry systems so that a flag indicating whether a property is domestic or non-domestic is now provided. Initial analysis comparing the two approaches has been undertaken and suggests that the new industry supplied variable provides a better indication than the current threshold used³⁹.

However, there are limitations to both approaches, potential drawbacks to making a break in the time series, and any change would lead to large changes to the estimates for the non-domestic sector. DECC has therefore published experimental estimates for 2013 using the industry provided domestic/non-domestic flag to give users a sense of the implications of the change and would appreciate **feedback on which approach would be preferred going forward. Feedback should be provided to EnergyEfficiency.Stats@decc.gsi.gov.uk by 31 March 2015.** Views to date have been mixed.

Using the industry flag moves a lot of relatively low consuming non-domestic meters which are currently classified as domestic into the non-domestic category (for 2013 there is 172 per cent increase in the number of non-domestic meters in Great Britain). However as these are relatively low consuming non-domestic meters the total non-domestic consumption does not increase comparably (in 2013 total non-domestic sales increased by 4 per cent as a result of the change). This leads to a large reduction in mean non-domestic consumption if the industry flag is used, 62 per cent in 2013.

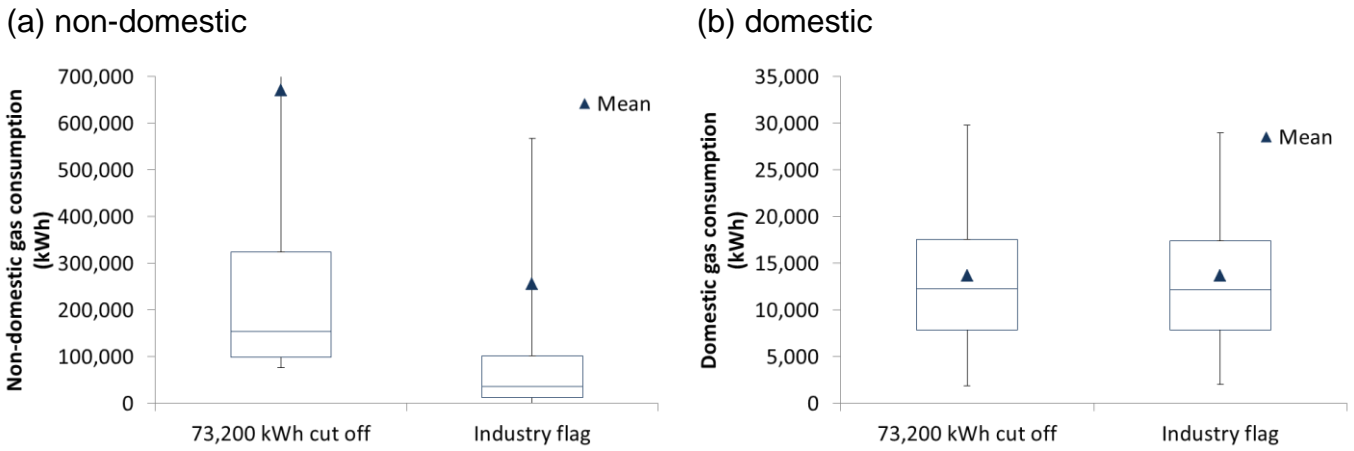
The impact of changes on the domestic sector is much smaller, using the 73,200 kWh industry cut off results in a mean consumption of 13,680 kWh in 2013, compared to 13,665 kWh using the industry flag, a difference of just 0.1 per cent.

Chart E.1 compares the distribution of consumption for non-domestic and domestic meters for the two approaches. These show the mean consumption as well as the spread in consumption

³⁹ Analysis has included comparisons with DUKES data and comparison with meter point data assigned as non-domestic in NEED (i.e. the property is included in the non-domestic rates dataset), as well as linking data at property level to see which indicator is most consistent with the electricity profile class assigned to a property. In all cases neither the industry flag nor the industry cut off provide estimates entirely consistent with the source being compared. However, the industry flag is generally a closer match to the other sources.

(inter-quartile range). It also shows the 5th and 95th percentiles at the extremes⁴⁰. The charts confirm the substantial change to the non-domestic distribution and the limited change to the domestic distribution.

Chart E.1 Distribution of gas consumption by sector indicator, 2013



The impact of the changes varies by area. Chart E.2 shows the variation of the impact of a change to the industry provided gas profile flag on the mean non-domestic consumption for local authorities within each region. For all regions, the changes are between a decrease in mean of 57 per cent (Scotland) and 66 per cent (Wales). Across local authorities the changes ranges from a decrease of 41 per cent (Elmbridge) to a 73 per cent drop (Forest of Dean, Gravesham and Ryedale).

Chart E.2 Distribution of change in gas consumption by sector indicator, by region 2013



Feedback on user preferences for the best indicator to use in future publications should be provided to EnergyEfficiency.Stats@decc.gsi.gov.uk by 31 March 2015.

⁴⁰ The 95th percentile for non-domestic consumption under the industry cut off has been cut off in the chart to allow better comparison of the rest of the distribution.

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