Department for Energy Security & Net Zero

SUBNATIONAL CONSUMPTION STATISTICS

Methodology and guidance booklet

December 2024

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Any enquiries regarding this publication should be sent to us at:
energyefficiency.stats@energysecurity.gov.uk

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1 Introduction

This methodology and guidance booklet aims to assist local authorities and other users in interpreting the Department for Energy Security and Net Zero's (DESNZ)[1] subnational energy consumption statistics. It provides detailed information about the collection and compilation of the subnational estimates used for the datasets, in particular their coverage, limitations and comparability. It also provides guidance on the interpretation of historical trends for the different fuel categories.

The information provided in this booklet relates to the subnational consumption datasets published on the DESNZ website at a local authority level, for four main fuel categories:

- Gas
- Electricity
- Road transport fuels
- Residual (non-electricity, non-gas and non-road transport) fuels

These four datasets are aggregated to comprise a dataset for total final energy consumption, for which guidance is also provided.

DESNZ also publishes gas and electricity datasets at a super output area level and datasets for electricity and gas consumption in Northern Ireland, for which methodology and guidance have also been provided in this document. Gas and electricity consumption statistics are provided at the following subnational levels:

- Country and, within England, regions.
- Local Authority level for Great Britain, and local government district[2] level in Northern Ireland.
- Middle layer super output area (MSOA) and lower layer super output area (LSOA) for England and Wales, and intermediate zones (IZs, similar to MSOAs) and data zones (DZs, similar to LSOAs) for Scotland. LSOA and DZ level data is only provided for domestic meters. Further information is included in section 1.2.
- Postcode level for domestic meters only in Great Britain; for guidance on this please see postcode level domestic gas and electricity consumption notes.

To assist users in interpreting the subnational statistics, the following Annexes have also been included in this booklet:

- Annex A: Frequently Asked Questions (FAQs)

  A collection of the most frequently asked questions from users.

[1] Prior to the creation of DESNZ in 2023; subnational energy consumption statistics were produced by the Department for Business, Energy and Industrial Strategy (2015 - 2022), Department for Energy and Climate Change (2009 - 2014), Department for Business, Enterprise and Regulatory Reform (2007 - 2008) and the Department of Trade and Industry (pre-2007).
[2] Northern Ireland's local government districts are similar to local authorities within Great Britain.

- Annex B: Differences between subnational consumption data, Digest of UK Energy Statistics (DUKES) and Energy Consumption in the UK (ECUK)

  This table gives detailed information on the differences between each subnational consumption dataset and national estimates published by DESNZ in DUKES and ECUK.

- Annex C: Related DESNZ statistical publications

  This annex provides a brief overview of a variety of datasets related to the subnational outputs referenced in this document.

Queries on the content of this guidance note or any of the outputs should be sent to: energyefficiency.stats@energysecurity.gov.uk.

1.1 Accredited Official Statistics

These Accredited Official Statistics (referred to as National Statistics in the Statistics and Registration Service Act 2007) comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics. These data support subnational analysis of fuel consumption, such as allowing local authorities to benchmark their consumption against national averages (further information can be found in the 'Users and uses of the data' section of this methodology note). Data and processing undergo careful quality assurance, and users are kept informed about significant changes. Details of key data limitations can be found within the relevant coverage and data limitation sections of this methodology note.

Our statistical practice is regulated by the Office for Statistics Regulation (OSR). OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to. The accreditation of these statistics was last independently reviewed by the Office for Statistics Regulation in September 2018. You are welcome to contact us directly (energyefficiency.stats@energysecurity.gov.uk) with any comments about how we meet these standards. Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

1.2 Summary of datasets

Summary information about each subnational consumption dataset is provided in Table 1.

Table 1 Key information for subnational consumption datasets

Consumption dataset	Dates covered	Coverage	Key points
Gas	Mid-May 2023 to Mid-May 2024	Great Britain Regional (NUTS1) and local authority (LAU1) MSOA/IZ, LSOA/DZ (domestic only) and postcode (domestic only)	Latest publication: December 2024 (2023/24 data). Next publication: December 2025 (2024/25 data). Annual consumption based on meter point reference number (MPRN) data provided by Xoserve. Consumers using less than 73,200 kWh a year are classified as domestic. Gas consumption figures have been weather corrected.
Electricity	Non-Half-Hourly 31st January to 30th January Half Hourly 1st January to 31st December	Great Britain. Regional (NUTS1) and local authority (LAU1) MSOA/IZ, LSOA/DZ (domestic only) and postcode (domestic only).	Latest publication: December 2024 (2023 data). Next publication: December 2025 (2024 data). Annual consumption based on meter point administration number (MPAN) data provided thanks to full co-operation from energy suppliers. Consumption data is included for both Non-Half-Hourly and Half-Hourly meters. Non-half hourly dates vary annually. See Section 3.1.3 for more details. Electricity consumption figures are estimates of actual consumption. Electricity consumption figures have not been weather corrected.
Gas: Northern Ireland	Mid-May 2023 to Mid-May 2024	Northern Ireland Local government district (similar to local authority)	Latest publication: December 2024 (2023/24 data). Next publication: December 2025 (2024/25 data). Annual consumption data provided by Department for the Economy, Northern Ireland. Gas consumption figures have been weather corrected. Not directly comparable with Great Britain statistics due to differences in market structure.
		Northern Ireland	Latest publication: December 2024 (2023 data). Next publication: December 2025 (2024 data).

Electricity: Northern Ireland	1st April to 31st March	Local government district (similar to local authority)	Annual consumption data provided by Northern Ireland Electricity (NIE) Networks. Not directly comparable with Great Britain statistics due to differences in market structure. Electricity consumption figures have not been weather corrected.
Road transport	1st January to 31st December	United Kingdom Regional (NUTS1) and local authority (LAU1)	Latest publication: June 2024 (2022 data). Next publication: June 2025 (2023 data). Annual consumption data is modelled and provided to DESNZ by Ricardo. Consumption estimates are based on where fuel is consumed, rather than where it is purchased. Consumption in this dataset is given in thousand tonnes of oil equivalent (ktoe).
Residual fuels (non-gas, non-electricity and non-road transport)	1st January to 31st December	United Kingdom Regional (NUTS1) and local authority (LAU1)	Latest publication: September 2024 (2022 data). Next publication: September 2025 (2023 data). Annual consumption data is modelled and provided to DESNZ by Ricardo. Contains information regarding consumption of petroleum products, coal, manufactured solid fuels and renewables and waste. Fuel consumed by aviation, shipping and power stations are not included in the dataset. Consumption in this dataset is given in thousand tonnes of oil equivalent (ktoe). Residual fuels data are not weather corrected.
Total final energy consumption (aggregation of gas, electricity, road transport and residual fuel datasets)	Various (see above dates for each dataset)	United Kingdom Regional (NUTS1) and local authority (LAU1)	Latest publication: September 2024 (2022 data). Next publication: September 2025 (2023 data). Annual consumption data is based on the amalgamation of the four subnational data exercises (gas, electricity, road transport and residual fuels). All fuel types are converted to thousand tonnes of oil equivalent (ktoe) when they are included in the total dataset.

1.3 Statistical geographies

English region and devolved administration (formerly Government Offices for the Regions)

Government Office Regions (GORs) were the primary statistical subdivisions of England and the areas in which the Government Offices for the Regions fulfilled their role. They closed on 31 March 2011. However, there is still value in maintaining the geography – now known as 'Regions' – for statistical reporting purposes. The regional boundaries remain 'frozen', covering the same areas as the Government Office Regions when they closed in 2011. Each area was built up of complete counties/unitary authorities at the time the geography was frozen.

Subnational consumption estimates are provided for the nine English regions and three devolved administrations. Totals for England, Scotland and Wales are included in gas and electricity consumption datasets (Northern Ireland are published separately). Totals for England, Scotland, Wales and Northern Ireland are included in road transport fuels, residual fuels and total final energy consumption datasets.

Local authorities and unitary authorities

A local authority is an administrative body in local government. There are 296 local authorities in England, 22 local authorities in Wales and 32 local authorities in Scotland. There are 11 local government districts in Northern Ireland. This level of disaggregation is similar to the local authority level for Great Britain. A unitary authority is a single-tier administration with responsibility for all areas of local government. As at 1 April 2023 there are 63 unitary authorities in England. Further information on the administrative geography of each country in the UK can be found on the ONS website.

Super output areas

Super output areas (SOAs) were designed to improve the reporting of small area statistics. SOAs are geographic areas made up of several output areas (OAs). More information on SOAs can be found on the ONS Census Geography webpage.

There are currently two layers of SOA, lower layer super output area (LSOA) and middle layer super output area (MSOA). LSOAs and MSOAs are intermediate in size between Output Areas (OAs) and local authorities. This offers a choice of scale for the collection and publication of data and allows for the release of local data that could disclose information for individual properties if published for OAs.

SOAs give an improved basis for comparison across the country because the geographies are more consistent in size of population than, for example, electoral wards. They are also intended to be stable, enabling the improved comparison and monitoring of policy over time. In addition, figures for user defined geographies can be aggregated and best fitted from data held for OAs and SOAs. SOA boundaries have been revised following the Census 2021.

Lower layer super output areas

Lower Layer Super Output Areas (LSOAs) are made up of groups of OAs, usually four or five. They comprise between 400 and 1,200 households and have a usually resident population between 1,000 and 3,000 persons.

Using Census 2021 data, some changes were made to 2011 LSOAs as a result of population and household changes since 2011. New 2021 LSOAs were created by merging or splitting 2011 LSOAs to ensure that population and household thresholds were met. There are now 33,755 LSOAs in England and 1,917 in Wales. For data presented for 2015 onwards, LSOAs used in this publication are now based on the Census 2021 geographies.

Middle layer super output areas

Middle Layer Super Output Areas (MSOAs) are made up of groups of LSOAs, usually four or five. They comprise between 2,000 and 6,000 households and have a usually resident population between 5,000 and 15,000 persons. MSOAs fit within local authorities.

Using Census 2021 data, some changes were made to 2011 MSOAs. There are now 6,856 MSOAs in England and 408 in Wales. For data presented for 2015 onwards, MSOAs used in this publication are now based on the Census 2021 geographies.

Data zones and intermediate geographies in Scotland

In Scotland a set of areas similar to LSOAs were released in 2004. These areas are referred to as Data Zones. Their population range is smaller than their LSOA counterparts, being between 500 and 1,000. There are 6,976 data zones (DZs). In 2005 Scotland also released a further layer, similar to MSOAs. This layer is referred to as the Intermediate Zones (IZs). Again, the population range is smaller than their MSOA counterparts, being between 2,500 and 6,000. There are 1,279 zones in the Scottish intermediate geography.

1.4 Users and uses of the data

The most significant use of the subnational consumption data is by local authorities and devolved administrations for targeting and monitoring a range of carbon reduction and energy efficiency policies. For example, they have told us they use it to:

- identify areas with high consumption to identify reasons and target measures
- enable more effective deployment of renewable energy schemes by knowing where energy is consumed
- estimate the proportion of energy reduced or replaced through local sustainable energy projects
- help identify areas off the gas grid
- establish a baseline consumption figure to set targets for reduction
- enable more efficient targeting of investments and interventions

- help in planning to improve the energy efficiency of homes

Other external users include academics and members of industry who use the data for a variety of purposes. Most commonly data has been used to examine trends over time or assess the effectiveness of energy efficiency initiatives.

Internally, data are used by DESNZ policy colleagues and other analysts within the department to inform policy development and help with monitoring and evaluation of DESNZ policies. The meter point gas and electricity data collected for subnational consumption outputs are also the most important input for DESNZ's National Energy Efficiency Data-Framework (NEED).

They also form the basis of responses to parliamentary questions and general enquiries.

1.5 Revisions policy

Revisions are made in line with the DESNZ statistical revisions policy. On occasions, previously published data will need to be revised. These revisions are usually due to improved address matching or where a data supplier has made DESNZ aware of an error in a data point. Annual revisions are made to the road transport, residuals and total final energy publications, and these revisions are explained in the relevant chapters.

Where a large revision has taken place reasons will be provided. In cases where entire historic datasets have been revised, this will be clearly marked in the dataset. Changes to methodology would be pre-announced and impact of revisions explained when changes are made (with at least one year of data produced by both methods if appropriate).

Where significant changes to most recent data are required because of an incorrect figure in a publication these will be made as soon as reasonably possible, with a note on the webpage stating that the output has been revised and which figures any change has affected. Reasons for these types of revisions would include:

- Revised and validated data received from a data supplier; or
- The figure in the publication was incorrect because of a typographical or similar error.

2 Gas consumption statistics

Subnational gas consumption statistics (2023/24)

Dates covered: mid-May 2023 to mid-May 2024

Sectors covered: Domestic and non-domestic

Features: Annualised and weather corrected

Years available: 2005 to 2023/24

Source: Xoserve

Statistical releases:

English region and devolved administration (NUTS1), local authority (LAU1), MSOA and LSOA:

Latest release: December 2024 (2023/24 data)

Next release: December 2025 (2024/25 data)

Postcode:

Latest release: December 2024 (2023/24 data)

Next release: December 2025 (2024/25 data)

Subnational gas consumption data

2.1 Overview (2005 to 2023/24 datasets)

2.1.1 Coverage

The datasets cover annual gas consumption in Great Britain. Data are published at subnational level including English region and devolved administrations; local authority; MSOA/IZ; and LSOA/DZ. This chapter deals chiefly with the local authority level dataset, which also includes data for English region and devolved administrations.

The datasets include:

- Gas consumption for meters in Great Britain between mid-May and mid-May.
- All gas distributed through all Local Distribution Zones (LDZ).

- Gas consumers whose consumption data is recorded daily and are known as Daily Metered (DM) customers.

The datasets exclude:

- Data for Northern Ireland, due to the difference in market structure.
- A considerable amount of consumption fed directly to power stations and some very large industrial consumers, as this would be disclosive.
- Any gas passing through other transmission and distribution systems such as those owned by North Sea producers.
- Unique Site meters (also known as “Non-Standard Sites”, which are billed under a different system to other meters).

Break in trends:

Gas meter readings are received by DESNZ from Xoserve, who compile these data from gas shippers, who in turn receive the data from gas suppliers. Xoserve calculate an Annual Quantity (AQ) by taking two meter readings between 6 months and 18 months apart and calculate the amount of gas in kWh used by a meter for one year. If any meter reading does not progress through one of these stages, then DESNZ’s record of the AQ isn’t updated and the previous AQ is used in the subnational figures.

With the 2017 consumption figures, Xoserve introduced a new data collection system. Due to this, a large proportion of meters which had not reported for some time had their AQs updated in the 2017 gas consumption figures. This large update led to an increase in the total AQ reported in 2017 gas consumption. With the majority of gas meters now providing timely meter readings, the figures from 2017 onwards give a more accurate reflection of gas consumption.

Because some meters did not submit readings for multiple years prior to 2017, the figures for these years are likely underestimate the total gas consumed. The figures from 2017 represent a break in trends, with gas consumption not being comparable to previous years.

Unallocated and misallocated meters

The dataset also includes an aggregated total of consumption for unallocated meters. Unallocated meters are meters with insufficient address information, meaning that consumption for these meters is unable to be allocated to a local authority. This can be due to incomplete postcode information being provided by the data suppliers or no postcode information being received at all (this usually accounts for less than 1 per cent of consumption).

In some cases, a meter can be misallocated to the wrong statistical geography. For example, if an address contains a PO Box number, then the meter would be assigned to the LAU1 area of the Post Office sorting depot. This is particularly important for interpretation of the data at levels below that of LAU1 as consumption may be allocated to a different area than where it is taking place. Misallocation can occur when a meter is allocated to a company’s HQ or PO Box rather than the actual address of the meter. Similarly, to unallocated meters, this is caused by incomplete or incorrect address information.

Consumption data that is deemed to be disclosive at a geographical level is also classed as ‘unallocated’. A meter is disclosive if the top two consuming meters at a geographical level have >90% of the total consumption of a geographical area. There are a few cases where some meters are around the 90% mark and can change from being disclosive to non-disclosive over time due to changes in consumption at that site or across the rest of the geographical area. Disclosure is also applied where the number of meters in a geographical area is less than 5 meters.

2.1.2 Data suppliers

In 2005, there were some major structural changes in the gas distribution network in Great Britain with some of the Local Distribution Zones (LDZs) being sold off by National Grid. As a result, the National Grid, who previously released postcode sector gas sales data, were no longer able to do so, as they were not responsible for the whole of the gas distribution network in Great Britain. DESNZ entered discussions with the gas industry on how to obtain annualised gas consumption estimates at industrial meter level.

In November 2005, DESNZ met with Xoserve, the company now responsible for the collation and aggregation of gas consumption, who agreed to generate annualised consumption estimates for all Meter Point Reference Numbers (MPRNs), or gas meters, subject to permissions being provided by the owners of the LDZ network (that is, the four major gas transporters in Great Britain – National Grid, Scotia, Wales and West Utilities and Northern Gas Networks).

Annual Quantity (AQ) data limitations

An AQ is an estimate of annualised consumption using consumption recorded between two meter readings at least six months apart (with a maximum span of 18 months).

The user should note that there are some MPRNs where Xoserve do not receive an updated meter reading. Xoserve use a previous AQ until a new meter reading is received for an MPRN; in 2019/20 there were 2 million MPRNs that had the same AQ as 2018/19.

Some meter readings are known to be erroneous, such as those arising from meters that Xoserve flag as faulty. To reduce the number of these error AQs, DESNZ imputes consumption values based mostly on prior consumption readings for the same meter.

National Statistics Postcode Look-up (NSPL) from ONS

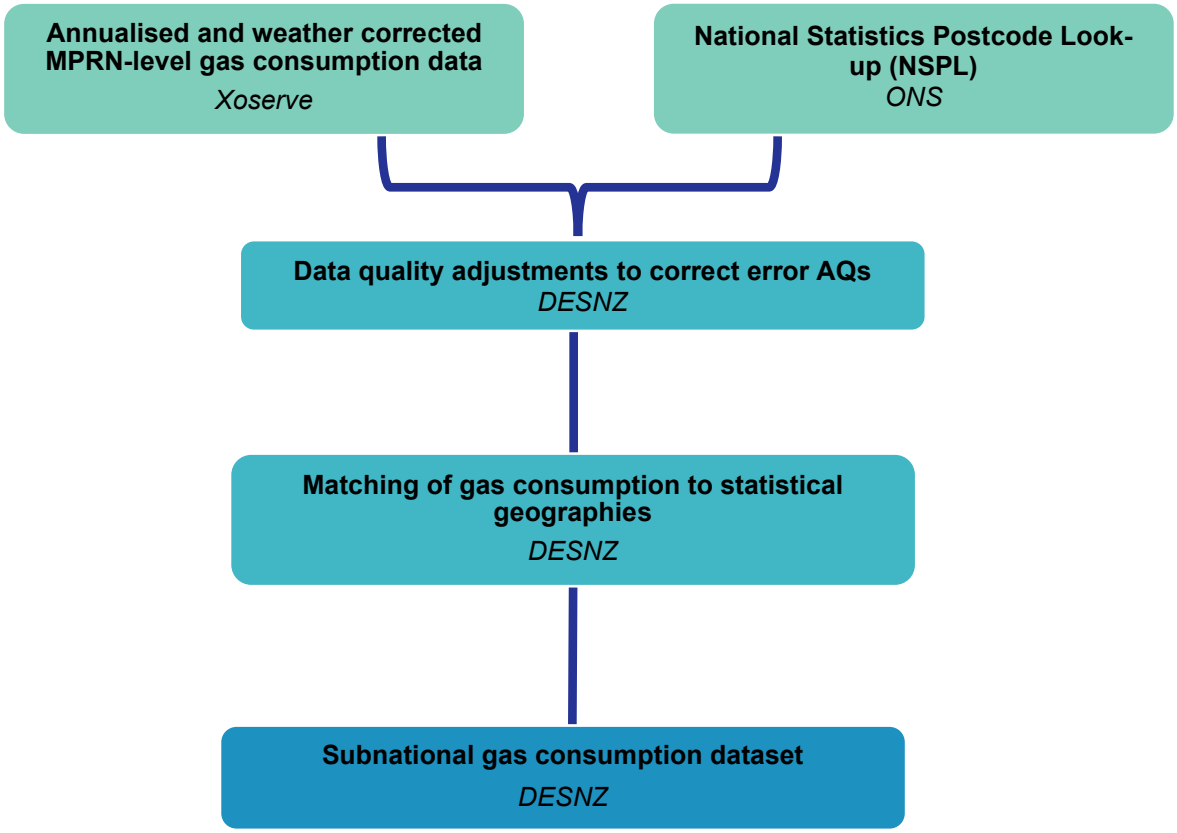
The National Statistics Postcode Lookup (NSPL) is an ONS Geography product which is used to link all United Kingdom postcodes to the super output area in which they fall. From this data can then be aggregated to other geographies such as local authority or region.

Sector allocation

DESNZ uses the gas industry standard “Annual Quantity” (AQ) cut-off point of 73,200 kWh and classifies all consumers using under that annual consumption as domestic consumers. Unfortunately, this classification incorrectly allocates many small businesses to the domestic sector and, conversely, a small number of larger domestic consumers to the non-domestic sector. This also means that a small number of meters change sector from year to year.

2.2 Methodology

Figure 1: Flowchart showing the production process of the subnational gas consumption dataset



Annualised and weather corrected MPRN-level gas consumption data

The base data for the analysis are obtained from Xoserve. Xoserve provide annualised estimates of consumption for all Meter Point Reference Numbers (MPRNs) based on an Annual Quantity (AQ). Xoserve adjust the AQ using a weather correction factor which accounts for regional temperature and wind speed and incorporates trends (see the National Grid's Gas Demand Forecasting Methodology note (PDF, 1.46MB)). DESNZ has combined this consumption information together with associated information on the location of the meters (also provided by Xoserve). Meters with zero or missing consumption values (non-consuming meters) are not included in the consumption statistics.

Data quality adjustments to correct error AQs

Gas meter faults information is used for all years from 2015 onwards, thereby removing erroneous meter readings across the post-2015 time series. This reduces instances of faulty readings being carried forward into subsequent years by the imputation process.

Dates for gas period

Gas consumption statistics for 2015 covers the period from 1 October 2014 to 30 September 2015. The same dates are used for earlier years. However, from 2016 the period covered by gas consumption has changed due to a new data collection method implemented by Xoserve. The gas period for 2016 was mid-July-2016 – mid-July 2017. The gas period for 2017 was mid-June 2017 – mid-June 2018. For 2018 the gas year shifted to mid-May 2018 to mid-May 2019, for 2019 onwards the gas year has remained mid-May to mid-May. Table 2 summarises the gas consumption periods for each year:

Table 2: Coverage of gas consumption data

Year of gas consumption	Dates covered
After 2018	Mid-May to Mid-May
2018	Mid-May 2018 to Mid-May 2019
2017	Mid-June 2017 to Mid-June 2018
2016	Mid-July 2016 to Mid-July 2017
2015	October 2014 to September 2015
Before 2015	October to September

Matching of gas consumption to statistical geographies

The gas consumption data are matched to geography codes using postcode information linked to the National Statistics Postcode Lookup, this enables consumption data to be aggregated up to LSOA/DZ, MSOA/IZ, local authority and English region and devolved administration levels.

Revisions

The statistics for the years 2015 onwards are revised each year to reflect additional/new information acquired. This includes:

- Updates to the National Statistics Postcodes Lookup (NSPL), which is used to match postcodes to local authorities. These updates reflect changes to postcodes and local authorities. The latest version of the NSPL is used for each year for 2015 onwards for consistency across the time series.
- Updates to the meter address information resulting in corrections and updates to postcodes. The most recent valid postcode information for each meter is used across all years for 2015 onwards for consistency across the time series.
- Additional information gathered about earlier years, from investigating anomalous year-on-year changes in consumption.

2.3 Comparability

2.3.1 Comparison to subnational electricity data

The subnational gas and electricity consumption statistics use varying methodology and cover different time periods. A difference to bear in mind is that gas data are weather corrected, whilst the electricity data are not. Despite these differences, the combined electricity and gas provide a good indication of overall annual household energy consumption in Great Britain at local authority, MSOA/IZ and LSOA/DZ level, due to the robustness of the data collection and collation process. For information on how electricity consumption statistics are produced, please see chapter 3.

2.3.2 Comparison to DUKES

It is important to take care when comparing subnational gas data to data published in the Digest of United Kingdom Energy Statistics (DUKES). DUKES is an annual DESNZ publication which provides a detailed and comprehensive picture of energy production, with extensive tables, charts and commentary covering all the major aspects of energy.

There are differences in reported gas figures in the subnational and DUKES publications as DUKES data:

- Are based on a calendar year, whereas subnational data covers various periods (see section 2.2).
- Are not weather corrected whereas subnational data have been.
- Covers consumption for the United Kingdom, whereas the subnational statistics cover Great Britain only.
- Are compiled using a top-down approach, where statistics are gathered by energy companies on a national level, whereas subnational datasets are compiled using a bottom-up approach, from an initial set of individual MPRN data.
- Include consumption from large power stations in its totals, which are not included in subnational data (see section 2.1.1)

2.3.3 Comparison to ECUK

There are also points the user needs to be aware of when comparing subnational data to Energy Consumption in the UK (ECUK). ECUK is an annual DESNZ publication which includes a detailed overview of energy consumption at a UK-wide level.

Differences occur between ECUK and subnational figures as data in ECUK:

- Are, in many cases, modelled and obtained from secondary analysis performed by DESNZ on data from a number of sources, including DUKES.
- Contain a more comprehensive sectoral split than subnational statistics and gives information on the end use of the majority of fuels.

- Report UK level consumption estimates, whereas subnational provides country, regional, local authority, SOA and postcode level consumption estimates.

2.3.4 Comparison to NEED

For gas consumption, the mean consumption is very similar for the published subnational gas consumption data and the National Energy Efficiency Data Framework (NEED). This is as expected since both datasets are derived from the same data source. However, the mean consumption is slightly lower in the NEED dataset than the subnational gas consumption dataset. These differences occur because:

- In NEED, properties are defined as domestic based on the Valuation Office Agency (VOA) property attribute data and if they have gas consumption between 100 kWh and 50,000 kWh, whereas in subnational data, meters are considered domestic if they have a gas consumption lower than 73,200 kWh.
- The NEED dataset has suspected estimated readings removed, whereas subnational gas consumption estimates do not remove these.
- In NEED, data is matched to other sources using the Unique Property Reference Number (UPRN) at property level, and meters which are not successfully matched are not added to NEED, and thus excluded from the analysis.

2.4 Estimates of domestic properties not connected to the gas grid

Subnational estimates of domestic properties not connected to the gas grid (2023/24)

Dates covered: mid-May 2023 to mid-May 2024

Sectors covered: Domestic

Features: Derived from subnational gas consumption statistics, and estimates of properties in each local authority, MSOA/IZ, LSOA/DZ and parliamentary constituency published by the Valuations Office Agency and National Records of Scotland).

Years available:

- **LA:** 2015/16 to 2023/24
- **MSOA:** 2015/16 to 2023/24
- **LSOA:** 2015/16 to 2023/24
- **Parliamentary Constituency:** 2015/16 to 2023/24

Source:

- Xoserve
- Valuation Office Agency (VOA)
- National Records of Scotland

Statistical releases:

English region and devolved administration (NUTS1), local authority (LAU1), MSOA and LSOA:

Latest release: December 2024 (2023/24 data)

Next release: December 2025 (2024/25 data)

Properties not on the gas grid

2.4.1 Overview

This dataset is based on the gas meter point data used to produce DESNZ's subnational gas consumption estimates and provides estimates of the number of properties within each local authority, MSOA/IZ, LSOA/DZ, and parliamentary constituency without a gas meter.

The datasets include:

- Estimates for the number of domestic properties without a gas meter in Great Britain.

The datasets exclude:

- Data for Northern Ireland, due to differences in market structure.
- Any gas consumers flagged as non-domestic (including non-domestic non-consuming meters) in the subnational gas consumption estimates, since these estimates are designed to be based on domestic properties only.

Local authority, SOA, and parliamentary constituency level datasets

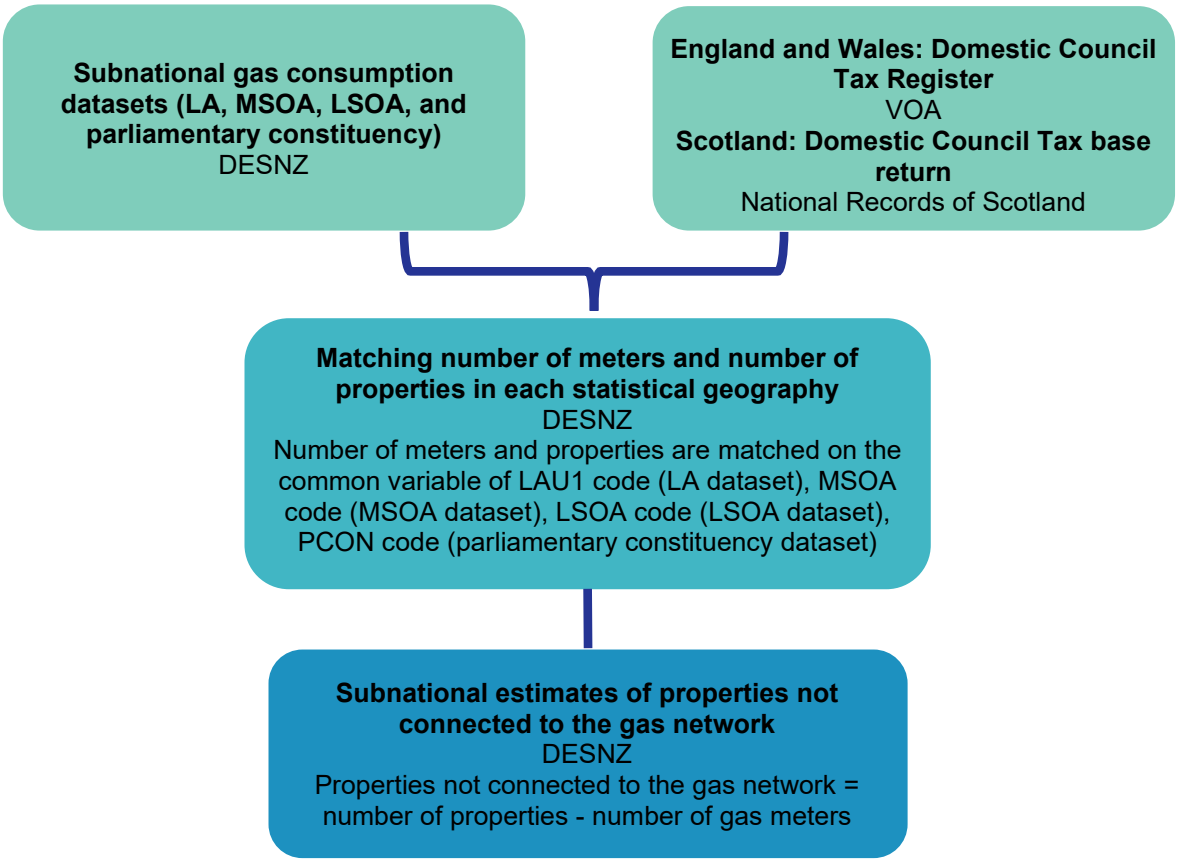
This dataset contains estimates of the number and proportion of domestic properties not connected to the gas network in Great Britain. Estimates are calculated by subtracting the number of domestic meters (consuming + non-consuming) from the number of domestic properties for each level of geography provided. The number of non-gas properties is reported as a proportion of the housing stock in each area.

Unallocated meters

The dataset also includes an aggregated total of gas meters that could not be allocated to a local authority. Some meters cannot be allocated to a local authority due to insufficient or incomplete address information; this is due to incomplete postcode information being provided by the data suppliers or no postcode information received at all. Approximately 0.1 per cent of domestic meters could not be allocated to a local authority in the 2021/22 data. These meters are included in the overall estimates for Great Britain, England and Wales, and Scotland.

2.4.3 Methodology

Figure 2: Flowchart to show the production process of the subnational estimates of properties not connected to the gas grid



Estimates of domestic properties in Great Britain

For England and Wales, DESNZ obtains the number of properties in each area by year using data published by the VOA at the LA, MSOA, LSOA and parliamentary constituency level (VOA Council Tax stock of properties).

For Scotland, DESNZ obtains the number of properties in each area by year using data published by National Records of Scotland (NRS). NRS publish estimates by council area, data zones, and parliamentary constituency.

Matching number of meters and number of properties in each statistical geography

Using the datasets in Figure 2, DESNZ can estimate the number of properties not connected to the gas network by subtracting the number of gas meters from the number of properties in each area.

2.4.3.1 Data limitations

While these datasets give a strong indication of areas that have little or no connection to the gas network, there are some limitations that users should be particularly aware of:

- DESNZ use the gas industry cut off threshold of 73,200 kWh to determine whether a gas meter is domestic or not, with all meters with consumption of 73,200 kWh or below assumed to be domestic. This means a number of smaller commercial/industrial consumers are allocated as domestic and therefore estimates of the number of properties without gas is an underestimate of the true number.
- Some meters cannot be allocated to a local authority, MSOA, LSOA, or parliamentary constituency due to insufficient or incomplete address information. Approximately 0.1 per cent of domestic meters could not be allocated to a local authority in 2021.
- 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. In 2013, approximately one per cent of properties allocated as domestic in this dataset had more than one meter.

2.4.4 Comparability

A comparison of the subnational estimates of properties not connected to the gas network with Xoserve's off gas postcodes[3] and NEED data on properties not on the gas grid (see multiple attributes tables) is shown in Table 3 below. For a more detailed comparison of the differences between the two datasets, the user should refer to the article in Energy Trends: December 2013 (page 68) entitled “Areas and types of properties off the gas grid”.

[3] Xoserve provides centralised information and data services for gas transporters and shippers in Great Britain.

Table 3: Summary of dataset comparisons

	Subnational off gas estimates	Xoserve off gas postcodes	NEED off gas consumption estimates
Strengths	Provides assessment of level of gas connection in an area, helping to identify general areas and indication for inner city as well as rural areas. Covers domestic only; helps with domestic policies.	Lower-level geography (postcode). Includes gas supply even if no meter yet installed. Domestic and non-domestic (strength depending on purpose).	Only source of information about types of properties and occupants.
Limitations	Information not available at postcode level. No information on gas supply if no meter installed. Domestic cut-off based on arbitrary consumption figure used by industry.	Binary variable.	Limited detail on geography.
When to use	To identify areas with low numbers of properties with a gas meter.	To identify whether a specific geographic location has a gas supply.	To identify types of properties, which may benefit from support.

3 Electricity consumption statistics

Subnational electricity consumption statistics (2023)

Dates covered:	Non-Half Hourly: 31st January 2023 to 30th January 2024
	Half Hourly: 1st January 2023 to 31st December 2023
Sectors covered:	Domestic and non-domestic
Features:	Annualised, not weather corrected
Years available:	2005 to 2023
Source:	Data aggregators (on behalf of electricity suppliers)

Statistical releases:

English region and devolved administration (NUTS1), local authority (LAU1), MSOA and LSOA:

Latest release: December 2024 (2023 data)

Next release: December 2025 (2024 data)

Postcode:

Latest release: December 2024 (2023 data)

Next release: December 2025 (2024 data)

Subnational electricity consumption data

3.1 Overview (2005 to 2023 datasets)

Subnational electricity consumption dataset from DESNZ

The subnational electricity dataset covers the years 2005 to 2023 and gives consumption in gigawatt hours (GWh) as well as the number of meters for both domestic and non-domestic (commercial and industrial) consumers. In addition, average (mean and median) domestic and commercial and industrial consumption is given as consumption per meter in kilowatt hours (kWh). The data is provided at a local authority level and the dataset also includes English region and devolved administrational totals.

For non-domestic consumption at the Middle Layer Super Output Area (MSOA) level, half-hourly meter points (which are higher-consuming non-domestic customers) totals are not included at MSOA level, but are included at the local authority level.

3.1.1 Coverage of data

The datasets include:

Non-Half Hourly (NHH) electricity consumption from 31st January 2023 to 30th January 2024 and Half Hourly (HH) electricity consumption over a calendar year in Great Britain (please see section 3.2 for more information).

An aggregated total for unallocated consumption, that is, consumption that was not able to be matched to an area due to incomplete or a lack of postcode information (this usually accounts for less than 1 per cent of consumption).

The datasets exclude:

Consumption for Northern Ireland, for which separate datasets and analysis are produced (for guidance, please see chapter 4 and chapter 5).

Central Volume Allocation (CVA) users; large industrial consumers who receive their electricity through high voltage lines of the transmission system and hence have different arrangements with their electricity suppliers than HH and NHH metered customers. Consumption by CVA users generally account for 1.5 to 2 per cent of electricity sales.

Electricity used by companies that generate their own electricity and consume it without passing over the public distribution network. Some of this “auto-generation” is from government schemes and an indication of the regional importance of such schemes can be obtained from Energy Trends (see Energy Trends: September 2014, pages 69-69).

Unallocated data

Meter consumption data is ‘unallocated’ if sufficient address information has not been provided to be able to allocate the meter to a local authority with any degree of accuracy. This is due to only a partial postcode being provided by the data suppliers or no postcode information being received at all, and DESNZ was able to locate the local authority in which meter lies in, but not the specific MSOA.

Consumption data that is deemed to be disclosive at a geographical level is also classed as ‘unallocated’. A meter is disclosive if the top two consuming meters at a geographical level have 90% of the total consumption of a geographical area. There are a few cases where some meters are around the 90% mark and can change from being disclosive to non-disclosive over time due to changes in consumption at that site or across the rest of the geographical area. Disclosure is also applied where the number of meters in a geographical area is less than 5 meters.

Unallocated data, at a local authority level, can also include consumption for street lighting or traffic lights, where the information provided does not indicate a specific local authority.

3.1.2 Sectors

Electricity data is divided between domestic and non-domestic categories according to the meter's profile type. The domestic consumption is based on Non-Half Hourly (NHH) meters with profiles 1 and 2 (these are the standard domestic and economy 7 type tariffs respectively). Industrial and commercial consumption data are based on NHH meters with profiles 3 to 8 and all Half Hourly (HH) meters. In addition, profile 1 and 2 meters are reallocated to the industrial and commercial sector if annual consumption is greater than 100,000 kWh.

Domestic reallocations to the non-domestic sector

The automatic cut-off point for non-domestic consumption is 100,000 kWh. Domestic consumers with consumption of between 50,000 and 100,000 kWh are reallocated to the non-domestic sector following a validation process if address information indicates non-domestic consumption is taking place (for example, if an address contains 'plc.' or 'ltd').

3.1.3 Data limitations

The Meter Point Administration Number (MPAN) data used in this analysis consists of approximately 80 per cent actual ("Annual Advance") readings and 20 per cent estimated readings ("Estimated Annual Consumption"). This is explained further in section 3.2. From year-to-year some meter readings supplied by data aggregators change from actual to estimated readings and vice-versa, which can cause extreme values to be created when an estimate is corrected.

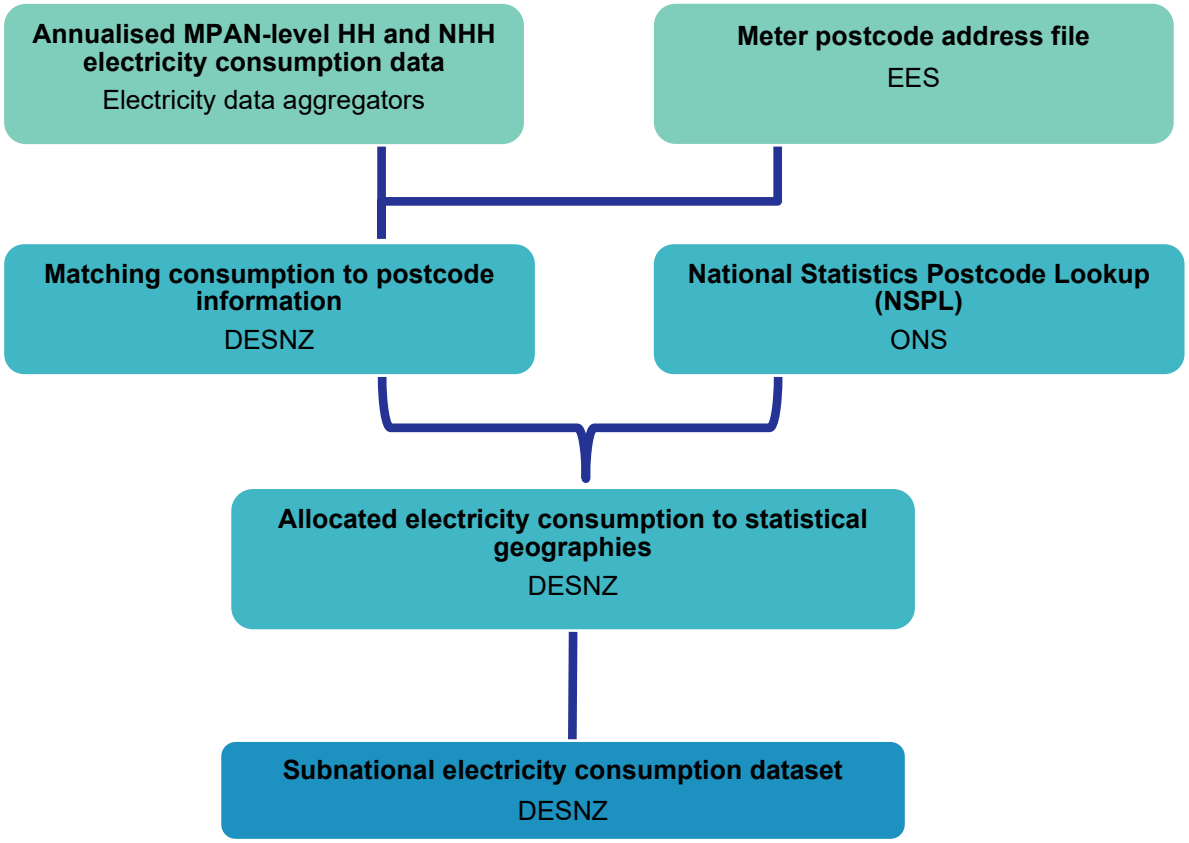
Except for Half Hourly (HH) data, it should also be noted that these data are not directly aligned with the calendar year and cover the year 31st January 2023 to 30th January 2024. These dates may vary slightly each year according to when the data extraction process takes place. To illustrate this, a selection of past dates are shown in Table 4 below.

Table 4: Coverage of electricity consumption for Non-Half Hourly (NHH) data

Year of NHH electricity consumption	Dates covered
2023	31/01/2023 to 30/01/2024
2022	31/01/2022 to 30/01/2023
2021	31/01/2021 to 30/01/2022
2020	31/01/2020 to 30/01/2021
2019	31/01/2019 to 30/01/2020
2018	31/01/2018 to 30/01/2019
2017	31/01/2017 to 30/01/2018
2016	31/01/2016 to 30/01/2017
2015	26/01/2015 to 25/01/2016
2014	01/02/2014 to 31/01/2015
2013	27/01/2013 to 26/01/2014
2012	27/01/2012 to 26/01/2013
2011	28/01/2011 to 27/01/2012

3.2 Methodology

Figure 3: Flowchart to show the production process of the subnational electricity consumption dataset



Annualised MPAN-level electricity consumption data

The data are collected for statistical purposes by DESNZ thanks to the full co-operation of the electricity industry. Annualised consumption data are provided by the data aggregators, agents of the electricity suppliers, who collate and aggregate electricity consumption data for each Meter Point Administration Number (MPAN). The electricity consumption data are generated for both Non-Half Hourly (NHH) meters (domestic and small or medium non-domestic customers) and for Half Hourly (HH) meters (higher consuming non-domestic customers).

For the NHH data, annualised estimates are based on either an Annualised Advance (AA) or Estimated Annual Consumption (EAC). The AA is an estimate of annualised consumption based on consumption recorded between two meter readings at least 6 months apart, with the final reading occurring in the reference period. In comparison an EAC is used where two such meter readings are not available and an estimate of annualised consumption is produced by the energy company using historical information and the profile information relating to the meter. These data provide a good approximation of annualised consumption, but do not cover exactly the calendar year. In contrast, for the HH meter consumption estimates, data aggregators are asked to produce a simple report for each MPAN for the relevant calendar year.

Meters with zero or missing consumption values are not included in the statistics.

Any meter that switches from being in the non-half hourly data as a domestic meter (profile classes 1-2) one year, to being on the half-hourly data the next, retains its old domestic profile class rather than being classified as one of the half-hourly meters (which are generally high consuming non-domestic meters).

Dates for HH and NHH consumption

- Non-Half-Hourly (NHH) consumption is produced for the period between 31st January 2023 and 30th January 2024.
- Half-hourly (HH) data covers consumption over the calendar year.

Meter postcode address file

Address information for each meter is obtained from the Retail Energy Code's Electricity Enquiry Service (EES) data file. The postcode information contained in the EES data across the years is combined and the most recent valid postcode is used throughout the time series (2015 onwards). This ensures consistent postcode information is used across years and generally lowers the proportion of meters than cannot be allocated to geographies.

Matching consumption to postcode information

The electricity consumption and geographical data are then merged (using the MPAN as this is common to both datasets) to enable consumption data to be mapped to postcodes and aggregated up to LSOA/DZ, MSOA/IZ, local authority and English region and devolved administration levels.

National Statistics Postcode Look-up (NSPL)

The merged electricity consumption and geographical data are then matched to geography codes using postcode information linked to the National Statistics Postcode Lookup.

Allocating matched electricity and postcode data to statistical geographies

To complete the data allocation process, the NSPL is used to allocate MPAN postcodes and the associated consumption to statistical local authority level (LAU1). This implies that any address containing a PO Box number will be assigned to the LAU1 area of the Post Office sorting depot. This is particularly important for interpretation of the data at levels below that of LAU1, as consumption may be allocated to a different area than where it is taking place. On occasions it has been possible to allocate an MPAN to an LAU1 code, but not at a lower-level code.

Number of meters versus number of properties

The number of meters does not exactly equal the number of properties. The reasons for this are as follows:

- An apartment building may have a meter for the building complex (used to power communal electricity uses such as lighting) in addition to each individual apartment having its own meter.
- Some households may have a 3-rate meter system. A household with such a system will have one meter which measures all consumption at a peak rate and another meter which

measures two other rates of off-peak consumption. This is the case for many households in Scotland, but it is less common in England or Wales.

- Some meters power street lighting or traffic lights rather than a property (many of these are unallocated).

Revisions

The statistics for the years 2015 onwards are revised each year to reflect additional/new information acquired. This includes:

- Updates to the National Statistics Postcodes Lookup (NSPL), which is used to match postcodes to local authorities. These updates reflect changes to postcodes and local authorities. The latest version of the NSPL is used for each year for 2015 onwards for consistency across the time series.
- Updates to the meter address information resulting in corrections and updates to postcodes. The most recent valid postcode information for each meter is used across all years for 2015 onwards for consistency across the time series.
- Additional information gathered about earlier years, from investigating anomalous year-on-year changes in consumption.

3.3 Comparability

3.3.1 Comparison to subnational electricity data

Subnational electricity and gas consumption statistics use varying methodologies to compile the datasets and cover different time periods. A key difference to bear in mind is that electricity consumption data are not weather corrected while gas consumption data has a weather correction factor applied to it. Despite these differences, the combined electricity and gas figures provide a good indication of overall annual household energy consumption in Great Britain at local authority, MSOA/IZ and LSOA/DZ level.

For more information on how gas consumption statistics are produced, please see chapter 2.

3.3.2 Comparison to DUKES

It is important to take care when comparing subnational electricity data to the Digest of United Kingdom energy statistics (DUKES). DUKES is an annual DESNZ publication which provides a detailed and comprehensive picture of energy production, with extensive tables, charts and commentary covering all the major aspects of energy.

There are differences in reported electricity figures in the subnational and DUKES publications as DUKES data:

- Are based on a calendar year, whereas 2023 subnational electricity data covers two slightly different time periods: half-hourly data (generally higher-consuming non-domestic meters) covers consumption over the calendar year, whereas non-half hourly data (almost all domestic and the vast majority of non-domestic meters) covers 31st January 2023 to 30th January 2024.

- Covers consumption for the United Kingdom, whereas the subnational consumption statistics cover Great Britain.
- Are compiled using a top-down approach, where statistics are gathered by energy companies on a national level, whereas subnational datasets are created from an initial set of individual MPAN data.
- Include consumption from Central Volume Allocation (CVA) users in its totals, which are not included in the subnational data (see section 3.1).

3.3.3 Comparison to ECUK

There are also issues when comparing subnational data to Energy Consumption in the UK (ECUK). ECUK is an annual DESNZ publication which includes a detailed overview of energy consumption at a UK-wide level.

Differences occur between ECUK and subnational figures as data in ECUK:

- Are, in many cases, modelled and obtained from secondary analysis performed by DESNZ on data from several sources, including DUKES.
- Contain a more comprehensive sector split than subnational statistics and gives information on end use for majority of fuels.

3.3.4 Comparison to NEED

For electricity consumption, the mean consumption is very similar for the published subnational electricity consumption data and the National Energy Efficiency Data Framework (NEED). This is as expected since both datasets are derived from the same data source. However, the mean consumption is slightly lower in the NEED dataset than the subnational electricity consumption dataset. These differences occur because:

- In NEED, properties are defined as domestic based on the Valuation Office Agency property attribute data and if they have an electricity consumption between 100 kWh and 25,000 kWh, whereas in subnational data, meters are considered domestic if they are a profile 1 or 2 meter and have a consumption lower than 100,000 kWh.
- The NEED dataset has suspected estimated readings removed, whereas subnational electricity consumption estimates do not remove these.
- In NEED, data is matched to other sources using the Unique Property Reference Number (UPRN) at property level, and meters which are not successfully matched are not added to NEED, and thus excluded from the analysis.

Advice on time series analysis

In terms of making historical comparisons for the electricity consumption data, 2005 data should be used as the baseline year, as data from 2005 onwards (classed as Accredited Official Statistics) have been produced with a consistent methodology. The robustness of post-2005 data mainly reflects the significant improvement in the quality of the postcode address file from EES.

It is important to recognise that when making comparisons at local authority level from year to year, total and average consumption levels are influenced by new industrial or commercial establishments or the closure or downsizing of existing business for economic reasons and the extent to which businesses were affected. The impact that these changes have on totals and averages is dependent on the size of the business.

3.4 Sub-regional level data (MSOA/IZ and LSOA/DZ)

Electricity consumption data are available below local authority level, with the aim that this will enable councils and others to monitor and target small areas for further interventions as part of their local energy strategies and enhance implementation of energy efficiency programmes, thus reducing carbon dioxide emissions. Data are released on a Middle Layer Super Output Area (MSOA)/Intermediate Zone (IZ) and Lower Layer Super Output Area (LSOA)/Data Zone (DZ) level.

3.5 Further information

For analysis on subnational electricity consumption statistics and household energy distribution analysis for 2010 please see the article in Energy Trends: March 2012, pages 52 to 65.

4 Northern Ireland gas consumption statistics

Subnational Northern Ireland gas consumption statistics (2023)

Dates covered: Mid-May 2023 to Mid-May 2024

Years available: 2015 to 2023

Features: Annualised, weather corrected

Source: Northern Ireland Gas Distribution Operators

Statistical releases:

Latest release: December 2024 (2023/24 data)

Next release: December 2025 (2024/25 data)

Northern Ireland subnational gas consumption

4.1 Overview (2015 to 2023 data)

The data cover annual gas consumption in Northern Ireland. Gas consumption data are also provided for the 11 local government districts in Northern Ireland (similar to local authorities in England and Wales). Statistics for Northern Ireland are official statistics.

The data include gas consumption for all domestic and non-domestic meters in Northern Ireland relating to the following periods:

- 2015 (1st October 2014 to 30th September 2015)
- 2016 (15th July 2016 to 15th July 2017)
- 2017 (15th June 2017 to 15th June 2018)
- 2018 (15th May 2018 to 15th May 2019)
- 2019 (15th May 2019 to 15th May 2020)
- 2020 (15th May 2020 to 15th May 2021)
- 2021 (15th May 2021 to 15th May 2022)
- 2022 (15th May 2022 to 15th May 2023)
- 2023 (15th May 2023 to 15th May 2024)

4.2 Background and methodology

Consumption

The consumption data provided by the gas network operators in Northern Ireland are derived from annual quantities (AQs) for each meter point which are then weather corrected using a 5-year average of seasonal normal temperatures. These values are then aggregated and provided at postcode level. Local government district markers are then added, and the data aggregated for publication. It should be noted that this process is similar to that in Great Britain, but the weather correction adjustment factors differ.

The data excludes gas consumption fed directly to power stations. Information on gas consumption by the power sector in Northern Ireland can be found in the Northern Ireland Gas Capacity Statement.

Meter numbers

The meter count data is a count of the number of meters in Northern Ireland and for the 11 local government districts in Northern Ireland split by tenure type (domestic or non-domestic).

Unallocated meters

All meters are assigned to a District Council Area and there are no unallocated meters.

Meter classification

All gas meters in Northern Ireland have a profile marker to indicate if the meter relates to a domestic or non-domestic consumer. For each new connection to the gas network, the new customer is required to fill in and sign a Gas Application Form (GAF). This process determines whether the new meter is classified as domestic or non-domestic.

Following the completion of the new connection, the Asset Register (held by the Gas Network Operator for that area) will be updated with the new meter details and its classification recorded. Should a customer request a change from domestic to non-domestic, an updated commercial GAF would then be signed by the customer and an ‘asset register update’ made, ensuring the meter is registered as non-domestic.

The tenure type of all new meters are subject to verification via a site visit by a sales advisor and any changes to type would require the customer to provide appropriate evidence of the change (e.g., from Northern Ireland Land & Property Services).

4.3 Comparison to Great Britain gas consumption data

The above is different to the situation in Great Britain. DESNZ uses the gas industry standard Annual Quantity (AQ) cut-off point of 73,200 kWh and classifies all consumers using under that annual consumption as domestic consumers. This classification incorrectly allocates many small businesses to the domestic sector. This also means that a small number of meters change sector from year to year, and it is estimated that around 2 million small businesses are incorrectly classed as domestic using this cut-off threshold.

Because of the difference in classification described above gas consumption in Northern Ireland and Great Britain are not directly comparable.

More information on the gas transmission, distribution and supply system in Northern Ireland is available from the Utility Regulator and Northern Ireland Executive, and in the Northern Ireland Gas Capacity Statement.

5 Northern Ireland electricity consumption statistics

Subnational Northern Ireland electricity consumption statistics (2023)

Dates covered: 1st April 2023 to 31st March 2024 (financial year)

Years available: 2015 to 2023

Features: Annualised, not weather corrected

Source: Northern Ireland Electricity (NIE) Networks

Statistical releases:

Latest release: December 2024 (2023/24 data)

Next release: December 2025 (2024/25 data)

Northern Ireland Subnational Electricity Consumption

5.1 Overview (2015 to 2023 data)

These datasets include:

Electricity consumption covering the 11 local government districts of Northern Ireland, a similar level of disaggregation to the local authorities in England and Wales.

Consumption covers the financial year (1st April 2023 to 31st March 2024 in the most recent year). Statistics for Northern Ireland are official statistics.

An aggregated total for unallocated consumption, that is, consumption that was not able to be matched to an area due to incomplete or a lack of postcode information.

5.2 Background and methodology

Data are derived from information held on NIE's Distribution Use of System (DUoS) Billing system. Data are based on billed units and relate to final consumption at the point when it was derived. Meters are classified as either domestic or non-domestic based on their tariff type.

Revisions introduced in the December 2024 subnational publication

A number of methodological improvements have been made to subnational electricity consumption statistics for 2023, as well as revising the statistics for the years 2015 – 2022, to ensure a comparable time series. Key methodological changes include:

- Duplicate meters (change in tariff) – meters have previously been included multiple times where they have changed tariff within the consumption year which meant that meters were double counted in these statistics. Meters are now only counted once within each year. For duplicate meters, electricity consumption is aggregated, and the meter is classified as either domestic standard, domestic E7 or non-domestic based on where the majority of consumption took place in the given year.
- Duplicate meters (multiple postcodes) – meters have previously been included multiple times where they have multiple postcodes recorded against them which meant that meters were double counted in these statistics. Meters are now only counted once within each year. For duplicate meters, electricity consumption is aggregated, and the meter is included in the local government district where the majority of consumption took place in the given year.
- Tariffs changes – six tariffs that were previously classed as domestic economy 7 have been reclassified as non-domestic tariffs which means these meters are now included in the non-domestic category (in each of the years 2015 to 2023 these tariffs accounted for approximately 1 per cent of total consumption). In addition, seven tariffs that were previously excluded are now being included, which affect the economy 7 and non-domestic categories (in each of the years 2015 to 2023 these additional tariffs accounted for around 1 per cent of total consumption).
- Meters with zero or missing consumption values are no longer included in the statistics.

5.3 Comparison to Great Britain electricity consumption data

Northern Ireland electricity data is not directly comparable with electricity consumption for Great Britain. This is due to the difference in market structure and the varying methodologies used to collect the data.

6 Road transport fuel consumption statistics

Subnational road transport fuel consumption statistics (2022)

Dates covered: 1st January 2022 to 31st December 2022

Sectors covered: Road transport (all users)

Features: Modelled

Years available: 2005 to 2022

Source: Ricardo

Statistical releases:

English region and devolved administration (NUTS1) and local authority (LAU1):

Latest release: June 2024 (2022 data)

Next release: June 2025 (2023 data)

Subnational road transport consumption

6.1 Overview (2005 to 2022 data)

6.1.1 Coverage of data

The datasets include:

- Road transport fuel consumption in the United Kingdom between 1 January and 31 December.
- Estimates of fuel (petrol and diesel) consumption by type of vehicle (bus, motorcycle, car, heavy goods vehicle (HGV) and light goods vehicle (LGV)). Buses, diesel cars, HGV and diesel LGV are all classed as diesel-consuming vehicles, while petrol cars, motorcycles and petrol LGV are classed as petrol-consuming vehicles.
- Estimates of fuel consumption for each type of vehicle by road type (motorways, A roads and minor roads).
- Estimates of bioenergy fuel consumption. Bioenergy totals estimate the consumption in each local authority of bioethanol and biodiesel that is blended into petrol and diesel. This biofuel is included in the overall petroleum consumption totals.

- Modelled consumption down to English region and devolved administration and local authority level. The estimates are based on where the fuel was consumed rather than where it was purchased, in order to make the dataset more comparable with both the gas and electricity datasets (based on consumption from individual meters). Therefore, road fuel purchased abroad and consumed in the UK is included whereas road fuel purchased in the UK and consumed abroad has been excluded.
- Consumption is given in thousand tonnes of oil equivalent (by energy content) as opposed to the tonnes of petrol and diesel fuel (by weight).

The datasets exclude:

- Electricity – there is a lack of geographical information needed to map regional consumption of this fuel.
- This dataset covers road transport consumption of petrol and diesel only.

6.1.2 Data limitations

Road transport fuel estimates are modelled

The estimates are based on the use of a number of different information sources. As a result, the estimates are subject to potential modelling inaccuracies. Although LGVs are classed as freight vehicles, some consumption may be related to personal travel. LGVs can be used for several tasks such as carrying freight, providing transport, carrying equipment or for private use.

6.2 Methodology

The estimates published by DESNZ are produced by Ricardo as part of contract work for the regional energy project. Fuel consumption by road vehicles is calculated by the methodology used to estimate total UK emissions for road transport in the National Atmospheric Emissions Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) and is consistent with internationally agreed procedures and guidelines for reporting emission inventories.

For a more detailed methodology, please see the UK subnational road transport fuel consumption statistics methodology summary produced by Ricardo.

Calculating fuel consumption

The methodology for calculating fuel consumption combines traffic activity data (from the Department for Transport's (DfT) national traffic census) with fleet composition data and fuel consumption/emission factors.

The vehicle fleet composition data are based on licensing statistics and evidence from Automatic Number Plate Recognition (ANPR) data from DfT; these provide an indication of the vehicle mix by engine size, vehicle size, age, engine and exhaust treatment technology, Euro emission standards, and fuel type as observed on different road types.

Fuel consumption factors are based on a combination of published compilations of factors derived from vehicle emission test data from European sources and factors from industry on the

fuel efficiency of cars sold in the UK. In the former case, representative samples of vehicles are tested over a range of drive cycles associated with different average speeds on different road conditions. There are many parameters that affect the amount of fuel a vehicle uses, and average vehicle speed is one of them, so the NAEI uses functions that relate fuel consumption to average speed. These factors are derived from the fuel consumption-speed relationships given in the COPERT 5 source (COPERT 5.6 version). COPERT 5 “Computer Programme to Calculate Emissions from Road Transport” is a model and database of vehicle emission factors developed on behalf of the European Environment Agency and is used widely by other Member States to calculate emissions from road transport.

In the 2022 dataset, the update to use COPERT 5.6 has allowed for two new aspects of fuel use to be calculated. Before an engine reaches peak operating temperate, fuel is consumed at a different rate; this is known as a ‘cold start’. The excess fuel consumed during a cold start has not previously been included in the COPERT models used, however, the update to COPERT 5.6 has provided a methodology for this calculation for cars and LGVs. Subsequently there is an increase in the total fuel used by these vehicles. This is all assumed to be associated with minor roads. The update to COPERT 5.6 also means that LPG used in LGVs are now also included the fuel use statistics.

Separate from the COPERT update, in the 2022 data there has also been an update to the calculation of London black cabs. The DfT traffic count data does not split out black cabs from private cars and subsequently TfL data is used to calculate this distinction on a link-by-link basis. This has now been updated to use the 2019 London Atmospheric Emissions Inventory (LAEI) data rather than the 2016 LAEI which was used previously.

Similarly, in previous versions of these statistics, counts of electric vehicles in London were calculated on a link-by-link basis based on the 2016 release of the LAEI. However, the use of electric vehicles (EVs) is now more complete in the national data. Therefore, EVs in London are split out in the same way as the rest of the country and in the same manner that petrol and diesel vehicles are separated from each other.

The above changes have increased the total annual fuel consumption in each year by 7%-10%.

Mapping fuel consumption

The base map of the UK road network used for calculating fuel consumption from road traffic has been developed from two mapping datasets. The Ordnance Survey Open Roads (OSOR) dataset provides locations of all roads (motorways, A-roads, B-roads and unclassified roads) in Great Britain. For Northern Ireland a dataset of roads was obtained from Ordnance Survey of Northern Ireland, part of Land & Property Services Northern Ireland.

Advice on time series analysis

In terms of making historical comparisons for the road transport fuel consumption data, 2005 data (classed as Accredited Official Statistics) should be used as the baseline year. This is due to the significant improvements in fuel consumption factors and detailed speed data, and hence the reliability of the road transport consumption estimates, since 2005 compared to the earlier datasets.

6.3 Comparison to DUKES and ECUK

Users should note that there are differences between the national figures presented in these subnational tables and those reported in the Digest of United Kingdom Energy Statistics (DUKES). Subnational road transport statistics are based on fuel consumption (which is derived from traffic activity) while DUKES figures are based on fuel sales.

The difference between subnational and DUKES figures varies year from year but the difference is considered well within the uncertainty of the factors used to derive the fuel consumption from traffic activity. The gaps are due to:

- Model uncertainty, including uncertainties in the vehicle km data and fleet information used (in particular the fuel consumption factors based on samples of vehicles taken to represent the fleet), as well as unmeasured characteristics such as driving conditions (for example, idling, acceleration, deceleration and cruising modes all have different consumption rates).
- DUKES figures on petrol and DERV consumption include off-road applications, such as lawn mowers, portable generators and inland waterway vessels etc., and also in the Crown Dependencies. The subnational methodology excludes an estimated total for these off-road applications from the overall road transport total.
- The subnational statistics include biofuels, which are not included in the petrol and diesel estimates given in DUKES.
- Other factors such as ‘fuel tourism’ effects (this occurs when vehicles consume fuel on UK roads that has been purchased abroad).

Users should note that there is a difference between subnational estimates and figures for road transport energy consumption found in Energy Consumption in the UK (ECUK) (Table C1). The values in ECUK are based on DUKES data, which in addition to consumption of petroleum, give consumption of electricity and biofuels for road transport purposes.

7 Residual fuel consumption statistics

Subnational residual fuel consumption statistics (2022)

Dates covered: 1st January 2022 to 31st December 2022

Sectors covered: All (except aviation and national navigation)

Features: Modelled

Years available: 2005 to 2022

Source: Ricardo

Statistical releases:

English region and devolved administration (NUTS1) and local authority (LAU1):

Latest release: September 2024 (2022 data)

Next release: September 2025 (2023 data)

Subnational residual fuel consumption

7.1 Overview (2005 to 2022 data)

The datasets cover:

- Residual (non-gas, non-electricity, non-road transport) fuel consumption in the United Kingdom between 1 January and 31 December.
- Estimates of consumption by fuel type and consuming sector. The following levels of disaggregation enable the data to be presented in the most robust manner.

Table 5: Fuel types and consuming sectors displayed in residual fuels datasets

Fuel Type	Consuming Sector
Petroleum Products	Industrial Domestic Rail Public Administration Commercial Agriculture
Coal	Industrial Domestic Rail Public Administration Commercial Agriculture
Manufactured solid fuels	Industrial Domestic
Bioenergy & Wastes	Industrial Domestic

Note: residual fuels data are not weather corrected.

7.2 Methodology

Ricardo compiles fuel consumption and emissions estimates for a large number of sources at 1x1km and Local Authority level on an annual basis. This work forms part of the National Atmospheric Emissions Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) programme of work for Defra and DESNZ. Estimates of the distribution of fuel consumption from sources other than gas, electricity and road transport are available from the mapping work currently undertaken within this contract. The methodology used to compile these maps is described in the NAEI's mapping methodology report[4].

Source sector and fuel combinations mapped by this study are shown in Table 5 above. It is recognised, however, by DESNZ and Ricardo that it is not meaningful to allocate energy consumption locally or regionally for some activities. Therefore, fuel consumption from aviation, shipping and power stations are excluded from this study. In addition, for some fuel and sector combinations, no information is available for spatial mapping purposes. Where possible, fuels used for fuel transformation are excluded, (e.g., coal used in coke ovens and blast furnaces,

[4] The UK spatial emissions methodology report corresponding to the latest NAEI for 1990-2022 has not been published yet. It will be accessible at https://naei.energysecurity.gov.uk/reports/uk-spatial-emissions-methodology-report-national-atmospheric-emission-inventory-2022 once published.

and coal and oils used in power stations). However, actual end-use of fuels is not always obvious from the raw datasets available.

For a more detailed description as to how these data sources are used in Ricardo's modelling process, please see the UK subnational residual fuel consumption methodology report.

Data limitations

DESNZ advises users to recognise the limitations of the information contained in the datasets as they are based on modelled rather than real data, and as such are subject to potential modelling error.

7.3 Comparison to DUKES and ECUK

Residual fuel consumption from the subnational datasets differs slightly from the statistics produced in the Digest of UK Energy Statistics (DUKES). DUKES is an annual DESNZ publication which provides a detailed and comprehensive picture of energy production and use over the last five years, with extensive tables, charts and commentary covering all the major aspects of energy. DUKES figures are based on information from UK energy suppliers, whilst Ricardo has used a variety of data sources to produce their estimates (see section 8.2).

The underlying factors for the differences between the two data sources are as follows:

Table 6: Comparison between the allocation of fuel types in DUKES and in the subnational estimates

Fuel Type	DUKES	Subnational estimates
Heat (generation)	Heat generation is listed as separate category.	Heat generation is allocated to final users, so subnational consumption figures for industry and other sectors are higher than those in DUKES.
Coal	Coal used in auto generation is classed as transformational use and not included in industrial consumption.	Coal used in auto generation is included in industrial consumption, as auto generators cannot be disaggregated from the NAEI and GHGI databases.

Fuel Type	DUKES	Subnational estimates
Fuel Oil	DUKES aggregate total fuel oil, gas oil and burning oil consumption to industry level.	Fuel oil, gas oil and burning oil consumption are reallocated from industry to power stations to ensure consistency with operator data.
Petroleum coke	Some industrial petroleum coke is classed as non-energy use and not included in final consumption.	Petroleum coke used by industry and households is included in the estimates.
Manufactured solid fuels	Benzole, coal tars, coke oven gas and blast furnace gas are included in final consumption. Additionally, coke consumed by sinter production differs from information provided for the subnational estimates.	Benzole and coal tars are treated as non-energy consumption, whilst coke oven gas and blast furnace gas are categorised as transformation fuel uses. These are excluded from the estimates.
Waste and renewables	DUKES does not take account of consumption of waste solvents, tyres and other wastes.	Consumption of waste solvents, tyres and other wastes are included in estimates.

Much of the data in Energy Consumption in the UK (ECUK) are modelled and obtained from secondary analysis performed by DESNZ on data from several sources, including DUKES. Additionally, ECUK provides a more comprehensive sectoral split than the subnational statistics and gives information on end use for most fuels. However, these data are only available on a national level. For these reasons, subnational consumption and ECUK statistics are not comparable.

7.4 Key methodological changes over time

Each year, the GHGI data, which underpin the fuel consumption estimates presented in this report, are updated and extended.

Updating entails revision of emission estimates, most commonly because of revision to the core energy statistics presented in DUKES but may also cover adoption of revised methodologies. Updates, particularly involving revised methodologies, may affect the whole time-series, so estimates of emissions for a given year may differ from estimates of emissions for the same year reported previously. Therefore, comparisons between submissions should take account of whether there have been changes to the following:

- The methodology used to estimate emissions; and/or
- The activity data.

For the 2022 dataset, there has been an update to the way in which non-domestic energy use is distributed across the country. Energy Performance Certificates and Display Energy Certificates have been incorporated into the methodology to give a better indication of where oil and solid fuels are used. Unlike gas and electricity, these fuels are not metered fuel and therefore their distribution has previously been based on broad and uncertain assumptions on how they were geographically constrained; this has led to substantial revisions to the distribution of fuels across the local authorities with all authorities seeing revisions in the data.

For example, solid fuels were previously allocated outside of smoke control areas (SCAs). The removal of this constraint has meant that in this release, solid fuels are now present in some LAs where they were not previously present (where SCAs covered the whole LA) and other LAs see large increases in their consumption. Other LAs may see decreases in their solid fuel use as the totals are now shared among more authorities. This change is noticeable in the industrial and commercial coal and manufactured solid fuel categories.

Similarly, the distribution of oil no longer relies on assumptions related to gas use and this has subsequently shifted the distribution of petroleum in the non-domestic sectors.

Full details of this methodology can be found in the report Employment Based Energy Consumption Mapping in the UK.

Additionally, following a review of the sectors and their methods of distribution, the industrial bioenergy and wastes sector was updated to use a different method. In previous versions of the data, this sector has been based on the gas use statistics. However, as it is possible that an increase in bioenergy use is seen in tandem with a decrease in gas use, this is not an ideal distribution, and it has therefore been updated to use industrial employment statistics.

For further details on the updates to the 2022 GHGI datasets see the latest National Inventory Report (NIR)[5].

[5] Under the Paris Agreement countries established an enhanced transparency framework. Starting from 2024, countries will now submit an annual National Inventory Document (NID) instead of the previously required National Inventory Report (NIR). The latest NID covering 1990-2022 emissions will be submitted to the UNFCCC later in 2024. To enable the use of new reporting tools, the UNFCCC has moved its usual submission deadline of 15th April to 31st December for 2024.

8 Total final energy consumption statistics

Subnational total fuel consumption statistics (2022)

Dates covered: See chapters 2 to 7 of this document

Sectors covered: All (except aviation and national navigation)

Years available: 2005 to 2022

Source: Various

Statistical releases:

English region and devolved administration (NUTS1) and local authority (LA Code):

Latest release: September 2024 (2022 data)

Next release: September 2025 (2023 data)

Subnational total final energy consumption

8.1 Overview (2005 to 2022 data)

The total final energy dataset brings together results from the four data exercises (gas, electricity, road transport and residual fuels) which take place over the year. See chapters 2 to 7 respectively for more information on these datasets. It presents UK total fuel consumption by countries, regions and local authorities.

Table 7: Fuel types and consuming sectors included in the Subnational Total Final dataset

Fuel Type	Consuming Sector
Petroleum Products	Industrial Commercial Domestic Road Rail Public Administration Agriculture
Coal	Industrial Commercial Domestic Rail Public Administration Agriculture
Manufactured solid fuels	Industrial and Commercial Domestic
Bioenergy & Wastes	Industrial and Commercial Domestic Road
Gas (weather corrected)	Domestic Industrial, Commercial and other
Electric	Domestic Industrial, Commercial and other

The datasets exclude some sectors and fuels. It was recognised that it would not be meaningful to allocate energy consumption locally or regionally for some energy uses, in particular aviation (air transport) and shipping (national navigation). As a result, a decision was made to exclude these uses from the analysis. It was also not possible to model non–energy use of petroleum products and natural gas; nor was it practical to allocate heat sold at local or regional level since the source for this information is already heavily modelled.

Table 8 shows the overall quantity of fuel consumed in these sectors as stated in the Digest of United Kingdom Energy Statistics (DUKES), along with its share of total final energy consumption as stated in DUKES. For example, 1,010 ktoe of derived gases were consumed by the industrial sector in 2022 and this represented 0.8 per cent of total final energy consumption in the UK.

Table 8: Fuels not included in subnational total final energy consumption statistics in 2022

Fuel	Consuming Sector	Quantity (ktoe)[6]	Share of total final energy consumption as reported in DUKES
Derived gases	Industrial	1,010	0.8%
Petroleum products	Air transport	10,588	8.1%
Petroleum products	National navigation	795	0.6%
Heat sold	All sectors	1,550	1.2%
Petroleum and natural gases	Non-energy use	5,102	3.9%
Bioenergy and waste	Agricultural	173	0.1%
Bioenergy and waste	Public Administration	52	0.0%
Total	All	19,270	14.7%

8.2 Methodology

To produce the total dataset, the results from the gas, electricity, road transport and residual fuel exercises are converted to a common unit (thousands of tonnes of oil equivalent, ktoe) and combined. The details of how each of the input dataset are produced are provided earlier in this guidance booklet (see chapters 2 to 7).

Summary

Gas consumption statistics are produced by collecting consumption data for all gas meters within Great Britain from Xoserve, aggregating them to a local and regional level and then mapping to statistical geographies using information held on the National Statistics Postcode Look-up (NSPL) file. Electricity consumption statistics are produced by collecting consumption data for all electricity meters within Great Britain from electricity data aggregators, aggregating them to a local and regional level and then allocating these to local authorities using the NSPL.

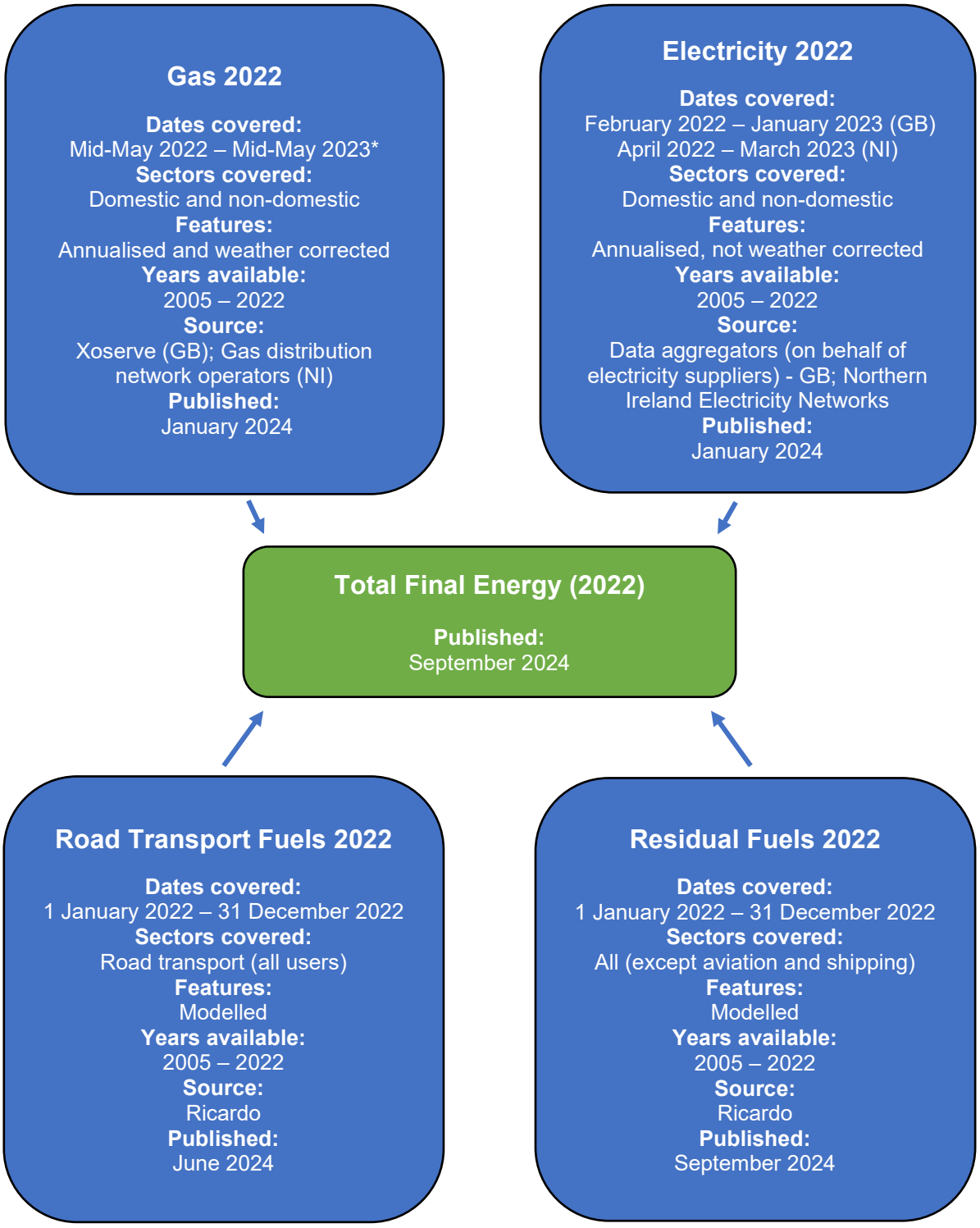
Northern Ireland gas and electricity consumption estimates are also used. The details of how these are produced can be found in chapter 4 and chapter 5.

Road transport fuels figures are modelled for DESNZ by Ricardo using modelling carried out for the National Atmospheric Emissions Inventory (NAEI) which makes use of traffic flow data produced by the Department for Transport (DfT). Residual fuels are also modelled by Ricardo using data produced for the NAEI and a range of other spatial data sources.

Before being included in the total final energy dataset, gas and electricity statistics (given in Gigawatt hours) are converted to the common unit of thousand tonnes of oil equivalent (ktoe) using the standard conversion factor of 1 ktoe to 11.63 GWh. Road transport fuels and residual fuel statistics are already given in thousand tonnes of oil equivalent, so do not need to be converted.

[6] These figures are from Digest of United Kingdom Energy Statistics (DUKES). Figures for derived gases are found in table 2.6 (coke oven gas and blast furnace gas) and the remaining fuels listed in the table can be found in table 1.2.

Figure 4: An illustration of the composition of total final energy dataset



* Exact dates for each gas year dates vary from year to year. See gas consumption dates for gas period (Great Britain) and Northern Ireland gas consumption statistics.

8.3 Data limitations and interpretation

It is important to note that the various data limitations on individual fuel source estimates will impact the reliability of total energy consumption estimates.

Statistics in the individual datasets are based on the aggregation of data from different sources of information. Electricity and gas data are based on real consumption recorded from meters which is then aggregated to local authority and regional level. Road transport fuel and residual fuel data are modelled using fuel consumption and modelling on a national level and then disaggregated using spatial data.

The dates covered by each dataset differ, and so the total final energy consumption statistics dataset does not cover a fixed annual period.

Gas consumption data is weather corrected (the effect on year-on-year changes is removed), whereas all other fuel sources are not weather corrected.

Central Volume Allocation (CVA) users (very large industrial consumers receiving electricity via the high voltage system) are not covered in the local and regional electricity statistics.

It is also important to bear in mind the change in the underlying employment data used to produce mapping distributions in the residual fuel's dataset for data from 2008 onwards. This is further explained in section 8.4.

In general, the user should note the variability of the data quality of the different datasets and that they do not provide comprehensive coverage of all final energy consumption.

8.4 Data accuracy

DESNZ is committed to producing accurate, high-quality information. The data used are based on either the administrative data systems of energy suppliers, or on statistical models.

Data are quality assured at all stages of the data process and year-on-year comparisons are used to measure trends to make sure data is reliable. Another important way in which DESNZ assesses the reliability of subnational consumption data is through comparisons to DUKES.

Subnational total final energy consumption is reconciled to data from the Digest of UK Energy Statistics (DUKES), and this analysis can be found at the bottom of each dataset.

A detailed table explaining differences between the datasets for each individual fuel type (gas, electricity, road transport fuels and residual fuels) and figures found in DUKES and Energy Consumption in the UK (ECUK) are explained in detail in Annex B of this methodology booklet. Gas and electricity consumption information is obtained from the administrative systems used by the energy companies for operating purposes including the production of bills. However, the subnational data are calculated using different time periods to that used for DUKES, and as such there are valid reasons why the totals from the two data sources differ.

Road transport fuel consumption and residuals fuels are closely compared with DUKES data, and extensive work is performed by Ricardo, DESNZ's contractors who produce the data, reconciling subnational figures with those provided in DUKES.

8.5 Further information

For analysis on subnational total fuel consumption data prior to 2010, please see the articles in Energy Trends. Analysis for 2009 can be found in Energy Trends, December 2011 (PDF, 6.1MB), page 81.

Annexes

Annex A: Frequently Asked Questions (FAQ)

This section provides answers to the most asked questions from users of the subnational consumption statistics.

General

How do subnational energy consumption statistics compare to ECUK?

Subnational energy consumption statistics should not be compared to statistics in Energy Consumption in the UK (ECUK). Subnational gas and electricity are aggregated from a meter point-level and road transport and residual fuel consumption statistics are modelled by Ricardo. Much of the data in ECUK is modelled and obtained from secondary analysis performed by DESNZ on data from many sources. ECUK data (available only on a national level) also provides a more comprehensive sectoral split than the subnational statistics and gives information on end use for most fuels.

Which fuels are not included in subnational energy consumption statistics?

Fuels not included in the subnational energy consumption datasets are derived gases consumed in the industrial sector, petroleum products used by air transport and national navigation, heat sold in all sectors and non-energy use of petroleum and natural gas. More information on this and a numerical breakdown of these fuels can be found in section 8.1.

What are unallocated meters/consumption?

Unallocated gas or electricity meters are meters with insufficient address information, therefore consumption for these meters is unable to be allocated to a local authority, MSOA/IZ or LSOA/DZ. This is due to either incomplete or missing postcode information being provided by the data suppliers. In some cases, DESNZ can identify the local authority in which consumption was taking place, but not the specific MSOA/LSOA (please see the statistical geographies section for more information on super output areas). Unallocated electricity data at local authority level can also include consumption for street lighting or traffic lights, where the information provided does not indicate a specific local authority.

In addition, consumption data that is deemed to be disclosive at a geographical level is also classed as ‘unallocated’. A meter is disclosive if the top two consuming meters at a geographical level have >90% of the total consumption of a geographical area. There are a few cases where some meters are around the 90% mark and can change from being disclosive to non-disclosive over time due to changes in consumption at that site or across the rest of the geographical area. Disclosure is also applied where the number of meters in a geographical area is less than 5.

How can I find out which postcodes are included in a geographical area?

The National Statistics Postcode Lookup (NSPL).

Gas

How is gas consumption allocated between domestic and non-domestic consumers?

DESNZ uses the gas industry cut-off point of 73,200 kWh. All consumers using less than this figure are classed as domestic and those using more are classed as non-domestic. Please see chapter 2 for further guidance on gas consumption statistics.

Electricity

How is electricity consumption allocated between domestic and non-domestic consumers?

The automatic cut-off point for domestic consumption is 100,000 kWh; all consumers using more than this figure are classed as non-domestic. Domestic consumption between 50,000 kWh and 100,000 kWh is reallocated to the non-domestic sector following a validation process if address information indicates non-domestic consumption is taking place (for example, if an address contains 'plc.' or 'ltd'). Please see chapter 3 for further guidance on electricity consumption statistics.

Do domestic electricity consumers on an economy 7 tariff have two meters (one measuring peak consumption and the other measuring off-peak consumption)?

No. Consumers on an economy 7 tariff will have one meter, and this meter will measure both peak and off-peak rates of consumption.

What is the difference between NHH and HH consumption?

Non-Half Hourly (NHH) consumption refers to electricity consumption by domestic consumers and small and medium businesses while Half Hourly (HH) consumption refers to electricity consumption by the higher consuming non-domestic consumers. Guidance on the dates covered by NHH data can be found in section 3.1.3).

What is the reason for the difference in the number of electricity meters and the number of properties?

The number of electricity meters does not exactly equal the number of properties. One reason for this is that an apartment building may have a meter for the building complex (used to power building-wide appliances) in addition to each individual apartment having its own meter. Another is that some households may have a 3-rate meter system. A household with such a system will have one meter which measures all consumption at a peak rate and another meter which measures two other rates of off-peak consumption. This is the case for many households in Scotland, but it is extremely rare to find a similar case in England or Wales. Additionally, some meters are used to power street lighting or traffic lights as opposed to a property (many of these are unallocated). Please see chapter 3 for further guidance on electricity consumption statistics.

Road transport

Where can I find information on the number of licensed vehicles on the road?

DfT Vehicle Licensing Statistics. For more information, please contact the Vehicle Licensing team at: vehicles.stats@dft.gov.uk.

Annex B: Differences between subnational consumption data, DUKES and ECUK

Fuel Type[7]	Subnational	DUKES	ECUK
Gas	Statistics are available on a subnational level.	Statistics are available on a national level.	Statistics are available on a national level.
	Based on the gas year mid-May to mid-May	Based on a calendar year.	Based on a calendar year.
	Weather corrected.	Not weather corrected.	Not weather corrected.
	Cover Great Britain.	Cover the United Kingdom.	Cover the United Kingdom.
	Statistics are aggregated up from meter-point level data.	Statistics are produced using a top-down approach.	Statistics are modelled and obtained after secondary analysis using several data sources (including DUKES).
	Statistics are split by domestic and non-domestic consumers.	Statistics are split by a wider range of sectors (for example industry, public administration, commercial and others).	Statistics are split by a wider range of sectors (for example domestic, industry, services, and others) and include information on end use.
Electricity	Statistics are available on a subnational level.	Statistics are available on a national level.	Statistics are available on a national level.
	Based on year Non-Half-Hourly meters (1st February - 31st January) and Half-Hourly meters calendar year.	Based on a calendar year.	Based on a calendar year.
	Cover Great Britain.	Cover the United Kingdom.	Cover the United Kingdom.
	Statistics are split by domestic and non-domestic consumers.	Statistics are split by a wider range of sectors (for example industry, public administration, commercial and others).	Statistics are split by a wider range of sectors (for example domestic, industry, services, and others) and include information on end use.
	Excludes consumption from CVA users.	Includes consumption from CVA users.	Includes consumption from CVA users.
	Statistics are aggregated up using meter-point level data.	Statistics are produced using a top-down approach.	Statistics are modelled and obtained after secondary analysis using several data sources (including DUKES).
Road Transport	Statistics are available on a subnational level.	Statistics are available on a national level.	Statistics are available on a national level.
	Statistics are split by vehicle type.	Statistics are split by vehicle type.	Statistics are split by vehicle type and end user.
	Estimates are modelled from a national level using a fuel consumption, emissions and traffic flow data.	Estimates are based on sales volume data recorded by UK energy suppliers.	Statistics are modelled and obtained after secondary analysis using several data sources (including DUKES).
Residual Fuels	Statistics are available on a subnational level.	Statistics are available on a national level.	Statistics are available on a national level.
	Statistics are split by fuel type and sector.	Statistics are split by fuel type and sector.	Statistics are split by fuel type, sector, and end use.
	Estimates are modelled using a fuel consumption, emissions, and spatial data approach.	Figures are based on information from UK energy suppliers.	Statistics are modelled and obtained after secondary analysis using several data sources (including DUKES).
	Heat generation is allocated to final users, so subnational consumption figures for 'industry' and 'other sectors are higher than those in DUKES.	Heat generation is listed as a separate category.	
	Coal used in auto generation is included in industrial consumption, as auto generators cannot be disaggregated.	Coal used in auto generation is classed as transformational use and is not included in industrial consumption.	
	Ricardo reallocates fuel oil, gas oil and burning oil consumption from industry to power stations to ensure consistency with operator data.	DUKES aggregates total fuel oil, gas oil and burning oil consumption to industry level.	
	Petroleum coke used by industry is included in the estimates.	Some industrial petroleum coke is classed as 'non-energy use' and not included in final consumption.	
	Benzole and coal tars are treated as non-energy consumption and coke oven gas and blast furnace gas are categorised as transformation fuel uses. These are excluded from the estimates.	Benzole, coal tars, coke oven gas and blast furnace gas are included in final consumption. Additionally, coke consumed by sinter production differs from information provided for the subnational estimates.	
Total	Statistics are available on a subnational level.	Statistics are available on a national level.	Statistics are available on a national level.
	Based on a variety of dates.	Based on a calendar year.	Based on a calendar year.
	Statistics are based both on data aggregated up from meter-point level and data gathered at a national level.	Statistics are produced using a top-down approach.	Statistics are modelled and obtained after secondary analysis using several data sources (including DUKES).

[7] Differences between subnational, DUKES and ECUK estimates for each fuel type above also apply.

Annex C: Related DESNZ statistical publications

DESNZ publish a timetable of all of its planned statistical releases for 12 months ahead.

Quarterly and monthly consumption statistics

Users of the statistics described in this guide often also have an interest in consumption data on a finer time scale than annual. For example, monthly, or quarterly consumption statistics.

For electricity consumption the quarterly publication Energy Trends contains figures of quarterly and monthly electricity consumption split by sector. These statistics can be found in Section 5 of Energy Trends (Table 5.5).

Energy Trends also contains quarterly gas consumption statistics. Gas consumption statistics in Energy Trends are also split by sector, however monthly statistics are not available for this fuel. The data can be found in Section 4 of Energy Trends (Table 4.1).

Electricity and gas are by far the most requested fuels for quarterly or monthly data – however users should note that quarterly consumption data is also available in Energy Trends for both solid fuels and petroleum products.

These are the smallest time scales under which DESNZ produces consumption data, some users have in the past requested daily or hourly consumption data, but these are not available. Quarterly or monthly consumption statistics are also unfortunately not available at the regional levels discussed in this guide (such as local authority or super output areas).

Subnational greenhouse gas emissions statistics

Many users of the subnational energy consumption may be interested in the Subnational greenhouse gas emissions statistics produced by DESNZ.

Any enquires about these statistics should be sent to greenhousegas.statistics@energysecurity.gov.uk

Electricity generation statistics

Electricity generation statistics are not available at subnational geography levels, however energy generation statistics for the UK can be found in Section 5 of Energy Trends. This data is available on a quarterly basis, as opposed to subnational energy consumption statistics which are only published annually.

Any enquiries about these statistics should be sent to electricitystatistics@energysecurity.gov.uk

National Energy Efficiency Data Framework (NEED)

The National Energy Efficiency Data-Framework (NEED) was set up by DESNZ to provide a better understanding of energy use and energy efficiency in domestic and non-domestic buildings in Great Britain.

The data framework matches gas and electricity consumption data, collected for DESNZ subnational gas and electricity consumption statistics, with information on energy efficiency measures installed in homes through government schemes. It also includes data about property attributes and household characteristics, obtained from a range of sources.

Any enquiries about these statistics should be sent to:
energyefficiency.stats@energysecurity.gov.uk

Quarterly Energy Prices (QEP)

Quarterly Energy Prices (QEP) is a quarterly statistical release published by DESNZ, which covers energy prices and bills for both domestic and industrial consumers, across all major fuel types. The publication also contains comparisons of fuel prices in the EU and the IEA countries, and wider statistics on UK retail energy markets.

Any enquiries about these statistics should be directed to:
energyprices.stats@energysecurity.gov.uk

Digest of UK Energy Statistics (DUKES)

Digest of UK Energy Statistics (DUKES) is an annual publication, which is an essential source of energy information. It contains extensive tables, charts and commentary, which details a comprehensive picture of energy production and use over the last five years, with key series taken back to 1970. DUKES is split into separate sections on coal, petroleum, gas, electricity, renewables and combined heat and power.

It is advised that DUKES estimates for total final energy consumption are used for headline and overall UK consumption estimates, whilst the subnational estimates should be used where estimates at a lower geographical level are required.

Any enquiries about these statistics should be directed to energy.stats@energysecurity.gov.uk

This publication is available from Subnational consumption statistics: methodology and guidance note.

If you need a version of this document in a more accessible format, please email energyefficiency.stats@energysecurity.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.