Home insulation levels in Great Britain – methodological changes

Introduction

DECCs Experimental Statistics[1] series on the number of insulated homes in Great Britain was first published in November 2010 covering cavity wall and loft insulation, and was expanded in June 2011 to include solid wall insulation. The latest estimates were published on 25 September 2012 covering the period to the start of July 2012. This article summarises the changes that have been made to the way the estimates are produced for the September 2012 publication, following consultation with users in March and June 2012.

The publication includes estimates of the number of homes with cavity wall insulation, loft insulation and solid wall insulation, as well as, for the first time in the latest publication, estimates of remaining potential for insulation within the GB housing stock. Headline results show that, at the start of July 2012:

- 15.2 million homes had loft insulation of at least 125mm (65 per cent of homes with lofts).
- 12.9 million homes had cavity wall insulation (68 per cent of homes with cavity walls).
- 144,000 homes had solid wall insulation (2 per cent of homes with solid walls).

These estimates are an important indicator of progress made to improve the energy efficiency of homes and are one of DECC's 2012-15 Business Plan indicators[2]. DECC's forthcoming Green Deal finance mechanism and new Energy Company Obligation (ECO)[3] means this statistical series will remain important.

The latest publication and full methodology can be found on the DECC website at: www.decc.gov.uk/en/content/cms/statistics/energy_stats/en_effic_stats/home_ins_est/home_ins_est.aspx.

Revised methodology

The most recent publication of home insulation levels contained changes to the methodology used in previous releases. The most significant revision is to the number of properties with cavity wall insulation, which results from changes to the way the 2008 cavity wall insulation baseline is constructed.

Previously, cavity wall insulation figures in 2008 for England and Scotland were taken from the English Housing Survey (EHS) and Scottish House Condition Survey (SHCS) respectively. Figures for Wales were derived using the number of dwellings in Wales and assuming the same percentage coverage as England. A limitation to using the housing surveys alone to estimate the number of properties with cavity wall insulation is that there is likely to be an under reporting of the number of properties of cavity wall construction which have cavity wall insulation. This under reporting is mainly a result of properties with cavities filled when built which means when the property survey is carried out there are no visible signs of the property having cavity wall insulation. When a property has its cavity walls filled after it has been built (retro-fitting) the insulation material is injected through holes made in the wall – these holes are the most common indicator looked for by surveyors to assess whether cavity wall insulation has been retro-fitted, however, over time these injection holes fade, and this can be another possible cause of under reporting in the housing surveys.

[1] Experimental Statistics are produced in accordance with the Code of Practice for Official Statistics but have not yet been assessed by the UK Statistics Authority to be designated as National Statistics. They are experimental in nature while the methodology is developed and tested further. The accuracy of the estimates will continue to be assessed against other data sources.

[2] www.decc.gov.uk/en/content/cms/about/our_goals/our_goals.aspx

[3] www.decc.gov.uk/en/content/cms/tackling/green_deal/green_deal.aspx

The 2008 baseline is now constructed using the housing surveys combined with information from building regulations and assumptions made for Reduced Data SAP[4] (RdSAP) calculations. This should help categorise properties more accurately and reduce under reporting. This new approach along with the move to report remaining potential has led to additional breakdowns of cavity wall properties being included in the publication:

Category		Description
Insulated	Insulated	Properties with retro-fit cavity wall insulation based on the housing surveys (includes a five percent uplift to survey data to account for unobserved retro-fit insulation).
	Insulated or meet equivalent standard	Properties built post-1995 (post-1991 in Scotland); these properties may not all have cavity wall insulation, but building regulations in at the time of construction mean they should have a thermal performance at least equivalent to a property with insulated cavity walls.
Uncertainty		This is included to account for uncertainty resulting from potential under reporting in the housing surveys. It is estimated that the EHS under reports insulation levels by between five and ten percent. Five percent is included in the insulated category and the further five percent is included as uncertainty. There is also an element of uncertainty included as a result of non-new build changes to the housing stock. Due to lack of information on the dwelling stock changes (e.g. demolitions, conversions etc) it is not possible to accurately assess whether these properties are insulated.
Remaining potential	Limited potential	Properties built between 1983 and 1995 (inclusive) (1984 and 1991 in Scotland) classified as un-insulated in the housing surveys. These properties could still benefit from further insulation, but any gain would be small as thermal performance of the walls should already be good in order to comply with building regulations at the time of construction.
	Not insulated	Properties built pre-1983 (1984 in Scotland) and not reported as having insulation in the housing surveys (less ten percent which is included in the insulated and uncertainty categories).

As a result of the review of the methodology there are also a number of other changes to the methodology, in all cases the changes lead to smaller revisions than the change outlined above. The other changes include:

- Use of the Living in Wales 2008 Property Survey data for properties in Wales; Welsh estimates had previously been derived based on the percentage coverage in England applied to the Welsh housing stock.
- Applying the assumption that ten per cent of lofts insulated through the Carbon Emissions Reduction Target (CERT) are top ups to insulations installed through the Community and Energy Saving Programme (CESP) and Warm Front top up insulations.
- Revising house building data for England back to April 2008, in line with the Department for Communities and Local Government's (DCLG) revisions back to June 2007. These now include house building completions certified by independent approved inspectors, in addition to data from local authorities and the National-Building Council.
- Including Warm Front measures without a time lag and improving assumption about Warm Front activity traded with CERT.

[4] Reduced Data SAP (RdSAP) was been developed for use in existing dwellings based on a site survey of the property, when the complete data set for a SAP calculation is not available, and will be used to inform recommendations for measures to be installed through the Green Deal, the full RdSAP methodology can be found here: www.bre.co.uk/filelibrary/accreditation/scheme_standards/SAP_2009_9-91_Appendix_S_January_2012.pdf

- Revising the assumption on the number of new build flats which have a loft, to bring it in line with the EHS.

Impact of changes

The impacts of these changes on estimates of the number of dwellings in Great Britain with insulation are summarised below.

Loft insulation

- The April 2008 baseline estimate is now 230,000 higher than using the previous methodology, suggesting that more properties have loft insulation of at least 125mm. The biggest contribution to this change is the use of the Living in Wales survey to produce the estimate.
- In April 2012 the new methodology estimates 260,000 more properties have loft insulation of at least 125mm compared to the previous methodology. The primary driver of this additional 30,000 difference is the change to the methodology for estimating how many new build flats have lofts.

Cavity wall insulation

- The April 2008 baseline estimate shows 1.28 million more properties have cavity wall insulation than previously estimated (i.e. are in the "Insulated" or "Insulated or meet equivalent standard" category). The main cause of this change is the reallocation of data from housing surveys in line with RdSAP and Building Regulations, so all cavity wall properties built post 1995 (post 1991 in Scotland) are assumed to be insulated. Other contributing factors are the change to using the Living in Wales survey for Wales and the change to the way survey data are calibrated to DCLG dwelling stock estimates.
- In April 2012 the new methodology gives an estimate 1.31 million higher than the estimate based on the previous methodology. The increase in this difference compared with the 2008 baseline is primarily due to revisions to DCLG dwelling stock estimates which have also been taken on this quarter.

Solid wall insulation

- The new methodology does not impact on the estimate of the number of homes with solid wall insulation; which is solely based on the number of properties insulated through Government schemes.

More details of the impact of the revisions is available as an annex to the methodology note which is published alongside the latest publication on the DECC website, see link above.

Future updates

Estimates of home insulation levels in Great Britain are published quarterly. The next release will be published at 9:30am on Wednesday 5 December 2012.

Contacts

If you have any questions or feedback on this article please contact either:

Claire Pini
Energy Efficiency Statistics
Tel: 0300 068 6289
E-mail: claire.pini@decc.gsi.gov.uk

Mary Gregory
Energy Efficiency Statistics
Tel: 0300 068 5856
E-mail: mary.gregory@decc.gsi.gov.uk