

Quality and Methodology Information (QMI)

Continuous Household Survey (CHS) – Heat and Insulation

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General information

Area: Northern Ireland Theme: Energy, Environment and Climate Change Source: Continuous Household Survey Frequency: Annual Contact: Energy Intelligence Team (EIT), Energy Group, Department for the Economy (DfE) Email: energyintelligence@economy-ni.gov.uk Variables: Proportion of Households, Primary Heating Method, Secondary Heating Method, Solid Fuel Burnt, Household Tenure, Accommodation Type, Insulation Method, Primary Heating Control, Oil Purchasing Behaviour	The Continuous Household Survey (CHS) is an annual survey of households in Northern Ireland carried out by the Central Survey Unit (CSU) of the Northern Ireland Statistics and Research Agency (NISRA). The survey has been running since 1983 and is designed to provide a regular source of information on a wide range of social and economic issues relevant to Northern Ireland. This QMI report focuses on the household heat and insulation questions, including the types of heating systems used, the presence of insulation measures, and related energy efficiency characteristics. The findings support policy development and monitoring in areas such as housing quality, energy efficiency, and environmental sustainability. The CHS Heat results were previously published by the Department for Agriculture, Environment and Rural Affairs (DAERA) for the years 2015/16 and 2016/17. The Department for the Economy's (DfE) Energy Intelligence Team (EIT) has published the CHS results for household heat and insulation since 2023/24.
Official Statistics Status	The CHS Heat and Insulation Results for 2025/26 have been published as an Official Statistic and therefore adhere to the UK Statistics Authority's Code of Practice for Statistics, ensuring that outputs are trustworthy, of high quality, and valuable to users. The National Statistician has provided guidelines on measuring the quality of statistical output requiring a consideration of a number of dimensions in relation to quality: Relevance, Accuracy, Timeliness, Punctuality, Coherence and Comparability. These dimensions of quality are addressed in this report.

Methodology

Sampling Design	NISRA's CSU carry out the sampling for the Continuous Household Survey by conducting a systematic random sample drawn from the NISRA Address Register. Communal establishments (e.g. care homes, hostels) are excluded from the sampling frame. Approximately 8,940 households annually are surveyed. Response rates are monitored and reported to assess data quality. 3,459 households took part in the 2025/26 survey; the overall response rate was 45% with ineligible addresses being removed.
Data Collection	The questionnaire has two distinct parts: a household schedule and an individual schedule. One person on behalf of the household answers the household schedule, while all participating adults in the household answer the individual schedule. The 2025/26 CHS Heat and Insulation questions are available in the Annex. NISRA CSU conduct the data collection and provide training and notes to each interviewer prior to going out into the field. Conducted through face-to-face interviews, or CAPI (Computer Assisted Personal Interviewing). Interviews are spread equally over 12 months from April to March. Interviewers use structured questionnaires to ensure consistency and minimize interviewer bias.
Weighting	Data collected at household level is not weighted.
Data Processing	Responses are validated during data collection by NISRA's CSU. DfE's EIT analyse the data using Reproducible Analytical Pipelines (RAP) before publication on the DfE website.
Quality Assurance	The heat and insulation questions are reviewed annually within DfE's Energy Group. Statisticians in the EIT work collaboratively with heat and energy efficiency policy colleagues to ensure the questions remain relevant, clearly defined and aligned with current policy evidence needs. To support accurate data collection, Energy Group provides explanatory notes for interviewers on more technical concepts (for example, definitions of heat pumps or distinctions between roof and loft insulation). This helps ensure both interviewers and respondents have a consistent understanding of the questions being asked. CSU provides training and supporting materials for CHS interviewers in the data collection phase, which include information to support respondent engagement and understanding of the survey. Automated validation and checking routines are used to review data consistency and trends over time, including identification of potential outliers or unexpected movements. Outputs are subject to manual review prior to publication. The use of scripted, version-controlled code ensures that the analytical process is transparent, repeatable and auditable.

Strengths and Limitations

Strengths	A clearly defined user need, and well-established survey design support the production of policy-relevant statistics. Random sampling from the NISRA Address Register provides representative coverage of private households in Northern Ireland. Data collection via face-to-face interviews allows clarification of questions and helps reduce item non-response. Provides robust, representative data on household characteristics through a large sample. Comprehensive quality assurance processes and adherence to reproducible analytical pipeline (RAP) principles enhance transparency, reproducibility and efficiency. Consistent methodology over time enables robust trend analysis. Enables trend analysis across survey years, supporting monitoring of changes in household heating and insulation. Supports evidence-based policymaking in housing and energy efficiency.
Limitations	Communal establishments (such as care homes, hostels and student halls) are excluded from the sampling frame, limiting coverage of some population groups. As with all sample surveys, results are subject to sampling error due to finite sample size, as well as non-sampling error. Smaller sub-group estimates are subject to greater variability and should be interpreted with caution. Annual data collection limits the ability to capture rapid changes in household energy behaviour between survey waves. The CHS sample is not designed to ensure that households in areas with and without access to the Northern Ireland gas network are proportionally represented. This should be taken into account when interpreting the results, as it may affect the accuracy and reliability of the estimates provided. However, representation at LGD level is considered robust.

Dimensions of Quality

Relevance	The CHS heat and insulation questions provide data that meet the needs of government departments and the public for monitoring housing and energy efficiency trends. The analysis is carried out for the benefit of the heat and energy efficiency teams within DfE's Energy group to help inform policy on energy efficiency programs and sustainability targets. EIT statisticians work closely with heat and energy efficiency teams in drafting the survey questions. This ensures that the data collected is specifically designed to meet their policy and operational evidence needs. The statistics in the CHS report are also produced to provide the public and media with an understanding of the changes in energy usage and use of insulation. By focusing on housing and energy efficiency, this report contributes to wider policy areas that include climate change and fuel poverty reduction.
Accuracy and reliability	The CHS is conducted by NISRA, the official statistical agency for Northern Ireland. NISRA's CSU collect the data and carry out training for their interviewers. NISRA has been collecting household data for decades and adhere to the Code of Practice for Statistics. Quality assurance checks are carried out on the dataset post-collection and prior to publication. Users should note that with all sample surveys, results are subject to both sampling and non-sampling errors. Sampling error occurs simply due to a specific number (sample) of households being asked questions as opposed to every household. Non-Sampling error can occur through misreporting errors, interviewer errors, non-response bias, survey design errors or processing errors. Users should keep this in mind when interpreting the data. Sampling error has been mitigated by CSU in the random sampling phase of the data collection process. EIT data validation includes a series of checks that have been automated in R-code and are aligned with RAP principles. Trend data are reviewed to check for outliers or inconsistencies. The automation of the quality assurance and analysis processes helps to reduce human error that may otherwise occur through manual intervention in working with the data. In addition, the use of version-controlled code and scripted workflows ensures that every step of the data transformation process is transparent, repeatable, and fully auditable. This reduces the likelihood of inconsistencies arising between different iterations of the analysis and enables efficient identification and correction of any anomalies. The structured workflow also supports better governance, as each stage of the process - from data ingestion to output creation - can be reviewed, quality-assured, and refined over time. In the 2025/26 release, changes were made to the presentation of tabulated results to improve users understanding of the limitations of the data. The 2025/26 estimates are presented with 95% confidence intervals to aid interpretation. The quality of estimates has also been assessed using the coefficient of variation (CV), which measures the relative precision of an estimate. The CV is calculated as the standard error expressed as a percentage of the estimate. • Estimates with a CV of 20% to less than 30% are subject to a relatively high degree of sampling variability and should be interpreted with caution. These estimates are identified by blue shading within the tables. • Estimates with a CV of 30% or more are considered too unreliable for publication and have been suppressed. These values are indicated by an asterisk (*).

	• In some cases, categories have been combined to increase sample sizes, improve estimate precision and reduce the need for suppression. The 2025/26 report presents household primary heating method by LGD. The CHS sample is not designed to ensure that households in areas with and without access to the Northern Ireland gas network are proportionally represented. As a result, estimates relating to the use of gas as a primary or secondary heating source may be affected by the over- or under-representation of households in certain areas. This should be taken into account when interpreting the results, as it may affect the accuracy and reliability of the estimates presented. However, representation at LGD level is considered robust.
Timeliness and punctuality	CHS data are collected continuously throughout the year, with reports published annually according to the pre-announced dates on gov.uk. Data for the CHS Heat and Insulation questions 2025/26 were available to EIT in June 2026, with release of the publication taking place on 24th September 2026. The date of publication is pre-announced on gov.uk and on the DfE Statistics publication schedule, in line with the Code of Practice for Statistics. The timeline for production of the report was effectively reduced by the implementation of RAP principles and the streamlining/automation of work processes. The increased automation and improved workflow structure help ensure that the release timetable is more resilient to operational delays, allowing the team to maintain punctual publication even during periods of high workload or competing analytical priorities.
Accessibility and clarity	The CHS Heat and Insulation results are published on the DfE website in accessible formats in line with DfE accessibility policies. The release includes interactive charts within the statistical report (html), downloadable datasets (excel and ODS), technical report and a copy of the heat and insulation survey questions. Alternative text has been provided for every visual and chart within the report. Publications comply with DfE accessibility standards and include alternative text for charts and visuals. NISRA's accessible colour scheme, clear labelling and explanatory commentary are used to support user understanding. The explanatory commentary uses plain language explanations alongside technical terms support interpretation of charts and tables. This helps users understand the results, their limitations, and the appropriate use of the statistics.
Coherence and comparability	The CHS heat and insulation data are collected using consistent definitions and methodology across survey waves, ensuring coherence over the time series. Where changes occur, these are clearly documented to maintain transparency and support accurate interpretation. When comparing the CHS Heat and Insulation results with similar statistics across the UK, users should exercise caution due to several methodological differences. Variations in survey design, sampling approaches, data collection methods, question wording, reference periods, and analytical definitions may affect the degree of comparability between data. In particular, the CHS relies on self-reported data collected through household interviews, whereas many GB and ONS sources use administrative data (such as Energy Performance Certificates) or inspection-based assessments. Differences in the measurement of

insulation, heating system classification, and the treatment of multi-fuel households may also influence observed results.

However, given these differences with wider UK data, the CHS results are still broadly comparable with similar surveys conducted across the UK. These comparable sources include the [Scottish House Condition Survey](#), the [Welsh Housing Conditions Survey](#) and the [ONS Energy Efficiency of Housing in England and Wales](#), which together provide the closest UK-wide equivalents for analysis of heating and insulation in households.

Useful Links

[Continuous Household Survey Heat and Insulation Results](#)

[Heating Statistics from the Continuous Household Survey,2015/16 and 2016/17, DAERA](#)

[Background Information: Continuous Household Survey, NISRA](#)

Annex

Heat and Insulation Questions, 2025/26

[HEAT] Due to the environmental impacts which can result from using different types of fuels, there is considerable interest in what fuels people in Northern Ireland use to heat their homes. I would like to ask you some questions about your heating and use of fuel.

Even if you don't actually use it, what is the PRIMARY method of heating in your home.

RUNNING PROMPT SHOWCARD 4

INTERVIEWER NOTE: PRIMARY METHOD REFERS TO THE MOST OFTEN USED METHOD OF HEATING THE HOME

- | | |
|---|---------------------|
| 1. Gas Central Heating (mains gas only) | → [HEATSEC1] |
| 2. Oil Central Heating | → [HEATSEC1] |
| 3. Electric -Electric storage (e.g. Economy 7) | → [HEATSEC1] |
| 4. Electric – Other (includes Electric fire/heater/Dimplex radiators) | → [HEATSEC1] |
| 5. Open/Closed Fire or stove (with or without back boiler) | → [FUEL1] |
| 6. Other | → [HEAText] |
| 7. None? | → [INSUL1a] |

[HEAText] Which of the other methods of heating do you use.

RUNNING PROMPT SHOWCARD 5

- | | |
|-------------------------------|-----------------------|
| 1. Liquid Petroleum Gas (LPG) | |
| 2. Biomass (wood pellets) | |
| 3. Air Source Heat Pump | |
| 4. Ground Source Heat Pump | |
| 5. Other? (Please specify) | → [HEATextOTH] |

[HEATextOTH] Please specify other primary method of heating home.

If HEAT=5

[FUEL1] Could you please tell me which of the following solid fuels you burn.

RUNNING PROMPT. CODE ALL THAT APPLY SHOWCARD 6

- | |
|---|
| 1. Ordinary household coal (i.e. smoky) |
| 2. Smokeless coal (i.e. low smoke) |

3. Peat briquettes
4. Peat (sod, peat or turf)
5. Wood (logs – fully seasoned/dry)
6. Wood (logs – unseasoned/wet)
7. Other wood products
8. Other (Please specify)?

→ **[FUEL1oth]**

[FUEL1oth] Please specify the other type of solid fuel you burn.

If FUEL1 = more than one response

[RANK1FUEL] And could you please tell me which of the following solid fuels you burn most often..

RUNNING PROMPT

SHOWCARD 6

1. Ordinary household coal (i.e. smoky)
2. Smokeless coal (i.e. low smoke)
3. Peat briquettes
4. Peat (sod peat or turf)
5. Wood (logs – fully seasoned/dry)
6. Wood (logs – unseasoned/wet)
7. Other wood products
8. Other (Please specify)?

→ **[RANK1oth]**

[RANK1oth] Please specify the other type of solid fuel you burn most often.

If HEAT=5

[HEATOFT] When you burn solid fuel as your primary method of heating, may I ask how often you do this.

RUNNING PROMPT

SHOWCARD 7

1. Daily
2. Evenings only
3. Weekends only
4. Winter months
5. Special occasions only e.g. Christmas
6. Other? (Please specify)

→ **[HEATOFToth]**

[HEATOFToth] Please specify how often

[HEATSEC1] How do you control the heating in your home?

RUNNING PROMPT

SHOWCARD 8

1. Manual On/Off switch only
2. A timer or programmer
3. Boiler thermostat (located on the boiler)
4. Room thermostats (one or more throughout dwelling)
5. Smart Heating Controls
6. Other? (Please specify)

→ **[HEATSEC1OTH]**

[HEATSEC1OTH] Please specify?

[HEATSEC2] Do your radiators have thermostatic radiator valves?

[INTERVIEWER: THERMOSTATIC RADIATOR VALVES DETECT THE TEMPERATURE OF THE ROOM. ONCE THE TEMPERATURE YOU WANT IS REACHED THE VALVE WILL SHUT THE RADIATOR OFF AND COOL DOWN, THEY TYPICALLY HAVE A NUMERICAL DIAL TO ALLOW THE TEMPERATURE OF A ROOM TO BE SET AT THE PREFERRED LEVEL]

1. Yes
2. No
3. No, there are no radiators in this property

[HEATSEC3] Do you use more than one method of heating?

1. Yes
2. No

→ **[HEAT2]**

→ **[INSUL1a]**

[HEAT2] What is the secondary method of heating in your home..

RUNNING PROMPT

SHOWCARD 4

1. Gas Central Heating (mains gas only)
2. Oil Central Heating
3. Electric -Electric storage (e.g. Economy 7)
4. Electric – Other (includes Electric fire/heater/Dimplex radiators)
5. Open / Closed Fire or stove (with or without back boiler)
6. Other

→ **[INSUL1a]**

→ **[HOUSOIL]**

→ **[INSUL1a]**

→ **[INSUL1a]**

→ **[FUEL2]**

→ **[HEAT2ext]**

[HEAT2ext] Which of the other methods of heating do you use..

RUNNING PROMPT

SHOWCARD 5

1. Liquid Petroleum Gas (LPG)
2. Biomass (wood pellets)
3. Air Source Heat Pump
4. Ground Source Heat Pump
5. Other? (Please specify)

→ [HEAT2extOTH]

[HEAT2extOTH] Please specify other secondary method of heating home

If HEAT2=5

[FUEL2] Could you please tell me which of the following solid fuels you burn..

RUNNING PROMPT. CODE ALL THAT APPLY SHOWCARD 6

1. Ordinary household coal (i.e. smoky)
2. Smokeless coal (i.e. low smoke)
3. Peat briquettes
4. Peat (sod peat or turf)
5. Wood (logs – fully seasoned/dry)
6. Wood (logs – unseasoned/wet)
7. Other wood products
8. Other (Please specify)?

→ [FUEL2oth]

[FUEL2oth] Please specify the other type of solid fuel you burn.

If FUEL2= more than one response

[RANK2FUEL] And could you please tell me which of the following solid fuels you burn most often..

RUNNING PROMPT SHOWCARD 6

1. Ordinary household coal (i.e. smoky)
2. Smokeless coal (i.e. low smoke)
3. Peat briquettes
4. Peat (sod peat or turf)
5. Wood (logs – fully seasoned/dry)
6. Wood (logs – unseasoned/wet)
7. Other wood products
8. Other (Please specify)?

→ [RANK2oth]

[RANK2oth] Please specify the other type of solid fuel you burn most often

If HEAT2=5

[HEATOFT2] When you burn sold fuel as your secondary method of heating, may I ask how often you do this . .

.RUNNING PROMPT

SHOWCARD 7

1. Daily
2. Evenings only
3. Weekends only
4. Winter months
5. Special occasions only e.g. Christmas
6. Other? (Please specify)

→ **[HEATOFT2oth]**

[HEATOFT2oth] Please specify how often

If HEAT or HEAT2 = 2

[HOUSOIL] When you need to order oil, do you ever shop around i.e. check oil prices with more than one oil company so you can order the cheapest option?

1. Yes → **[INSUL]**
2. No → **[HOUSOILno]**

[HOUSOILno] Are there any particular reasons why you do not?

CODE ALL THAT APPLY. RUNNING PROMPT

SHOWCARD 9

1. There isn't much difference in prices between companies
2. I like to use my local supplier as they are reliable
3. I can't be bothered / too much hassle
4. I don't have time
5. It's too complicated and I am unsure how to do this
6. I didn't know that I could shop around
7. Other- please specify
8. None

→ **[HOUSOILOTH]**

[HOUSOILOTH] Please specify other reason for not checking oil prices

[INSUL1a] What form(s) of insulation are in your house..

RUNNING PROMPT. CODE ALL THAT APPLY

SHOWCARD 10

1. Windows double glazed – more than one
2. Windows double glazed – whole house

3. Windows double glazed – more than one but not whole house
4. Windows triple glazed – more than one
5. Windows triple glazed – whole house
6. Windows triple glazed – more than one but not whole house
7. Wall insulation (cavity or solid)
8. Loft insulation (depth known e.g. 120mm,270mm)
9. Loft insulation (depth not known)
10. Roof insulation
11. Floor insulation
12. Other (please specify) → **[INSULoth]**
13. None?

[INSULoth] Please specify other form of insulation