



Department for
Energy Security
& Net Zero

Review of the average annual domestic gas and electricity consumption levels

Methodology note



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Contents

Background	3
New Mean Consumption Levels	4
Bills based on actual consumption	4
Calculation	5
Gas Calculations	6
Electricity Calculations	6

Background

In the Quarterly Energy Prices (QEP) statistical release, average household energy bills are published by categories including region, payment type and whether the tariffs were offered as fixed term or not¹.

To allow for equivalent comparisons in price year-to-year, domestic bills are calculated using set, consistent levels of consumption for each type of energy used (Gas and Electricity). Since 2020² bills have been presented with fixed annual consumption levels of:

- **13,600kWh** for Gas
- **3,600kWh** for Standard Electricity, and
- **5,100kWh** for Economy 7 (or time of use tariffs) Electricity

These levels provide an estimate of the average consumption across all UK households by taking the total consumption in the country and apportioning it to the number of households (by fuel).

This differs from Ofgem's Typical Domestic Consumption Values (TDCVs)³ which provide the annual gas and electricity usage of a '*typical*' domestic consumer, expressed as the median⁴ consumption value.

Providing bills based on a fixed mean consumption over time allows users to observe the impact of the change in price independent of changes in consumption arising from factors such as weather conditions, changes in energy efficiency and householder behaviour.

The bills based on fixed mean consumption levels are analogous to presenting bills in the form of a price index.

¹ [Tables 2.2.1 – 2.2.3 for Electricity and 2.3.1 – 2.3.3 for Gas](#)

² Average consumption levels were last updated in 2020 (based on data to 2019)

³ [TDCVs are given by size of consumer](#) where the median is the 'medium' sized consumer.

⁴ The median is the mid-point in a distribution of data. As the distribution of gas and particularly electricity consumption is positively skewed - the mean is greater than the median.

New Mean Consumption Levels

New consumption levels were proposed in the December 2024 Quarterly Energy Prices release. We are proposing that from the March 2025 QEP, bills tables⁵ will be presented for the first time using the revised fixed mean consumption levels of:

- **11,200 kWh** for Gas
- **3,400 kWh** for Standard Electricity, and
- **4,800 kWh** for Economy 7 Electricity

If this proposal is implemented, these figures will be used in the estimated final bills for 2024 along with a revised, consistent time series.

We also propose to retain the assumption for Economy 7 that there is a 50:50 split in the Day and Night consumption.

The time series using the previous consumption values will be retained for information within the published tables. QEP tables will continue to include unit price and standing charge, from which bills for any consumption level can be calculated. For electricity these be found in table 2.2.4 and for gas in table 2.3.4⁶.

The new consumption values were calculated using datasets updated to 2023; as at the time of review these were the most recently available consumption and household data. The proposed new consumption values take a three year average of consumption, which is a change from the methodology at previous reviews where the most recently available years' values were used. This change is to account for yearly fluctuations in household consumption. Details on the calculation of these values are presented in the **Calculation** section below.

The department will continue to review the levels on an annual basis, but with an expectation that changes at this stage will only be made if there is significant evidence that the current levels are no longer appropriate. A full review will be carried out **every five years** – with changes expected to be made at this stage.

Bills based on actual consumption

Actual average consumption varies due to weather conditions, changes in energy efficiency and householder behaviour.

Trends that *do* reflect actual consumption are therefore also important. Bills based on actual annual consumption (included weather adjusted figures for example) will continue to be published annually in Tables 2.2.5 and 2.3.5⁶.

⁵ Tables 2.2.1 – 2.2.3 for Electricity and 2.3.1 – 2.3.3 for Gas, Available here: <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>

⁶ Also Available here: <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>

Calculation

The average consumption levels are given by calculating for each fuel type (Standard Electricity, Gas, Economy 7):

$$\text{Consumption Level (in kWh)} = \frac{\text{Consumption (in GWh)}}{\text{Customer Numbers (in thousands)}} \times 1000$$

For total **consumption** the following is used:

- Domestic Electricity and Gas **weather adjusted** consumption data from the **Energy Consumption UK (ECUK)** Table C9⁷.
- Electricity is apportioned into Standard Electricity and Economy 7 using Table 5.2 in the Digest of UK Energy Statistics (DUKES).

For **Customer Numbers** the following is used:

- The total number of consuming households by fuel from Table C9 in **ECUK**.
 - This figure itself is based on figures already used the Quarterly Energy Prices release for total customers sourced from Ofgem switching statistics but combined with estimates for Northern Ireland.
- Electricity is apportioned into Standard Electricity and Economy 7 using the household meter point data from **Sub-National**⁸ electricity data.

The data below shows how the figures of 11,200 kWh for Gas, 3,400 kWh for Standard Electricity, and 4,800 kWh for Economy 7 Electricity were derived.

Note: that due to revisions to historic data this calculation method will not directly replicate the estimates produced during the previous review.

⁷The ECUK publication is available here: <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk>

⁸Meters are considered 'Domestic' households if they have a 'Profile 1' or 'Profile 2' meter and have a consumption lower than 100,000kWh. More information can be found here: <https://www.gov.uk/government/collections/sub-national-electricity-consumption-data>

Gas Calculations

Table 1 - Calculating the standard consumption level for Gas data

Year	Consumption (GWh)	Customer Numbers (000s)	Average (Mean) Consumption Level (kWh)	Rounded Consumption Level (kWh)
	ECUK	ECUK	Calculated	Calculated
2013	318,139	22,492	14,145	14,100
2014	311,498	22,966	13,564	13,600
2015	306,637	23,591	12,998	13,000
2016	304,741	23,889	12,757	12,800
2017	312,952	24,101	12,985	13,000
2018	306,404	24,366	12,575	12,600
2019	298,403	24,563	12,149	12,100
2020	312,789	24,719	12,654	12,700
2021	308,521	24,907	12,387	12,400
2022	277,980	25,099	11,075	11,100
2023	254,104	25,360	10,020	10,000
Three year average			11,161	11,200

Electricity Calculations

Table 2a - Derivation of total consumption by Standard Electricity and Economy 7

Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Consumption (GWh) ECUK	Std electricity consumption (GWh) DUKES	Economy 7 consumption (GWh) DUKES	Std electricity consumption Split $(b) \div [(b)+(c)]$	Economy 7 consumption Split $(c) \div [(b)+(c)]$	Derived cons. std electricity (GWh) $(a) \times (d)$	Derived cons. Economy 7 (Gwh) $(a) \times (e)$
2013	111,811	89,911	22,872	0.80	0.20	89,136	22,675
2014	110,008	86,112	21,030	0.80	0.20	88,416	21,592
2015	108,624	85,510	21,083	0.80	0.20	87,140	21,484
2016	108,171	85,932	20,713	0.81	0.19	87,161	21,010
2017	106,496	83,684	20,189	0.81	0.19	85,797	20,698
2018	105,379	84,096	20,281	0.81	0.19	84,904	20,476
2019	104,100	82,377	20,039	0.80	0.20	83,732	20,369
2020	109,403	85,981	20,016	0.81	0.19	88,744	20,659
2021	109,462	88,707	17,033	0.84	0.16	91,829	17,632
2022	97,773	78,379	15,161	0.84	0.16	81,927	15,847
2023	93,645	75,741	14,658	0.84	0.16	78,460	15,185

For electricity, the Standard Electricity and Economy 7 populations must be derived for both the total consumption and customer numbers from ECUK.

DUKES Table 5.2⁹ was used to calculate a ratio of Standard Electricity to Economy 7. For example, in 2023, this was 0.84 for Standard Electricity and 0.16 for Economy 7.

⁹ Available here: <https://www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes>

This ratio is applied to total temperature adjusted consumption in ECUK, giving consumption of 78,460 GWh for users on Standard Electricity tariffs and 15,185 GWh for those on Economy 7 in 2023.

Table 2b - Derivation of customer numbers by Standard Electricity and Economy 7

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Year	Customer numbers (000s)	Std electricity meter points (number)	Economy 7 meter points (number)	Std electricity customer Split	Economy 7 customer Split	Derived std electricity cust. no. (000s)	Derived Economy 7 cust. no. (000s)
	ECUK	Sub-national	Sub-national	(b)÷[(b)+(c)]	(c)÷[(b)+(c)]	(a)x(d)	(a)x(e)
2013	26,661	23,594,532	4,757,215	0.83	0.17	22,187	4,473
2014	26,732	23,899,989	4,662,115	0.84	0.16	22,369	4,363
2015	27,042	23,870,556	4,425,007	0.84	0.16	22,813	4,229
2016	27,109	24,214,413	4,294,709	0.85	0.15	23,025	4,084
2017	27,226	24,567,329	4,129,621	0.86	0.14	23,308	3,918
2018	27,576	24,930,076	3,998,515	0.86	0.14	23,764	3,812
2019	27,824	25,319,352	3,863,473	0.87	0.13	24,140	3,684
2020	27,893	25,633,313	3,768,990	0.87	0.13	24,317	3,576
2021	28,119	26,012,781	3,664,913	0.88	0.12	24,647	3,472
2022	28,243	26,315,025	3,598,935	0.88	0.12	24,845	3,398
2023	28,358	26,527,269	3,553,976	0.88	0.12	25,008	3,350

The same principle is applied to customer numbers. Domestic meter point data from the regional and local authority electricity consumption data set¹⁰ is used to calculate a ratio of Standard to Economy 7 meters.

Please note, it is acknowledged that some households with an Economy 7 meter will be purchasing electricity on standard tariffs but these data were used given the limited data in this area.

¹⁰ The Great Britain statistics are available here: <https://www.gov.uk/government/statistical-data-sets/regional-and-local-authority-electricity-consumption-statistics> and the Northern Ireland statistics available here: <https://www.gov.uk/government/statistics/sub-national-electricity-consumption-statistics-in-northern-ireland>

Total consumption is then divided by customer numbers for Standard Electricity and Economy 7 separately to give the average consumption levels.

Table 3a - Calculating the standard consumption level for Standard Electricity data

Year	Consumption (GWh) ECUK	Customer numbers (000s) ECUK	Average (Mean) consumption level (kWh)	Rounded consumption level (kWh)
	Derived	Derived	Calculated	Calculated
2013	89,136	22,187	4,017	4,000
2014	88,416	22,369	3,953	4,000
2015	87,140	22,813	3,820	3,800
2016	87,161	23,025	3,785	3,800
2017	85,797	23,308	3,681	3,700
2018	84,904	23,764	3,573	3,600
2019	83,732	24,140	3,469	3,500
2020	88,744	24,317	3,649	3,600
2021	91,829	24,647	3,726	3,700
2022	81,927	24,845	3,297	3,300
2023	78,460	25,008	3,137	3,100
Three year average			3,387	3,400

Table 3b - Calculating the standard consumption level for Economy 7 Electricity data

Year	Consumption (GWh) ECUK	Customer numbers (000s) ECUK	Average (Mean) consumption level (kWh)	Rounded consumption level (kWh)
	Derived	Derived	Calculated	Calculated
2013	22,675	4,473	5,069	5,100
2014	21,592	4,363	4,949	4,900
2015	21,484	4,229	5,080	5,100
2016	21,010	4,084	5,145	5,100
2017	20,698	3,918	5,283	5,300
2018	20,476	3,812	5,372	5,400
2019	20,369	3,684	5,530	5,500
2020	20,659	3,576	5,778	5,800
2021	17,632	3,472	5,078	5,100
2022	15,847	3,398	4,664	4,700
2023	15,185	3,350	4,532	4,500
Three year average			4,758	4,800

Additionally, with Economy 7 time of use tariffs, we have previously assumed 50:50 split in the Day and Night consumption. This would be 2,400 kWh a year during the day and 2,400 kWh a year at night (compared with 2,550 kWh at day and night with the 5,100 kWh figure). We welcome views on using this 50:50 split to estimate Economy 7 bills.