



Household Energy Efficiency Statistics: Background Quality

Introduction

Background

This report provides a summary of the quality assurance process relating to the household energy efficiency statistical series, which details statistics on the Energy Company Obligation (ECO), Green Deal (GD) and insulation levels in Great Britain. This Accredited Official Statistics series uses administrative data generated as part of the GD and ECO schemes. In addition, the estimates of home insulation levels use data contained within the national housing surveys and dwelling stock data published by the Ministry of Housing, Communities and Local Government (MHCLG), Stats Wales and the Scottish Government to build up an overall picture of the housing stock in Great Britain.

Separate statistics on the Green Home Grant (GHG) and Homes Upgrade Grant (HUG) are available through the statistics webpage (<https://www.gov.uk/government/collections/green-home-grant-statistics>), statistics on the Social Housing Decarbonisation Fund (SHDF) are available through the collection webpage (<https://www.gov.uk/government/collections/social-housing-decarbonisation-fund-statistics>) and statistics on the Great British Insulation Scheme (GBIS) are available through the collection webpage (<https://www.gov.uk/government/collections/great-british-insulation-scheme>). The measures delivered and households receiving funding through GHG Vouchers (GHGV), GHG Local Authority Delivery (LAD), HUG, SHDF and GBIS are not included in the Household Energy Efficiency statistics Headline release. Summary statistics on the number of measures and number of households receiving funding through the GHGV, LAD, HUG, SHDF and GBIS are included within the annual detailed Household Energy Efficiency statistics release.

Publications, methodology and documentation

Household Energy Efficiency Statistics: Headline release

The headline statistical release is an Accredited Official Statistics publication reporting on the latest available statistics on the GD and ECO. Data relating to ECO measures is published approximately seven weeks later than the time period it is referring to. Data relating to ECO costs is published approximately eleven weeks later than the time period it is referring to. Data relating to the GD is published between three to eleven weeks later than the time period it is referring to.

The publication consists of a headline summary and detailed statistical tables.¹ A detailed summary of the methodology used to compile the statistics contained within this release is available in the accompanying methodology note.²

In a quarterly publication, the Excel workbook is accompanied by a statistical release. All tables in the workbook will have been reviewed and updated unless they are marked as N/A, such as where an obligation has ended. In a monthly publication, selected tables and associated charts and commentary are updated (Tables 1.1 to 1.7 and Tables 2.1 to 2.3).

Headline estimates of GD and ECO delivery were published as “experimental statistics” from March 2013. They were rebadged as National Statistics (now Accredited Official Statistics) from January 2015 following an assessment by the UK Statistics Authority, which demonstrates that they meet the requirements contained in the Code of Practice for Official Statistics.

Household Energy Efficiency Statistics: Detailed report

The detailed statistical release is an Accredited Official Statistics publication reporting a range of further analysis and geographical breakdowns relating to ECO, as well as GD Plans activity. Summary statistics on delivery through GHGV, LAD, HUG, SHDF and GBIS are also included to provide an overview of all government support household energy efficiency schemes.

The final section of this release also estimates levels of home insulation in Great Britain. These estimates were revised in September 2016 to reflect a new methodology based on new research and evidence, details of which are available in the methodology note. The detailed report is currently published on an annual basis, approximately three months after the period to which it refers.

The publication consists of a statistical release and detailed statistical tables.³ A detailed summary of the methodology used to compile the statistics contained within this release is available in the accompanying methodology note.⁴

Detailed estimates of GD and ECO delivery were published as “experimental statistics” from March 2013. They were rebadged as National Statistics (now Accredited Official Statistics) from January 2015 following an assessment by the UK Statistics Authority, which demonstrates that they meet the requirements contained in the Code of Practice for Official Statistics.

Production and dissemination

The headline and detailed statistical releases use administrative data generated as part of the GD and ECO processes. In addition, estimates of levels of home insulation also combine information collected in the national housing surveys with dwelling stock data published by MHCLG.

Data sources used to produce headline and detailed publications:

- Ofgem – who administer the Energy Company Obligation (ECO) and the Great British Insulation Scheme (GBIS) and collect information from energy companies on measures installed under ECO and GBIS, and associated costs.

¹ <https://www.gov.uk/government/collections/household-energy-efficiency-national-statistics>

² <https://www.gov.uk/government/publications/household-energy-efficiency-statistics-methodology-note>

³ <https://www.gov.uk/government/collections/household-energy-efficiency-national-statistics>

⁴ <https://www.gov.uk/government/publications/household-energy-efficiency-statistics-methodology-note>

- Data on ECO brokerage auctions. The ECO brokerage mechanism was decommissioned by Crown Commercial Services (CCS) in June 2021.
- Green Deal Central Charge Database – This manages the recording and administration of GD Plans.
- NEC Software Solutions UK – who manage the national lodgement of Green Deal measures in England and Wales. NEC Software Solutions UK (formerly Northgate) took over the scheme management from Landmark in September 2017.
- Energy Savings Trust Scotland (EST) – who manage the national lodgement of Green Deal measures in Scotland.
- The Green Deal Oversight and Regulation Body (ORB) – who administer the certification of GD organisations (including assessors, installers and providers).
- GHGV scheme delivery partner – who administered the Green Homes Grant Voucher (GHGV) scheme. The delivery partner collected data from applicants and installers on vouchers applied for, measures installed and associated costs.
- LAD Local authorities (LAs) and Local Energy Hubs – who administer funding for household energy efficiency measures under LAD and HUG and who were successful with bids for funding under the LAD and HUG competitions. The scheme is administered in phases, with LAD Phase 1 administered directly through LAs, LAD phase 2 is through the local energy hubs, and LAD Phase 3 and HUG directly through LAs. Data is collected on the households' receiving measures and the measures installed.
- Local authorities and registered providers of social housing for the Social Housing Decarbonisation Fund (SHDF) – who administer scheme funding so collect data from householders and installers on delivery.
- National housing surveys – which collect data on the housing stock in England, Wales and Scotland.
- MHCLG, Stats Wales and the Scottish Government – produce information on the number of properties in the housing stock and new builds.
- Inbuilt – a report produced by Inbuilt is used to inform estimates on the number of hard-to-treat cavity wall properties in the housing stock.
- Office for National Statistics (ONS) – which produce map boundary files and geography lookups tables.
- ONS, Stats Wales and National Records of Scotland - households with at least one usual resident.

After appropriate quality assurance, described later in this report, the data from these data sources are used to produce the headline and detailed estimates included in Accredited Official Statistics releases.

Pre-release access to the release (executive summary, briefing and tables) is granted 24 hours ahead of publication in accordance with the department's statement of compliance with pre-release access.⁵ Following publication, an email is circulated to relevant statistical and policy colleagues to make them aware of the release and who they should contact should they wish to discuss. The shared mailbox is also monitored as users are invited to send in any feedback or questions they have on the publications to this address.

Relevance

Content

Household Energy Efficiency Statistics: Headline release

The headline statistical release includes information on the number of measures installed and properties benefitting from the ECO and GD schemes since January 2013. Further detail is then provided on the ECO scheme, including quarterly delivery breakdowns, geographical delivery statistics and delivery costs. The final section includes information relating to the GD, including number of plans and measures installed by quarter.

Household Energy Efficiency Statistics: Detailed report

The detailed statistical release reports a range of further analysis and geographical breakdowns showing the latest picture of ECO, for example by rurality, and other government schemes.

The levels of home insulation in Great Britain section, includes estimates of the number of properties with cavity wall insulation, loft insulation and solid wall insulation. These levels of insulation allow users to see how many homes have been insulated through the rollout of Government schemes and the remaining potential for insulation in dwellings in Great Britain.

Completeness

Data contained within both the headline release and detailed report, are based on the most recent data available (following quality assurance checks). Data for previous months are revised as more data is received/updated.

The first cut of ECO data is shared with the Department for Energy Security and Net Zero (DESNZ) each month which includes measures submitted up to the previous month. For ECO4, DESNZ receives data on notified projects (including the household details) and on notified measures. Measures are marked as pending until the Project Reference Number has been provided and the measure has passed several checks and has been approved by Ofgem. The statistical release only includes measures with a Project Reference Number attached to obtain geographical information on where these measures have been installed.

In order to produce the timeliest data possible, estimates in the headline release include data which has yet to be approved by Ofgem. Revisions to data are routinely included in releases and will be explained if they are large.

All figures are provisional until the end of that ECO period. The number of households in receipt of ECO measures in the statistical releases is based on the latest available information.

⁵ <https://www.gov.uk/government/publications/statement-of-compliance-with-the-pre-release-access-to-official-statistics-order-2008>

Any measures which have been rejected by Ofgem or withdrawn by obligated energy suppliers will be excluded from the ECO measures reported.

Geographical coverage

The statistics for GD plans, ECO and GBIS cover Great Britain. Where possible, tables are published by region, administrative area and Parliamentary Constituency. Note that the GHGV, LAD, HUG and SHDF schemes cover England only.

Levels of home insulation cover Great Britain; breakdowns below England, Scotland and Wales level are not available.

User needs

A section on users and uses of the headline and detailed statistical releases is included in the methodology note under 'Users/uses of the report'. This methodology note can be accessed from: [Household Energy Efficiency Statistics Methodology Note \(opens in new window\)](#)

Methodology

The administrative sources and methodology used to compile the headline release and detailed statistical report is detailed in the accompanying methodology note.⁶

Uncertainty and bias

The statistical releases are compiled to be as accurate as possible. The data sources listed in this document are all subject to a range of data quality checks employed by both data providers and DESNZ to ensure that data are as fit for purpose as possible. Details on the checks that are carried out are included in the 'Data quality of data sources' section of the methodology note, which accompanies the statistical releases. This methodology note can be accessed from:

[Household Energy Efficiency Statistics Methodology Note \(opens in new window\)](#)

Energy efficiency measures that are installed outside of Government schemes would not be captured in the estimates published. This can occur when measures are financed through another route, such as personal savings, payment from a landlord, a housing association or a Local Authority. Further information on work that has been done to estimate the number of measures installed, but not captured, by our administrative data sources can be found in the 'Measures not captured by administrative data sources' section of the [methodology note](#).

In terms of levels of home insulation, an estimate of uncertainty is provided for each insulation measure (i.e., cavity wall, solid wall and loft insulation). The methodology for calculating uncertainty can be found in the [methodology note](#) published alongside the statistical releases.

Timeliness and punctuality

Changes to the timing of quarterly statistical releases

Due to changes to the production process, it has been possible to harmonise the publication of our monthly and quarterly ECO data. To deliver these more detailed quarterly publications, the release dates for these have been delayed by approximately

⁶ <https://www.gov.uk/government/publications/household-energy-efficiency-statistics-methodology-note>

one week so that they fall on the last Thursday of a month.⁷ This change prioritises using consistent and timely ECO data throughout the release.

Timeliness

The table below details the publication timetable of each release following the changes outlined above, with examples.

Statistical release	Timeliness	Example
Headline release: data relating to ECO measures	Published monthly. Initial data ~7-8 weeks after the end of the period covered	ECO measures to end February 2023 published on 20 April 2023.
Headline release: detailed data relating to ECO	Published quarterly ~8 weeks after the end of the period covered.	ECO measures by region to end December 2022 published on 23 February 2023.
Headline release: data relating to ECO costs	Published quarterly ~11-12 weeks after the end of the period covered	ECO costs to end December 2022 published on 30 March 2023.
Headline release: measures data relating to GD Finance delivery mechanism	Published quarterly ~8 weeks after the end of the period covered.	Measures delivered through the GD Framework to end quarter 4 2022, published on 23 February 2023.
Detailed release: GD, ECO and Insulation Levels	Published annually ~3 months after the end of the year.	Estimates covering period up to the end of December 2022, published on 30 March 2023.

Punctuality

All releases are published in accordance with a pre-announced release timetable. In accordance with the Code of Practice for Official Statistics, releases are published at 9.30am. Each publication states when the next update to figures will be published and any delay would be announced on the publications home page with the reason explained.

Accessibility and clarity

Accessibility

All statistical tables and accompanying documentation are published on the relevant area of gov.uk. Statistical tables are provided in Excel format (XLSX) and OpenDocument

⁷ The Detailed (Annual) statistical release will not come forward so will follow approximately one month after the Q4 ECO release. This will align to the March monthly release.

Spreadsheet (ODS), although users may request other formats if they wish. The quarterly headline summary and detailed report are provided in PDF format.

Users of assistive technology can request a version of the publications or statistical tables in a more accessible format by contacting DESNZ correspondence.

Clarity

Each headline statistical release consists of an Excel (and ODS) release containing an overall summary, charts/maps and detailed statistical tables. The quarterly headline summary is provided in PDF format. The detailed report contains a written statistical release alongside the statistical tables containing a summary of the data, along with contextual information, and information about drivers of change in the data. Some methodological information is summarised in the releases, but a full methodological document is published alongside the releases and updated as required.

Coherence and comparability

Consistency across time

Figures for each delivery mechanism (i.e., ECO and GD) are comparable across time – they are calculated using the same method and data source. Therefore, any resultant trends should be a result of change in delivery rather than methodological differences, unless stated otherwise.

Consistency with related data sets

The majority of figures that feed into the section of the detailed release on insulation levels in Great Britain are released in other publications by the original data suppliers. For example, insulation measures delivered through GD and ECO are published in the headline report, while insulation measures delivered through GHGV, LAD, HUG, SHDF and GBIS are published in their own separate statistical releases (see above). It is important to note that estimates of levels of insulation will not always be comparable with the input data due to adjustments made in the production process. Full details on the adjustments made can be found in the 'Assumptions made in producing the estimates' section of the methodology note: [Household Energy Efficiency Statistics Methodology Note \(opens in new window\)](#).

The key assumptions made when calculating insulation levels in Great Britain are summarised below:

- The Building Research Establishment estimate that the English Housing Survey under-estimates the number of filled cavities by between five and ten per cent. The survey estimates which make up the 'insulated' category for cavity wall insulation in April 2013 have therefore been adjusted up by five per cent to take account of this.
- For the 2013 housing surveys a threshold of 125mm is used to describe a property as having loft insulation, since the more insulation a property has the less cost effective it is to add further insulation.
- Data provided from Government schemes does not identify how much insulation was present before the loft insulation was installed. An assumption has been made that 10 per

cent of professional loft insulations through Government schemes are top-ups of existing insulation above 125mm.

- The level of DIY insulation through the Carbon Emissions Reduction Target (CERT) is reported by Ofgem based on sales by square metre rather than dwellings. Using English Housing Survey (EHS) data it is possible to estimate the average size of a loft by dividing useable floor space by the number of floors.
- For a variety of reasons, households may have solid wall insulation applied to specific rooms or certain walls only. The headline figures reported in this statistical release include all homes with at least one wall or room with solid wall insulation.
- Under ECO Help-to-Heat, ECO3 and ECO4, cavity wall insulation has not been classified as an easy or hard to treat solution. The Lambda values measuring the thermal conductivity of insulating material have, where other information is not available, been used to define whether cavity wall insulation is considered easy or hard to treat. A Lambda value of 0.027 or below is defined as 'hard to treat', since the high cost of this type of insulation suggests that the home required a specialist product. Where external wall insulation has been applied to a cavity wall this has also been defined as a 'hard to treat' cavity wall, as standard cavity wall insulation has not been applied.

The insulation estimates can be used to estimate the number of homes that have the potential to receive insulation in the future. Users need to be aware that this cannot be achieved by simply subtracting the total number of insulated homes from the number of homes in Great Britain. For example, when looking at properties with a loft that have not yet been insulated, some will be unfillable or hard to treat, such as properties with a flat, chalet or mansard roof.

The national housing surveys are used as the baseline data for this publication. From the September 2016 headline release onwards, the estimates have been rebased to April 2013 in England (English Housing Survey) and Scotland (Scottish House Condition Survey). Government scheme delivery between April 2008 and March 2013 is added to the 2008 Living in Wales survey figures to form the 2013 baseline for Wales properties. Figures are then updated each year (with a quarterly breakdown) based on the number of insulation measures delivered through Government schemes, as this is considered more accurate and timely than using the latest housing survey data.

Trade offs

There is a trade-off between timeliness and accuracy in publishing ECO data that forms part of both the headline release and detailed report. As stated above, ECO data contains measures not yet approved by Ofgem. Revisions to data are therefore routinely made to ECO data; this happens when the unprocessed data has been validated. All ECO data should be treated as provisional.

Assessment of user needs and perceptions

A section on users and uses of the headline and detailed statistical releases is included in the methodology note under 'Users/uses of the report'. This methodology note can be accessed from: [Household Energy Efficiency Statistics Methodology Note \(opens in new window\)](#).

The department recognises that these users will have different needs and welcome views from both internal and external customers through the Energy Efficiency Statistics Mailbox (energyefficiency.stats@energysecurity.gov.uk). Contact details for specific publications are also provided within each statistical release.

Further information about the department's user engagement policies can be found in the statistical public engagement and data standards guidance published on gov.uk.⁸

Performance, cost and respondent burden

The data used to produce both the headline and detailed statistical releases makes use of existing data sources and therefore no extra resource is required to collect the data. The work of producing the statistics themselves is done by a team of three individuals within DESNZ, but with regular interaction with the data suppliers.

Confidentiality, transparency and security

All data released is published in aggregate tables, no record level data is released. Record level data relating to the aggregate tables is compliant with the Data Protection Act and held in line with a number of data sharing agreements between the department and the data suppliers.

⁸ <https://www.gov.uk/government/publications/desnz-standards-for-official-statistics/statistical-public-engagement-and-data-standards>



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