



Domestic NEED 2023 Annex B: Overview of data tables

29 June 2023

National Statistics

This document is Annex B to the Domestic NEED 2023 publication. It provides a list of all the published tables and their contents. All data tables are provided in Excel and OpenDocument Spreadsheet (ODS) format, except for the Data Explorer which is provided in an accessible Excel format.

In addition to this annex, other files published are as follows:

- [NEED report: Summary of analysis 2023](#) – analysis of key trends in energy consumption and for the impact of measures.
- [Consumption data tables](#) – gas and electricity consumption estimates for different property attributes and household characteristics.
- [Impact of measures data tables](#) – estimated consumption savings arising from installation of different energy efficiency measures.
- [Annex A: What is Domestic NEED](#) – an introductory overview of the NEED framework.
- [Annex C: Comparisons with other Sources](#) – a summary of the data sources used in NEED and comparisons of NEED outputs with other data sources.
- [Annex D: Methodology Note](#) – details of how the estimates of domestic electricity and gas consumption by property attributes and household characteristics are produced. It also sets out how the estimates of the impact of energy efficiency measures were derived.

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1. The consumption tables

Headline tables (England and Wales, Scotland)

Headline tables are produced at national level. Mean, median and number in sample for each property attribute and household characteristic are provided for both gas and electricity consumption.

England and Wales tables: Data are provided for the years 2005 – 2021 (although figures for 2005 to 2010 are based on England alone).

Scotland tables: Data are provided for the years 2011 – 2021.

The attributes and characteristics covered are:

- Floor area
- Number of bedrooms
- Property type
- Property age
- Tenure
- Household income
- Number of adults
- Region (not applicable to Scotland)
- Output Area Classification (England and Wales only)
- Rural Urban Classification (England and Wales only)
- Fuel poverty (England only)
- Index of multiple deprivation (England and Wales only and presented separately)
- Energy Performance Certificate Ratings

Additional tables (England and Wales, Scotland)

These tables are produced at a national level and provide the same information as the Headline tables but include additional information on the distribution of consumption, namely the standard deviation and additional quantiles. The statistics provided are:

- Number in the sample
- Mean
- Standard deviation
- Median
- Other percentiles (5th percentile, 10th percentile, lower quartile, upper quartile, 90th percentile, 95th percentile)

Multiple attributes tables (England and Wales, Scotland)

Separate tables are produced at a national level for the years 2020 and 2021, with multiple property attributes in each row.

Consumption figures are not fully consistent with headline consumption tables due to rounding and the removal of records where the sample size is below 30.

The attributes included are:

- Region (not applicable to Scotland)
- Property type
- Property age
- Number of bedrooms
- Gas present
- Electricity profile (Standard or Economy 7)

Statistics included are:

- Number in sample
- Mean
- Upper quartile
- Median
- Lower quartile

Local Authority tables (England and Wales only)

Separate tables for 2020 and 2021 are produced that show gas and electricity consumption broken down by local authority in England and Wales. Mean, median and number in sample for each property attribute and household characteristic are provided for gas and electricity consumption.

The attributes and characteristics included are:

- Floor area
- Number of bedrooms
- Property type
- Property age
- Tenure
- Household income
- Number of adults

NEED Data Explorer (England and Wales only)

The NEED Data Explorer provides users with the ability to create bespoke cross tabulations on electricity and gas consumption by property attributes and household characteristics, based on the data available from NEED. Two variables can be selected at once (e.g., property age and property type), with mean, median or number of observations shown in the table. The tool includes electricity and gas consumption data for each year from 2005 to 2021, except for data on fuel poverty quintiles which are not provided in 2013 and 2019.

Attributes and characteristics covered are:

- Floor area
- Number of bedrooms
- Property type
- Property age
- Tenure
- Household income
- Number of adults
- Fuel Poverty Quintile (not available for 2013 and 2019, and only England)
- Index of multiple deprivation
- Region
- EPC band

2. Impact of measures tables

Headline tables (England and Wales, Scotland)

These four tables present energy consumption savings in 2021 from energy efficiency measures installed in 2020. How years are defined differs between gas and electricity:

- Gas savings during the year after installation cover an installation period from mid-May 2020 to mid-May 2021.
- For solar photovoltaic panels, electricity savings during the year after installation cover an installation period from February 2020 to January 2021.

Single measures: Tables 1 and 3 include:

- Condensing boiler
- Solid wall insulation
- Cavity wall insulation (England and Wales only)
- Loft insulation (England and Wales only)
- Solar photovoltaic panels (England and Wales only)
- Floor insulation (Scotland only)

Combinations of measures: Tables 2 and 4 include:

- Cavity Wall Insulation, Condensing Boiler and Heat Controls (England and Wales only)
- Cavity Wall Insulation and Loft Insulation (England and Wales only)
- Cavity Wall Insulation and Condensing Boiler (England and Wales only)
- Condensing Boiler, Floor Insulation and Heat Controls (Scotland only)
- Floor Insulation and Heat Controls (Scotland only)

Headline figures: Tables 1 and 2 include:

- Number in sample
- Median and mean percentage saving
- Median and mean kWh saving

Headline figures: Tables 3 and 4 include:

- Figures shown for the intervention group, the control properties paired with the intervention group and the resulting savings estimates.
- Number in samples
- The summary statistics for percentage change/ percentage savings (5th percentile, lower quartile, median, upper quartile, 95th percentile)

Impact of measures by year of installation (England and Wales only)

Owing to continual modifications made to the impact of measures methodology the headline impact of measures estimates from successive years of the NEED publication are not directly comparable. Therefore, to enable more like for like comparisons between successive installation years, past installation years' estimates (from 2011) for the 5 single measures covered by the headline tables have been recalculated based on the latest methodology and the latest version of the NEED data.

Attributes tables (England and Wales only)

These tables show mean and median percentage savings and savings in kWh for the 5 single measures covered in the Headline Impact of Measures Tables and are further broken down by various property attributes and household characteristics.

Attributes and characteristics include:

- Energy Performance Certificate
- Property age
- Property type
- Number of bedrooms
- Number of adults
- Household income
- Tenure
- Region

Impact of measures in years following installation (England and Wales only)

The Headline Impact of Measures show the mean and median percentage savings for the first year after installation. These tables show mean and median percentage savings for several years following the installation for measures installed in the years 2011 to 2015.

For measures installed in 2011, mean and median percentage savings are shown for the 10 years following the installation year (the 10th year being 2021). For measures installed in 2015, mean and median percentage savings are shown for the 6 years following the installation year (the 6th year being 2021).

The measures included are:

- Condensing boiler
- Cavity wall insulation
- Loft insulation
- Solid wall insulation
- Solar photovoltaic panels



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