Department for Business, Energy & Industrial Strategy

ENERGY CONSUMPTION IN THE UK 2016

User Guide

November 2016

Energy Consumption in the UK (2016)

User Guide

Overall energy consumption in the UK since 1970

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Contents

Background

November 2016 update

As stated in the July 2016 publication, certain tables have been updated for this November issue. The updates include the domestic and services sectors end use tables (tables 3.02 and 3.08 for the domestic sector and tables 5.05 and 5.05a for services). As these tables feed into overall end use tables (1.03 and 1.04), these have also been updated.

This update also includes a new section providing high level revisions (see paragraph below).

Energy Consumption in the United Kingdom (ECUK), produced by the Department of Business, Energy, and Industrial Strategy (BEIS), is an annual statistical publication providing a comprehensive review of energy consumption and changes in efficiency, intensity and output since the 1970s with a shorter time period for certain tables where limited data are available or a shorter time frame is of particular interest.

There are a range of key users of ECUK, both within BEIS and externally, including energy companies and academics. The purpose of this user guide is to provide users with an overview of the content of key elements of each section within ECUK and to explain technical concepts and vocabulary. Specific tables selected for explanation in this guide are those considered to be the most complex by our users. This document is not intended to offer commentary and interpretation of the data.

Additional sections towards the end of this guide include a highlight of related BEIS publications, including the Digest of UK Energy Statistics (DUKES). Much of the data contained in ECUK has been sourced from DUKES[1]. Other sources used for ECUK data

[1] DUKES can be accessed from the BEIS website at: https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes.

are included in the links library appended to the data tables. Also included in this document is a glossary defining key terms used in ECUK.

Composition of ECUK

The publication covers five sections – overall, transport, domestic, industry and services. The report analyses trends in each of the sectors and there is an excel workbook which includes detailed tables with various desegregations.

A brief description of what is contained in each section is provided below.

Overall Energy
This section brings together many of the statistics presented in sections 2 to 5 to give an overview of trends in energy consumption across the United Kingdom. Also included is a table of unadjusted and temperate corrected primary energy consumption.

Transport Sector
This section focuses on the trends in energy consumption in the transport sector and the various factors that have affected it such as energy efficiency of vehicles, transport energy intensities and distance travelled.

Domestic Sector
This section focuses on energy consumption in the domestic sector and presents a number of factors which affect the levels of household consumption, such as household and population figures, energy ratings and installation of energy efficiency measures.

Industrial Sector
This section focuses on energy consumption and efficiency in industry and it includes detailed tables which give energy consumption by subsector (at two digit SIC level).

Services Sector
This section looks at energy consumption in the service sector and a number of factors affecting it such as output (gross value added), energy efficiency of service sector buildings and output and intensity factors.

To access the publication and related documents, please visit the BEIS website: https://www.gov.uk/government/publications/energy-consumption-in-the-uk.

Frequently used terms

The energy sector uses terminology which has also been employed in ECUK. The most frequently used terms are defined below in order to aid the unfamiliar user in understanding the statistics fully. Terms used within ECUK have been defined in the

Glossary (please see Annex B). In addition, a full glossary of terms used within the energy industry is provided in Annex B of DUKES.

Primary energy equivalents - this is the amount of the fuel used directly for consumption in a sector prior to any loss of energy via conversion or transformation process. Therefore, the primary energy equivalent estimates will include any losses incurred during the transformation process and energy used by the energy industry, and will differ from final energy consumption estimates.

Final energy consumption – this refers to energy consumed by final end users after energy has been transformed, as opposed to **primary energy consumption** which is energy in its original state.

Non-energy use – this category includes the consumption of energy products which have not been used to directly provide energy. This category includes use for chemical feedstock, solvents, lubricants and road making material.

Revisions

As ECUK is dependent on consumption outputs from DUKES, revisions to DUKES in turn flow through into ECUK. Details on revisions to DUKES can be found in paragraph IX on page 28 of the Digest. This includes a table indicating the period which has been subject to revision (for 2016, 2013 and 2014 were revised) and the actual key revisions by sector. More detailed descriptions are then referenced in the relevant chapter.

Other series incorporating external data sources, such as ONS Gross Value Added (GVA), used to calculate energy intensity in the services sector, are also subject to revision or changes, such as updating the base year. For example, for ECUK 2015, the base year for Gross Domestic Product (GDP) was 2011 whereas for the 2016 publication, the base year was 2012. As GDP is used as a denominator to calculate energy intensity, changes in the base year have only a very minor impact on the intensity calculation.

Energy intensity in the industry sector is similarly subject to revisions in line with the ONS series Index of Production. As with the services sector, any revisions to this series have a minor effect on the intensity calculation.

Generally as new evidence or research is undertaken, the new modelling will apply from the current year, for example with the results of the BEES project, unless evidence suggests that this applies to the historical series. However, occasionally new sources of data can indicate modelling for previous years could be improved. For example, new data for the split between consumption by vehicle type (transport table 2.02) has informed revisions going back to 1970 (although the total fuel consumption has only been revised in accordance with DUKES revisions, i.e. for 2013 and 2014).

Measurements

There are different measurements used within the ECUK table series. The most frequently used have been defined below:

- **Thousand tonnes of oil equivalent (ktoe)** – this is a common unit of measurement which enables different fuels to be compared and aggregated. A tonne of oil equivalent (toe) is a unit of energy.
- **Gigawatt hours (GWh)** – the kilowatt hour (equivalent to 0.000001 GWh) is a unit of electrical energy equal to 1,000 watt hours, or 3.6 megajoules.

Energy must be converted to a common unit before comparisons can be made. In common with the International Energy Agency and with Eurostat, the tonne of oil equivalent is defined as follows:

1 tonne of oil equivalent *(0.001 ktoe)*	= 10^7 kilocalories
	= 396.83 therms
	= 41.868 Gigajoules (GJ)
	= 11,630 Kilowatt hours (kWh)
	(0.01163 Gigawatt hours (GWh) or 0.00001163 Terawatt hours (TWh))

Feedback

Feedback is welcomed on the content of this User Guide. Please send comments and queries to Energy.stats@beis.gov.uk.

Overall (ECUK Section 1)

Overview

This section brings together many of the statistics presented in sections 2 to 5 to give an overview of trends in energy consumption in the United Kingdom. Consumption is split by the various sectors and fuel types. The section also presents a number of indicators which effect energy consumption over time. These include temperature, GDP and output and intensity factors.

Key information by table

Provided below is further information about the most frequently used tables within this section.

Table 1.01: Final energy consumption (including temperature corrected)
This table shows final energy consumption by sector (transport, domestic, industry, and services) on an actual and temperature corrected basis. Correcting consumption for temperature fluctuations provides an estimate of how much energy would have been required had the average temperature been at the long term average. The domestic sector is the most responsive to temperature changes as a bigger proportion of consumption is for space heating and hot water. Details of the methodology used to calculate this can be found in the June 2011 and September 2011 editions of Energy Trends;

http://webarchive.nationalarchives.gov.uk/20130109092117/http:/www.decc.gov.uk/en/content/cms/statistics/publications/trends/trends.aspx

Table 1.06: Output and Intensity Factors
Output is a term used to describe the growth in the quantity of goods produced, services provided, passengers or freight transported or, for the domestic sector, the number of households. If all other factors are kept constant, then energy consumption would change at the same rate as the change in output. Energy intensity measures the impact of those other factors which include changes in efficiency or a move to less energy consuming activities. In the domestic sector, intensity changes could result from an increase in home insulation, or improved boiler efficiencies.

For more information on output and intensity in the transport, industry and services sectors, refer to the equivalent tables for that sector. For more information on how this is estimated for other sectors, refer to the equivalent table for the sector;

Transport	Table 2.04
Industry	Table 4.07
Services	Table 5.06

Table 1.07: Energy required per 1 tonne of oil equivalent of final energy demand

This table shows how many tonnes of oil equivalent are required to produce 1 tonne of oil equivalent for final energy consumption purposes. Changes occur through efficiency of energy production and changes to the primary energy fuel used in the transformation process

Table 1.08: Factors affecting conversion losses

Primary energy equivalents (A and D in the table) refer to the amount of energy used directly for energy consumption plus the amount of energy used to produce another fuel type. Final energy consumed (B and E in the table) refers to the energy consumed by final end users after energy has been transformed. The difference between primary energy equivalents and final energy consumed is the 'loss in converting primary energy to delivered energy' (C and F in the table).

Item G in the table ("2015 primary energy estimate assuming electricity conversion efficiencies were the same as in 2000") uses electricity conversion efficiencies as a proxy for estimating primary energy equivalents. It is calculated by taking the amount of primary energy equivalent of fuel used to generate electricity in 2015 and multiplying it by a ratio of electricity conversion efficiencies (which reflect changes in electricity conversion efficiencies between 2000 and 2015).

Item H in the table ("The 2015 primary energy estimate assuming the primary to delivered energy ratio was the same as in 2000") is calculated by multiplying final energy consumed in 2015 by the ratio between primary energy equivalents and delivered energy in 2000 (taking into account all fuels).

If the total change in conversion losses between 2000 and 2015 is negative, then there has been a smaller conversion loss in 2015. If the figure is positive, then the conversion loss was greater in 2015. The breakdown below shows how much each of the following contributes to the overall change in conversion losses:

- *Changes in delivered energy* – how the change in final demand for energy has affected total losses.
- *Improved primary to delivered energy conversion efficiencies* – a negative figure indicates improved efficiency of the conversion.
- *Fuel switching* – the changing of fuels used to generate energy (generally, a shift from coal to gas in the production of electricity).

Table 1.09: Consumption in Primary Energy Equivalents (including temperature corrected)

The temperature corrected series of total fuel consumption indicates what annual consumption might have been if the average temperature during the year had been the same as the average for a long-term period (currently 1981 to 2010).

The ‘unadjusted’ refers to ‘actual’ consumption, that is, total fuel consumption which has not been temperature corrected.

Table 1.11: Factors affecting the overall change in primary energy demand

The ‘change in delivered energy from 2000 to 2015’ is the difference between total final energy consumption in 2000 and 2015. The conversion loss is the amount of energy lost when transforming a primary fuel into delivered energy, hence the ‘change in conversion losses from 2000 to 2015’ looks at how much this has changed over time.

This table allows us to see how much each of the factors above has affected the ‘change in primary energy equivalent from 2000 to 2015’. The primary energy equivalent is the amount of the fuel used directly for consumption in a sector plus the amount of that fuel used to produce another fuel in that sector. For example, gas used to produce electricity (and other fuels) in the industrial sector plus the direct use of gas in the industrial sector would give the primary energy equivalents for gas in the industrial sector.

Transport (ECUK Section 2)

Overview

This section focuses on the trends in energy consumption in the transport sector. Consumption tables are split by fuel type, vehicle category (that is, road, rail, water air), vehicle type (such as LGV, HGV, cars, buses etc.) or purpose of travel (that is, for passengers or for freight). Also included in this section are fuel, output/intensity factors and data on miles travelled by trip purpose and vehicle occupancy rates among other indicators. The convention in energy reporting is that all use of fuel is allocated to the transport sector.

Most of the consumption data in this section is sourced from DUKES or is derived from internal analysis performed by Ricardo Energy and Environment. The non-consumption related statistics, such as vehicle occupancy and distance travelled are available from the Department for Transport (DfT) and for rail transport, the Office of Rail Regulation (ORR).

Key information by table

Provided below is further information about the most frequently used tables within this section.

Table 2.03: Transport energy consumption re-allocated to domestic, industrial, and services sector 1990 to 2014
This table allocates the total amount of energy consumption attributed to the transport sector in the Digest of UK Energy Statistics (DUKES) to the three main sectors (namely Industry, Domestic and Services) who are the ultimate users of the transport.

Table 2.04: Output and intensity factors for cars and lorries 2000 to 2014
Output is a term used to describe the growth (or decline) in the quantity of goods and services produced. In the transport sector, output is measured in terms of passenger or freight kilometres.

Intensity is defined as the amount of energy consumed per unit of output. A fall in intensity in a particular sector could indicate an improvement in energy efficiency or a move to less energy consuming activities.

Table 2.05: Energy intensities by road passenger, road freight, and air transport 1970 to 2015
Energy intensity refers to the amount of energy consumed per kilometre travelled.

Further information

Road transport consumption statistics covering the United Kingdom are available at local authority level. To access these, please visit the BEIS webpage here: https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level.

For a wide range of non-consumption statistics relating to the transport sector, including the National Travel Survey and Transport Statistics Great Britain, please visit DfT's statistics homepage:
https://www.gov.uk/government/organisations/department-for-transport/about/statistics.

Domestic (ECUK Section 3)

Overview

This section focuses on energy consumption by the domestic sector. Consumption tables are mainly split by fuel type and end use (such as space heating, water, cooking and lighting and appliances). There are also a number of tables presenting factors which directly affect consumption by households. Examples include the number of households, population, SAP ratings, and ownership of household appliances, central heating and insulation.

While most consumption data is sourced or modelled from data in DUKES, the domestic section also includes data from the Market Transformation Programme (data on consumption by domestic appliances). Tables containing data from the National Energy Efficiency Data-Framework (NEED) have been removed from the 2016 edition of ECUK as this information is available from the actual NEED publication;

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

Please note the difference between dwellings and households. A ‘dwelling’ is the accommodation itself, such as a house or flat. A dwelling, therefore, may be occupied or vacant. In ECUK, occupied dwellings are referred to as ‘households’.

Key information by table

Provided below is further information about the most frequently used tables within this section.

Tables 3.02 and 3.08: Domestic Consumption by end use

Tables 3.02 and 3.08 provide two different sources of domestic energy consumption split by end-use, both of which provide information on lighting, cooking and appliance energy use. Table 3.02 gives total energy use by fuel type by general end use, based on the outputs of the Cambridge Housing Model[2] which estimates lighting, cooking and appliance use using improved SAP algorithms. **Table 3.08** gives specific energy use for a range of consumer items, based on data provided by the Market Transformation Programme (MTP)

[2] www.gov.uk/government/publications/cambridge-housing-model-and-user-guide

from an analysis of the penetration of appliances and lighting into UK homes, e.g. through sales figures. The figures have been scaled to DUKES total figures to ensure consistency. While the figures for lighting in both tables match, there are some small discrepancies between the totals for cooking and appliances, due to differences in the methodologies used and the items included in each figure.

If users are interested in total energy use for appliances**, table 3.02** is consistent with other tables within ECUK. However, if they are more interested in the breakdown into different appliances types, **table 3.08** is more appropriate.

Table 3.03: Average domestic gas and electricity consumption by households 2008 to 2015

This table shows average electricity and gas use in homes covering the period 2008 to 2015. The electricity average is calculated by dividing the total amount of domestic electricity use by the number of households in the UK. For gas, as not every property is connected to the gas network, the denominator in the calculation is based on the known number of domestic gas customers, collected as part of the data required for working out average energy bills. The number of customers differs for that used in BEIS's sub-national energy collection, as that uses a consumption threshold (of 73,200kWh) to distinguish between domestic and non-domestic use.

Table 3.05: Specific energy consumption 1999 to 2014

Specific energy consumption is defined as the energy required to maintain a particular level of energy service in households. It is a modelled alternative to energy intensity and takes account of changes in demand for individual energy services, for example the level of household comfort or hot water use. Service demand and energy consumption both tend to be dominated by space heating (and so is influenced by fluctuations in temperature), whereas specific energy consumption is dominated by cumulative insulation levels and boiler efficiencies. This table has not been updated for 2015 and BEIS will review the methodology during the year.

Tables 3.14 to 3.22: Tables relating to housing stock properties likely to have an impact on domestic consumption

The Government's Standard Assessment Procedure **(table 3.15)** is an energy rating used to assess and compare the energy and environmental performance of dwellings, with the purpose to provide accurate and reliable assessments of dwelling energy performances that are needed to underpin energy and environmental policy initiatives.

This rating can lie between 1 and 100, where 1 represents an extremely inefficient dwelling and 100 represents an extremely efficient dwelling that is completely energy self-sufficient. It is also possible to obtain a score above 100, which indicates that enough energy is being generated to serve the dwelling with some excess energy that can be sold to the electricity grid.

The SAP rating is calculated by using estimates for space heating, water heating and lighting costs for the dwelling. This is normalised for floor area and incorporates a number of standardised assumptions about occupancy, heating patterns, internal temperatures, climatic factors, etc. The specific heat loss of a dwelling, the type of heating system and the fuel that it uses are key factors in determining the SAP rating.

The Heat Loss Parameter (HLP) **(Table 3.17)** of a dwelling is a measure of how well a dwelling retains heat. It is based on heat transfer through the fabric of a building (e.g. walls and windows), which depends on the insulating properties of each building element, as well as heat loss due to air movement, from both deliberate ventilation and uncontrolled infiltration. The total heat loss coefficient (units: W/K) is divided by the total dwelling floor space to give a measure of heat loss per unit area (W/m^2K), to allow a fair comparison of the heat loss between dwellings of different size.

Boiler efficiency **(Table 3.20)** determines how much fuel is required for a given heat output, and depends on a variety of factors, including the age and quality of the installed boiler, and whether it is condensing or not.

The boiler efficiencies presented in ECUK are estimated for each dwelling in the English Housing Survey (EHS), where possible by matching the given manufacturer and model with the SEDBUK boiler efficiency database[3]. Otherwise the efficiency is estimated by matching the EHS Primary Heating Code, which defines the boiler type and fuel, against SAP Table 4b, which gives a typical efficiency figures for standard boiler types.

[3] The Boiler Efficiency Database can be accessed via: http://www.ncm-pcdb.org.uk/sap/index.jsp

Industry (ECUK Section 4)

Overview

This section focuses on energy consumption and efficiency in industry which is mainly split by fuel type and industrial consuming group. A key characteristic of this section is that it includes detailed industrial tables which give energy consumption by sub-sector (at two digit SIC level), end use and fuel type. In this publication, the industrial sector includes the energy industry, but not fuel used for transformation.

Key information by table

Provided below is further information about the most frequently used tables within this section.

Tables 4.03 and 4.04: Industrial energy consumption by SIC code (2007-2015)
In last year's publication, each year was presented in a separate worksheet though for the 2016 edition, earlier years are included in one sheet. Data tables in this series are based upon the Purchases Inquiry (PI), which is a sub-survey of the ONS' Annual Business Inquiry[4]. The Purchases Inquiry asks a sample of approximately 6,000 firms about the amount that they have spent on a range of items, including the amount spent on various types of fuel. The data from the sample is re-scaled to reflect estimated levels of expenditure on energy at the UK level by re-weighting the sample by the number of enterprises operating within each of the relevant SIC[5] sectors. The expenditure data are then brought together with data on energy prices, overall consumption, and calorific values in order to convert expenditure by SIC code into consumption by SIC code. In other words, the expenditure on fuel figures are deflated by average prices and then scaled within each sector so that the totals match with the data in the Digest of UK Energy Statistics (DUKES)[6].

Unfortunately, the last set of PI data provided by the ONS relate to 2006 and therefore 2006 expenditure data was used with 2007 overall data in the final update to **table 4.03**.

[4] The Annual Business Inquiry can be accessed on the ONS website: http://www.ons.gov.uk/ons/rel/abs/annual-business-inquiry/index.html.
[5] More information on UK SIC 2007 can be accessed on the ONS website: https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007.
[6] DUKES can be accessed on the BEIS webpage: https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes.

Since then the PI has been reviewed and has been re-launched[7]. Once the results are available, they will be incorporated into the next possible publication.

Table 4.04 also provides industrial energy consumption by fuel type for the years 2009 to 2015 at the updated two digit SIC 2007 level, but in addition split consumption by the end process type (i.e. how the energy is used in the different industrial sub-sectors. The different processes include:

- **High temperature processes**
  High temperature processing dominates energy consumption in the iron and steel, non-ferrous metal, bricks, cement, glass and potteries industries. This includes coke ovens, blast furnaces and other furnaces, kilns and glass tanks.
- **Low temperature processes**
  Low temperature processes are the largest end use of energy for the food, drink and tobacco industry. This includes process heating and distillation in the chemicals sector; baking and separation processes in food and drink; pressing and drying processes, in paper manufacture; and washing, scouring, dyeing and drying in the textiles industry.
- **Drying/separation**
  Drying and separation is important in paper-making while motor processes are used more in the manufacture of chemicals and chemical products than in any other individual industry.
- **Motors**
  This includes pumping, fans and machinery drives.
- **Compressed air**
  Compressed air processes are mainly used in the publishing, printing and reproduction of recorded media sub-sector.
- **Lighting**
  Lighting (along with space heating) is one of the main end uses in engineering (mechanical and electrical engineering and vehicles industries).
- **Refrigeration**
  Refrigeration processes are mainly used in the chemicals and food and drink industries.
- **Space heating**
  Space heating (along with lighting) is one of the main end uses in engineering (mechanical and electrical engineering and vehicles industries).
- **Other**

[7] https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/annualpurchasessurvey

‘Other’ refers to any process that does not fit into the above categories. Tables for the years 2007 and 2008 use the earlier SIC 2003 codes (other years use the updated SIC 2007 series).

Table 4.07 Output and intensity factors affecting changes in industrial energy use between 2000 and 2015

Output is a term used to describe the growth (or the decline) in the quantity of goods or services produced in a particular sector. For example, in the case of the industrial and services sectors, gross value added is used as a measure of output. If there has been more industrial output in the UK in 2015 than in 2014, then it is intuitive that there will be greater energy consumption in 2015 than in 2014 in that sector. For manufacturing, the more goods that are produced then the more energy that is used.

Intensity is defined as the amount of energy consumed per unit of output. A fall in intensity in a particular sector could indicate an improvement in energy efficiency or a move to less energy consuming activities.

Further information

To find out what is included in each industry sector, please see the UK Standard Industrial Classification of Economic Activities 2007 structure and explanatory notes, which can be accessed on the ONS website: http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/standard-industrial-classification/index.html.

Service (ECUK Section 5)

Overview

This section looks at energy consumption in the service sector (public administration, commercial and agriculture), mainly by fuel type. Tables in this section also present consumption subsectors (such as government, health and retail) which is split by end use and fuel type. Additionally, there are tables on a number of factors affecting consumption in the service sector, such as output (gross value added), energy efficiency of service sector buildings and output and intensity factors. Agriculture is published in this section for completeness, but where possible it is shown separately given it is not formally part of the SIC definition of services.

Key information by table

Provided below is further information about the most frequently used tables within this section.

Tables 5.01 to 5.04: Consumption and intensity factors

Table 5.01 shows consumption and intensity for the services sector as a whole and **tables 5.02 to 5.04** show this split by public administration, commercial, and agriculture respectively.

Output is a term used to describe the growth (or the decline) in the quantity of goods and services produced in a particular sector. For the services sector, this is gross value added. All other things remaining constant, an increase in gross value added or in the number of employees will lead to an increase in consumption.

The factors included in this table use the SIC 2007 definitions.[8]

Table 5.05 and 5.05a

Table 5.05 shows a breakdown of consumption in the services sector (public administration and commercial only) split by fuel type and end use. The July 2016 publication included estimates up until 2014 but in this November update, the results of the Building Energy Efficiency Survey (BEES) have been incorporated. Users should note that the sub-sector categories have been changed to more accurately reflect current

[8] SIC 2007 definitions can be accessed from the ONS website: https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007.

consumption characteristics Table 5.05a has also been updated to include a more disaggregated breakdown for non-electricity fuels.

Table 5.06: Output and intensity effects 2000 to 2015
Output is a term used to describe the growth (or the decline) of the sector in question. For example, in the case of the industrial and services sectors, gross value added (GVA – see glossary) is used as a measure of output. If there has been more industrial output in the UK in 2015 than in 2014, then it is intuitive that there will be greater energy consumption in 2015 than in 2014 in that sector.

Tables 5.09 and 5.10: Electricity consumption and number of appliances of non-domestic products 1970 to 2015
These data have been sourced from the Market Transformation Programme. The dataset is modelled based on survey data of sales of these products to the sector, combined with modelled energy usage.

The products included are lighting, computing products, refrigeration and air-conditioning. Full details of the technical descriptions of these are provided in the Glossary.

Further information

To find out exactly what is included in each industry sector, please see the UK Standard Industrial Classification of Economic Activities 2007 structure and explanatory notes, which can be accessed on the ONS website:
https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007.

Annex A: Other related BEIS publications

Digest of UK Energy Statistics (DUKES)

The Digest, sometimes known as DUKES, is an essential source of energy information produced by BEIS. It contains:

- Extensive tables, charts and commentary.
- Separate sections on coal, petroleum, gas, electricity, renewables and combined heat and power.
- A comprehensive picture of energy production and use over the last five years, with key series taken back to 1970.

DUKES can be accessed on the BEIS webpage:
https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes

Sub-national energy consumption statistics

BEIS publishes energy consumption at a sub-national level. Statistics for consumption of gas, electricity, road transport fuels, residual (non-gas, non-electricity and non-road transport) fuels and total final energy are available at a local authority level. Statistics for gas and electricity consumption are also available at MSOA/IGZ and LSOA[9] level. These datasets enable local authorities to better monitor and target areas for reduction in energy and subsequently CO_2 reduction.

Sub-national energy consumption statistics can be accessed on the following BEIS webpages:

- Gas: https://www.gov.uk/government/collections/sub-national-gas-consumption-data.
- Electricity: https://www.gov.uk/government/collections/sub-national-electricity-consumption-data
- Road transport fuels: https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level

[9] To find out more about Middle layer Super Output Areas (MSOA) and Lower layer Super Output Areas (LSOA), please visit ONS' Neighbourhood Statistics website: http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=userguide/moreaboutareas/more-about-areas.htm
To find out more about Intermediate Geography Zones (IGZ), please see the Scottish Neighbourhood Statistics website: http://www.scotland.gov.uk/Publications/2005/02/20732/53083.

- Residual fuels: https://www.gov.uk/government/collections/sub-national-consumption-of-other-fuels.
- Total final energy: https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level.
- MSOA and LSOA gas and electricity consumption:
  https://www.gov.uk/government/statistics/lower-and-middle-super-output-areas-electricity-consumption
  https://www.gov.uk/government/statistics/lower-and-middle-super-output-areas-gas-consumption

Also available are electricity consumption estimates for Northern Ireland at District Council level:
https://www.gov.uk/government/collections/sub-national-electricity-consumption-in-northern-ireland.

Sub-national greenhouse gas consumption statistics

BEIS also produces greenhouse gas emissions statistics at local authority level:
https://www.gov.uk/government/statistics/local-authority-emissions-estimates

For more information relating to greenhouse gas emissions statistics, please send queries to the Climate Change statistics inbox: climatechange.statistics@beis.gsi.gov.uk.

National Energy Efficiency Data-Framework (NEED)

The National Energy Efficiency Data-Framework (NEED) was set up by BEIS 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 BEIS sub-national energy consumption statistics, with information on energy efficiency measures installed in homes (from the Homes Energy Efficiency Database (HEED)). It also includes data about property attributes and household characteristics, obtained from a range of sources.

NEED data can be accessed here:
https://www.gov.uk/government/collections/national-energy-efficiency-data-need-framework.

Annex B Glossary of terms

Central - Air handling Units (AHU)

Air handling units (AHUs) manage the distribution of air within a building or space. This is achieved through a combination of exhaust and supply fans, air filters, sound attenuators and heating/cooling coils. The unit is typically connected to ductwork running the span of the space to be conditioned. Cooling and heating coils are fed independently either from a chiller or other refrigeration unit and a boiler. AHUs may also incorporate heat recovery, either through re-circulating exhaust air (known as direct heat recovery) or by extracting only heat from the exhaust stream via a heat exchanger.

Almost all of the energy consumption in an AHU is attributable to the fans, which can be fitted with variable speed drives to regulate their frequency of operation enabling them to 'throttle down' when large-volume ventilation is not required. In our approach, the AHU market has been simplified to model only the fan and electric drive system. This is because the cooling/heating elements will derive their thermal energy from outside of the AHU and will be accounted for in the respective models for chillers or other cooling systems and boilers. Also, other electrical demands inside the AHU are very small compared to that required by the fan.

Central - Chiller Absorption

Absorption chillers use a heat source to produce chilled water. The cooling effect occurs when refrigerant evaporates thereby removing heat. The resulting gas is regenerated into liquid by applied heat, completing the cycle. These systems use either lithium bromide/water or ammonia/water solutions; water is the refrigerant in the former and ammonia in the latter. Absorption chillers are an alternative to regular compressor chillers where: electricity is unreliable, costly or unavailable; noise from the compressor is problematic; or excess or waste heat can be cost-effectively utilised (e.g. from CHP plant or industrial processes).

They are generally classified as:

- **Direct fired units** where the heat source can be gas or some other fuel that is burned in the unit. As a rule, these devices produce cooling with a higher energy-related carbon output than a mains-driven electrical chiller.

- **Indirect-fired units** which use steam or some other transfer fluid that brings in heat from a separate source, such as a boiler or heat recovered from combined heat and power (CHP) or an industrial process. Hybrid systems are relatively common and combine absorption chillers with electric systems for load optimisation and flexibility.

Central - Chiller Air

Air-cooled chillers utilise air to cool heat rejection coils. Ambient air is fan-forced over the chiller's condenser coil to expel heat into the atmosphere. Compared to water cooled chillers, air-cooled chillers are easier to locate and maintain; require more space, and do not require a dedicated water supply. They are, however, generally less energy efficient than water-cooled units.

Central - Chiller Water

Water-cooled chillers are used where a high cooling demand exists, such as large commercial and industrial buildings. The improved cooling provided by this type of chiller results in higher system energy efficiency; therefore they will be considered when optimum efficiency is a priority. They can also be considered when a cooling tower is already in place, or where the space available is insufficient to accommodate an air-cooled chiller.

The heat rejection water is distributed with a cooling tower by means of a fine spray or splash bars, to create a greater surface area. Ambient air travels through the cooling tower either by natural convection, or forced by a fan when required, and heat is transferred from the water to the air. The resulting exhaust air can be saturated with water vapour resulting in a plume of visible discharge air, if not carefully controlled.

Central – Fan Coil Unit (FCU)

A fan coil unit (FCU) is a simple device consisting of a cooling and/or heating coil and fan. It is part of an HVAC system found in residential, commercial, and industrial buildings. Typically a fan coil unit is used to control the temperature in the space where it is installed, or serve multiple spaces. It is controlled either by a manual on/off switch, a thermostat or by a building management system. In our approach, the FCU market has been simplified to model only the fan and electric drive system. This is because the cooling/heating elements will derive their thermal energy from outside of the FCU and will be accounted for in their respective models. Also, other electrical demands inside the FCU are very small compared to that required by the fan.

Chained volume measure

Chain linking is a method of constructing an index series from two or more index series of different base periods or different weights. For a definition of indexes, see below.

Commercial service cabinets (CSC)

A commercial service cabinet' (cabinet) is essentially a refrigerator used in commercial catering. They are widely used in all types of catering establishments from small cafes and restaurants through to pubs and hotels. They are also used in retail establishments such as convenience stores, garage forecourts and supermarkets where models equipped with glass doors are frequently employed as merchandising units.

They differ from domestic refrigerators in size and robustness of construction, and are usually equipped with a digital temperature display. Cabinets are designed to perform two basic functions:

- Chilled storage of food (the cabinet is maintained at temperatures from +1^{o}C to +5^{o}C)
- Frozen storage of food (the cabinet is maintained at temperatures from –15^{o}C to –18^{o}C)

And they consist of three principal types:

- Single door cabinets with internal capacity between 400 to 600 litres (0.4 to 0.6 m^3)
- Double door cabinets with internal capacity of about 1300 litres (1.3 m^3)
- Under the counter cabinets with internal volume from 200 to 800 litres (0.2 to 0. 8 m^3)

Circulators

Circulators are integrated pump and motor products which are typically used to recirculate heating or cooling media within a closed circuit and are principally used for central heating systems. A small percentage (<4%) is used for other applications such as solar water heating, or chilling systems.

Non-domestic circulators are used in central heating systems for industrial and commercial premises and are classed as large standalone circulators. They can either use a standard induction motor (Improved Variable Speed) or a permanent magnet motor (Standard Permanent Magnet or Improved Permanent Magnet circulators).

DERV

Diesel Engined Road Vehicle or diesel fuel for on-road use.

Display Energy Certificates (DECs)

A Display Energy Certificate shows the energy performance of a building based on actual energy consumption as recorded over the last 12 months within the validity period of the DEC (the operational rating). This rating is shown on a scale from A to G, where A is the lowest CO2 emissions (best) and G is the highest CO2 emissions (worst).

Energy Efficiency Commitment (EEC) and Carbon Emissions Reduction Target (CERT)

EEC was a set of obligations outlined by Ofgem requiring certain gas and electricity suppliers to meet an energy saving target in domestic properties between 2002 and 2008. This was later replaced by CERT for 2008 to 2013.

Energy Ratings
Energy ratings refer to the energy efficiency ratings given to electrical appliances as required by the European Union's energy consumption labelling scheme.

Energy Ratio
The energy ratio is defined as the temperature corrected total inland consumption of primary energy per £1 million Gross Domestic Product (GDP) at market prices. In other words, it is a measure of how much energy is consumed per unit of economic activity (in this case £1m GDP).

Final users
Final users, or end users, are those that have consumed energy in its transformed state. Final users of energy include households, agriculture, industry and the service sector, among others, and exclude the energy sector.

Gross Domestic Product (GDP)
Gross Domestic Product is a measure of economic output. It is the market value of all officially recognized final goods and services produced within a country within a certain time period.

Gross Value Added (GVA)
Gross value added is the difference between output and intermediate consumption for any given sector or industry. That is, the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

Households (vs dwellings)
A household is an occupied dwelling; a 'dwelling' is the accommodation itself, such as a house or flat. Dwellings may be occupied or vacant.

Indexes
Index numbers are designed to measure the magnitude of changes over time or when trying to compare series of numbers of different size. It is a way to standardise the measurement of numbers so that they are directly comparable.

Inland energy consumption
Energy consumption that takes place within the country.

Lighting
Over the years, in new installations or major refurbishments the trend has been to utilise a narrower diameter tube T5 (16mm). T5 fluorescent lamps offer higher efficacy and reduced luminaire size. Thus we see T5 is replacing T8 and T8 replacing T12 lamps. In fact EU legislation is driving increased use of T5 lamps, resulting in a gradual phase- out of T12, and then T8, lamps in the near future.

Amb – Ambient lighting	Amb - CFL	Compact fluorescent lamps are more efficient than GLS lamps and have much longer lifespans.
	Amb - GLS	GLS or incandescent lamps are not efficient and generate a lot of waste heat. They work well in dimming applications. These are being phased out through European regulations.
	Amb - SSL	Solid state lighting technology uses LED or OLED (organic light emitting diode) and is very efficient and durable, but currently costly.
Dis – Display lighting	Dis - Compact Metal Halide	Compact metal halide lamps are a small High Intensity Discharge lamp that has white light for good colour rendering.
	Dis - SSL	Solid state lighting technology uses LED or OLED (organic light emitting diode) and is very efficient and durable, but currently costly.
	Dis - Tungsten Halogen	These are small lamps with high lumen output. However they get hot and are less efficient than SSL and HID lamps. They are slowly being replaced by SSL and HID (metal halide) lamps.
Ind – Industrial lighting	Ind - Mercury High Pressure	Mercury high pressure lamps are a type of High Intensity Discharge (HID) lamp. It is an older technology compared to metal halide lamps and has been used in street lighting and industrial (high bay) applications since the early 1900s.
	Ind - Metal Halide	Metal halide lamps are a type of High Intensity Discharge (HID) lamp. It provides good quality white light (better than sodium high pressure) and is efficient. Commonly used in stadiums and sports fields, but also street lighting and industrial (high bay) applications.
	Ind - Sodium High	The high pressure lamp is more efficient and has better colour rendering than the low pressure lamps. Commonly used as street

	Pressure	lighting and industrial use (high bay lighting).
	Ind - Sodium Low Pressure	These lights are an older design compared to high pressure lights and gives off a yellow colour which has poor colour rendering. Used for street lighting and industrial use (high bay lighting).
	Ind - SSL	Solid state lighting technology uses LED or OLED (organic light emitting diode) and is very efficient, but currently costly.
Off – Office lighting	Off - SSL	Solid state lighting technology uses LED or OLED (organic light emitting diode) and is very efficient, but currently costly.
	Off - T12	T12 translates to 'Tube – 12 (diameter in eighths of an inch)'. Old design, not as efficient as newer models.
	Off - T5	T5 are thinner and more efficient than T12s and T8s.
	Off - T8 Halophosphate B1	T8 lighting are generally more efficient than T12s but halophosphates are an older design that is less efficient and generally speaking, provides poorer quality light compared to triphosphor lighting. B1 indicates the type of phosphor used.
	Off - T8 Halophosphate B2	T8 lighting are generally more efficient than T12s but halophosphates are an older design that is less efficient and generally speaking, provides poorer quality light compared to triphosphor lighting. B2 indicates the type of phosphor used.
	Off - T8 Triphosphor AV	T8 triphosphor lights are a newer design and more efficient than halophosphate lights with better colour rendering.
	Off - T8 Triphosphor B1	T8 triphosphor lights are a newer design and more efficient than

		halophosphate lights with better colour rendering.

Lighting - Street Lighting

Sodium-Low Pressure	These lights are an older design compared to high pressure lights and gives off a yellow colour which has poor colour rendering. Used for street lighting and industrial use (high bay lighting).
CFL	Compact fluorescent lamps are more efficient than GLS lamps and have much longer lifespans.
Halogen	These are lamps with high lumen output. However they get hot and are less efficient than SSL and HID lamps. They are slowly being replaced by SSL and HID (metal halide) lamps.
LED	These are a type of solid state lighting that is very efficient but costly.
Mercury-High Pressure	Mercury high pressure lamps are a type of High Intensity Discharge (HID) lamp. It is an older technology compared to metal halide lamps and has been used in street lighting and industrial (high bay) applications since the early 1900s.
Metal Halide	Metal halide lamps are a type of High Intensity Discharge (HID) lamp. It provides good quality white light (better than sodium high pressure) and is efficient. Commonly used in stadiums and sports fields, but also street lighting and industrial (high bay) applications.
Sodium-High Pressure	The high pressure lamp is more efficient and has better colour rendering than the low pressure lamps. Commonly used as street lighting and industrial use (high bay lighting).

Output and intensity effect

For each of the overall, transport, industrial and service sectors, different indicators have been used as proxies for changes in output. For each sector, the **output effect** is defined as the change in delivered energy that would have occurred in that sector if there had been no change in energy efficiency (the percentage change in energy demand over the period had been exactly the same as the percentage change in the output of that sector).

The difference between the output effect and the total recorded change in that sector's demand for energy is then defined as the **intensity effect**, which measures the change in energy use per unit of output. In other words, this represents the change in energy use that cannot be attributed to changes in output, for example processes may have become more efficient.

Please note that in the tables within ECUK, the actual change in energy use is measured, while the change in output and intensity is modelled.

Package chillers

Packaged liquid chillers ('chillers') are designed to provide chilled liquid at a range of temperatures. They consist of basic components close-coupled in a factory assembled unit which requires only connection to a supply of water and electrical energy in order to function. Most comprise a compressor, evaporator and condenser.

They can be either air or water-cooled. The former use ambient air circulated over the condenser by an on-board fan. The latter are operated in conjunction with a cooling tower that provides cooling water to the condenser. Overall in the UK water cooled chillers represent about 12% of total sales. The remainder are air cooled.

For applications above about 3oC the chilled fluid is generally water, whereas at temperatures approaching zero and below, fluids such as brine or glycol solutions are used, to prevent freezing.

Package - Close Control Units

Close control air conditioning units are in the higher value end of the market as they are used to control the air and environment in technology critical areas such as high-tech computer areas, data centres, medium and low density server environments, telecom switching stations, medical operating theatres and clean room environments. They can control temperature, humidity and air filtration, depending on the specific requirements of the technology.

The control of these units can be sophisticated allowing control of complex networks, remote monitoring, alarms and other features. Airflow in these applications can be down-flow, up-flow or increasingly front to back through parallel racks separated by hot and cold aisles.

Package - Ducted Split Units

A ducted split-packaged air conditioning unit (ducted split) comprises two packages (one indoor and one outdoor unit) connected only by the pipe that transfers the refrigerant. The indoor unit includes the evaporator and a fan, while the outdoor unit has a compressor and a condenser. Indoor units can be ducted or non-ducted.

Ducted splits can deliver cool air to several rooms or to several areas within a single large room. The main market for US-style ducted splits is light commercial or retail outlets and they are often installed to provide the heating and cooling of a downstream air handling unit (ie a device used to condition and circulate air as part of an HVAC system).

Package - Indoor Units

The key defining feature of this category of conditioners is that they are air-cooled. To some extent, this is a more vague definition, intended to encompass all the air cooled products that are not included in the other, better-defined, categories such as moveable products. Water-cooled products require connection to a water circuit and are therefore categorized under central plant equipment. They are not included in this description.

The category of indoor air conditioners can be subdivided into the following descriptions:

- **Small air cooled consoles**
- **Larger packaged units**
- **Other air cooled units**

The main advantage of these units is that they can be installed in applications where the local building or planning regulations do not allow the installation of an external condensing unit, such as required for a split installation. This restriction may be due to area conservation guidelines or listed building status. The main areas of application for the small consoles packages are therefore small offices or conservatories in areas with restrictive building requirements. In terms of size and cooling capacity, they compete with window/wall units and split units but can be a useful solution where external building restrictions apply. These small air-cooled consoles tend to be <2.5kW of nominal cooling capacity. They can be installed in multiple sets for developments such as barn conversions where larger capacities are required but building restrictions are applicable.

The larger packaged units (20-40kW) can be used for cooling of larger spaces such as warehouses. As with the smaller units, the main driver for these applications would be compliance with local building restrictions. In these cases, the larger units can be installed in the ceiling space.

Package - Mini Split Units

Ductless, minisplit-system air-conditioners (minisplits) have numerous potential applications in residential, commercial, and public buildings. The most common applications are in multi-family housing or as retrofit add-ons to houses with "nonducted" heating systems, such as hydronic (hot water heat), radiant panels, and space heaters (wood, kerosene, propane). They are also applied in room additions and small apartments, where extending or installing distribution ductwork (for a central air-conditioner or heating systems) is not feasible.

Like central systems, minisplits have two main components: an outdoor compressor/condenser, and an indoor air-handling unit. A conduit, which houses the power cable, refrigerant tubing, suction tubing, and a condensate drain, links the outdoor and indoor units.

The main advantages of minisplits are their small size and flexibility for zoning or heating and cooling individual rooms. Models can have as many as four indoor units (for four zones or rooms) connected to one outdoor unit. The number depends on how much heating or cooling is required for the building or each zone (which in turn is affected by how well the building is insulated). Each of the zones would be individually controlled by a local thermostat. Ductless minisplit systems are also often easier to install than other types of space conditioning systems and they avoid the energy losses associated with ductwork of central forced air systems. The indoor units can be suspended from a ceiling, mounted flush into a drop ceiling, or hung on a wall.

Package - Moveable Units

Moveable air conditioning units draw air from within the building to cool the condenser, and expel warm air to the building's exterior. Units are generally movable, but need to be positioned near a window or door through which the duct ejects hot air. In some cases, a hole is made in a building wall dedicated to the duct of the unit in order to improve performance. This eliminates the use of doors and windows by the duct and minimises the volume of hot air movement into an area being cooled.

Demand for this type of unit is dominated by the residential and small office markets where cooling of single rooms and office areas is needed. Almost half of all units sold are in the < 3.5 kW range and the sales are dependent on short-term weather conditions. The movable air conditioner categorisation includes both self-contained units and non-ducted split systems which have a mobile indoor section.

Package - Roof Top Units

Roof-top air conditioning units are an integrated solution for cooling and heating large buildings. The simplest units incorporate a fan to draw air from a room, filter it and introduce fresh air, provide heating or cooling to the air and then deliver the treated air back to the room. Roof-top air conditioning units are particularly suited to single-storey buildings with ducted air distribution that do not require precise internal temperature control. They combine the function of a chiller and an air-handling unit into a single unit with simple installation where roof access is available.

Recent technological developments include use of high-efficiency plug fans with variable speed control to allow air volume to match user requirements and the use of lightweight materials (aluminium) to reduce weight, which can be an issue with rooftop air conditioning units. Other technological developments include use of thermal wheel heat recovery, which is more efficient than plate heat exchangers and the development of geothermal products where the cooling coil is driven by a ground source heat pump. The installation of roof-top air conditioning units may be constrained by local planning restrictions.

Package - Window Units

These types of systems are also commonly known as room air conditioners. They are designed to condition the air (primarily cooling) of a single room, rather than an entire home or office. Therefore, when used correctly, the operating costs can be lower than a centralised unit, although in general, the efficiency of a window/wall system will be lower than that of a central air conditioner.

Most room air conditioners sit in a window where they can exhaust warm air to the outside. Poor quality window installations can be draughty, and in some cases the units are designed to be removed and stored for the cooler seasons. Room air conditioners can also be built into the wall for a more permanent installation. The general principle is to pass air over refrigerant coils that have cooling fins to provide the surface area. The compressor sends the cooled refrigerant through the coils, and the air gets cooler as it is forced over the coils. More advanced air conditioners use different heat transfer technologies that transfer more of the heat from the air into the coils. This reduces the amount of energy required to compress the refrigerant.

Primary energy equivalents

This is the amount of the fuel used directly for consumption in a sector plus the amount of that fuel used to produce another fuel in that sector. For example, gas used to produce electricity (and other fuels) in the industrial sector plus the direct use of gas in the industrial sector would give the primary energy equivalents for gas in the industrial sector.

Primary fuels

Fuels obtained directly from natural resources, e.g. coal, oil, natural gas and wind power. By international convention, nuclear power is also classed as a primary fuel.

Refrigerated display cases (RDC)

Refrigerated display cases (RDCs) are sales units designed to enable a customer to self-serve chilled or frozen foodstuffs. There are two generic types of RDC:

- **Plug-in cases** are equipped with a dedicated refrigeration system that is contained within the cabinet envelope and are mostly used in locations such as convenience stores and garage forecourts, although some supermarkets use multiple plug-in cases in place of a central system.
- **Remote cases** are connected via a pipe network to a central refrigeration system which draws refrigerant vapour from the case and supplies it with condensed refrigerant liquid. These systems are mostly used in supermarkets and discount stores, with between 10 and 40 cases within a system.

RDCs display food under two conditions, frozen (‘low temperature) and chilled (‘high and medium temperature’). There are various configurations of cases used for both temperatures as described below:

- **Vertical open fronted**: food is displayed on tiered shelving from waist to head height. Used for both chilled and frozen food but chilled use predominates.
- **Horizontal open top**: food is contained in an insulated well at waist height and accessed by the customer from above. These may be open or covered by a sliding cover. Mostly used for frozen food.
- **Glass door cases**: these are vertical cases currently used for frozen food although their use is being proposed for chilled food. The food is stored in a case behind a triple glazed glass door which is opened by the customer.

Secondary fuels

Fuels derived from natural primary sources of energy. For example, electricity generated from burning coal, gas or oil is a secondary fuel, as are coke, coke oven gas and petroleum products.

Standard Industrial Classification (SIC)

The Standard Industrial Classification is a way of categorising economic activities into a common structure. At the highest level there are twenty one classifications (A-U) where activities such as Manufacturing (C) and Construction (F) are classified. These sections are further broken down into divisions, groups, classes and subclasses which are represented in a numbered system. The latest SIC classification was introduced in 2007; some historic time series still relate to the previous classification, SIC (2003).

Standard Assessment Procedure (SAP) ratings

The Government’s Standard Assessment Procedure is an energy rating that is used to monitor the effects of energy efficiency improvements to domestic building stock.

Temperature corrected energy consumption

The temperature corrected series of total inland fuel consumption indicates what annual consumption might have been if the average temperature during the year had been the same as the average for a long-term period (currently 1971 to 2000).

Town gas
For about 150 years, from the early 19^{th} century, town gas was used for heating, cooking and lighting. Unlike natural gas, town gas was largely made from coal (and hence was also sometimes called coal gas).

Transport measurements
Freight tonne-kilometres (tonnes lifted multiplied by distance travelled) is a measure of freight moved which takes account of the weight of the load and the distance through which it is hauled.

Passenger kilometres measures the distance in kilometres travelled by individuals.

Air-kilometres measures the distance in kilometres travelled by individuals.

Unadjusted energy consumption
Actual consumption, that is, the series of total inland fuel consumption which has not been temperature corrected.

Annex C Publication timetable for ECUK tables in 2016

Users should note that in this edition of ECUK tables and analysis has been updated; tables containing end use for the domestic sector (tables 3.02 and 3.07), services sector (tables 5.05 and 5.08), and overall energy (tables 1.03, 1.04, and 1.07) have now been updated.

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