



# Department of Energy & Climate Change

19 September 2013

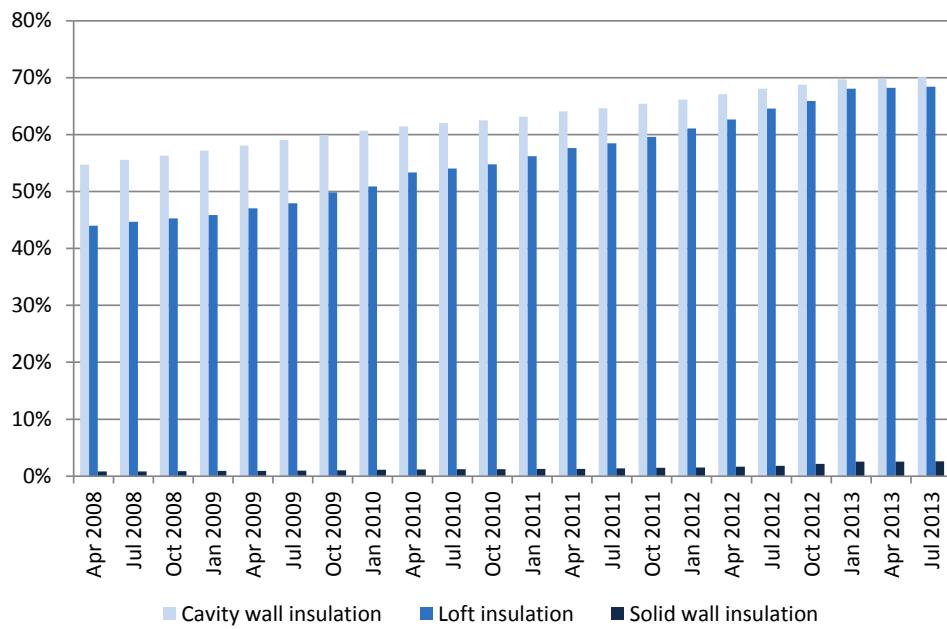
## STATISTICAL RELEASE: EXPERIMENTAL STATISTICS

### Estimates of Home Insulation Levels in Great Britain: July 2013

**Key points –** It is estimated that at the start of July 2013:

- 16.2 million homes had loft insulation of at least 125mm (68 per cent of homes with lofts). Of the 7.4 million homes with lofts without at least 125mm of insulation, only around 1 per cent are estimated to have no loft insulation.
- 13.4 million homes had cavity wall insulation (70 per cent of homes with cavity walls). Of the 5.3 million homes without cavity wall insulation, most are hard to treat, with only 0.7 million of them being easy to treat standard cavities.
- 209,000 homes had solid wall insulation (3 per cent of homes with solid walls).
- Compared with July 2012, 980,000 more properties had loft insulation of at least 125mm, 460,000 more had cavity wall insulation and 65,000 more had solid wall insulation.

**Figure 1: Percentage of properties with insulation**



DECC intends to incorporate the contents of this publication into the Green Deal and ECO quarterly statistical release from the next publication due for release on 19<sup>th</sup> December, further information on this and how to comment can be found [here](#) (page 12).

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## Accompanying Excel tables

More detailed tables are published alongside this release and can be accessed from:

<https://www.gov.uk/government/statistical-data-sets/estimates-of-home-insulation-levels-in-great-britain>

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Table 6: Cavity wall insulation remaining potential (including a split by easy and hard to treat properties), April 2008 to July 2013

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## **Introduction**

This publication presents estimates of the number of homes in Great Britain with loft, cavity wall and solid wall insulation. It gives headline estimates for the number of insulated homes and a summary of the different data sources these are derived from. It also sets out the remaining potential for insulation in dwellings in Great Britain.

DECC set out in its Departmental Business Plan 2011-15<sup>1</sup> that these data for cavity wall and loft insulations would be used as one of the departments key impact indicators. This publication tracks progress with this indicator.

## **Sources and methodology**

The estimates in this Statistical Release use 2008 housing survey data, which coincides with the start of the Carbon Emissions Reduction Target (CERT), and adds known measures delivered through Government schemes (these include CERT<sup>2</sup>, the Community Energy Saving Programme (CESP)<sup>3</sup>, Warm Front<sup>4</sup>, Green Deal (including cashback)<sup>5</sup> and the Energy Company Obligation<sup>6</sup> (ECO)). This is supplemented with data on house building published by Communities & Local Government to provide an estimate for the latest quarter.

These estimates are released as Experimental Statistics which means they are official statistics undergoing an evaluation process prior to being assessed as National Statistics later in 2013. They are published in order to involve users and stakeholders in their development, and as a means to build in quality assurance during development.

## **Headline results**

Table 1 shows the number of properties in Great Britain with cavity wall, loft or solid wall insulation (see [Appendix A](#) for an explanation of measures).

At the start of July 2013, 13.4 million had cavity wall insulation (70 per cent of properties with a cavity wall), 16.2 million had loft insulation (68 per cent of properties with a loft) and 209,000 had solid wall insulation (3 per cent of properties with solid walls). It should be noted that measures installed as a mitigation action (see page 4) after the end of CERT and CESP are not currently included in these figures, and therefore actual delivery during the first half of 2013 is likely to be higher than reported in this document.

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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/47961/decc-business-plan-2011-2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47961/decc-business-plan-2011-2015.pdf)

<sup>2</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx>

<sup>3</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/cesp/Pages/cesp.aspx>

<sup>4</sup> <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/warm-front-scheme>

<sup>5</sup> <https://www.gov.uk/green-deal-energy-saving-measures>

<sup>6</sup> <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/energy-companies-obligation-eco>

**Table 1: Insulated homes in Great Britain, April 2008 to July 2013 (Thousands)**

Start of:	Cavity wall insulation	Loft insulation >=125mm	Solid wall insulation
<b>April 2008</b>	10,030	10,150	65
<b>April 2009</b>	10,760	10,930	74
<b>April 2010</b>	11,490	12,450	94
<b>April 2011</b>	12,090	13,540	102
<b>April 2012</b>	12,750	14,780	132
<b>July 2012</b>	12,960	15,260	144
<b>October 2012</b>	13,110	15,590	171
<b>January 2013</b>	13,320	16,120	204
<b>April 2013</b>	13,360	16,170	205
<b>July 2013</b> p	13,430	16,240	209

p, provisional figure.

Taking into account Government schemes and new properties<sup>7</sup> built during the last year, there were 980,000 more homes with at least 125mm of loft insulation, 460,000 more homes with cavity wall insulation and 65,000 more homes with solid wall insulation compared with July 2012.

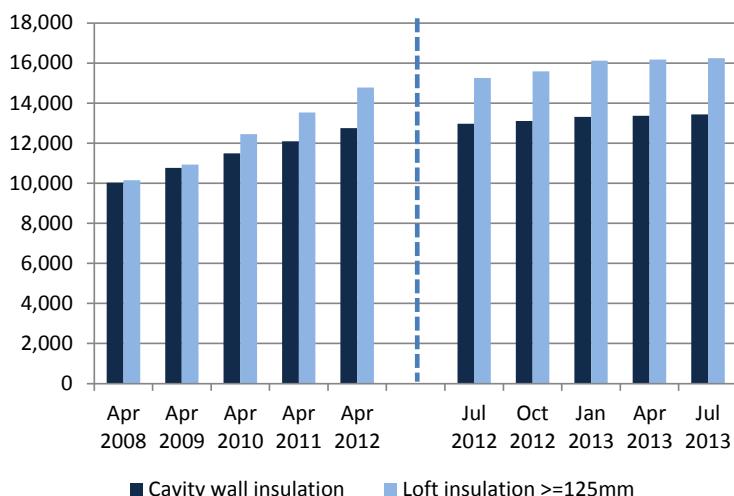
The number of retrofit wall and loft insulations in the first half of 2013 is low compared to delivery in previous quarters. This partially reflects the high delivery at the end of the CERT and CESP schemes in 2012, but the data for the first half of 2013 is also likely to be an underestimate of measures installed. This is due to mitigation action relating to CERT and CESP not being included in current figures. In September 2012 Ofgem published an open letter<sup>8</sup> and stated that ‘energy suppliers and generators may choose to continue to deliver measures after the deadline of 31 December 2012 as a ‘mitigation action’ to address the consumer harm associated with failure to meet their targets’.

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<sup>7</sup> Information is not available on the wall construction of new homes. Typically building regulations would be met by insulated cavity walls but other construction types could be used. In this publication it is assumed that all new builds since April 2008 have cavity wall insulation.

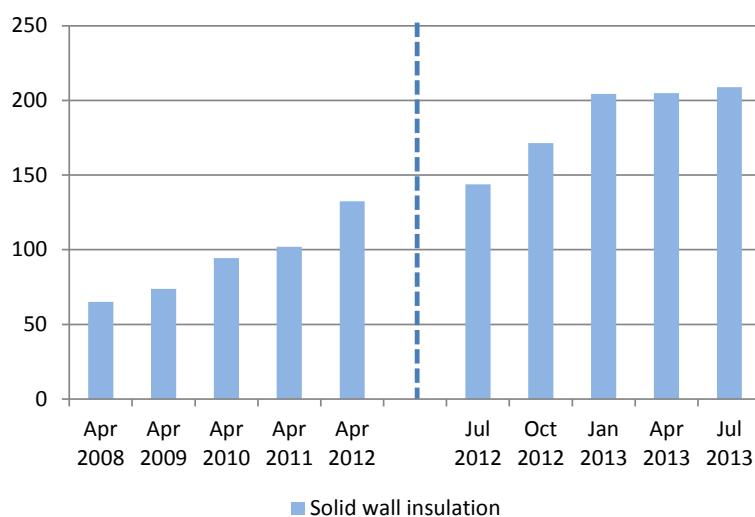
<sup>8</sup> <https://www.ofgem.gov.uk/ofgem-publications/58765/open-letter-cert-cesp-210912.pdf>

**Figure 2: Homes in Great Britain with cavity wall insulation and loft insulation: April 2008 to July 2013 (Thousands)**



- The number of properties with cavity wall insulation increased by 4 per cent (460,000) between the start of July 2012 and July 2013.
- The number of properties with loft insulation with a depth of at least 125mm increased by 6 per cent (980,000) between the start of July 2012 and July 2013.

**Figure 3: Homes in Great Britain with solid wall insulation<sup>9</sup>: April 2008 to July 2013 (Thousands)**



- The number of properties with solid wall insulation increased by 45 per cent (65,000) between the start of July 2012 and July 2013.

### Sources of increase in insulation levels

Increases in the number of properties with insulation result from new properties being built<sup>10</sup> and from retro-fit insulation, predominately through Government schemes. Table 2 and Figures 4 and 5 show where the insulation estimates have come from. Delivery of measures through CERT has made the largest contribution since April 2008, for lofts and cavities. CESP has accounted for the largest contribution of solid wall insulation.

<sup>9</sup> Solid wall insulation has been defined throughout this report as internal or external wall insulation installed through Government schemes.

<sup>10</sup> Information is not available on the wall construction of new homes. Typically building regulations would be met by insulated cavity walls but other construction types could be used. In this publication it is assumed that all new builds since April 2008 have cavity wall insulation.

**Table 2: Insulated homes in Great Britain by source, July 2013 (Thousands)**

Source	Cavity wall insulation	Loft insulation >=125mm	Solid wall insulation <sup>^</sup>
April 2008 housing surveys	10,030	10,150	65
Properties built since April 2008	740	580	..
Government scheme delivery April 2008 – December 2012	2,600	5,450	139
Green Deal/ECO delivery since January 2013	50	60	5
<b>Total</b>	<b>13,430</b>	<b>16,240</b>	<b>209</b>
Homes in Great Britain <sup>†</sup>	19,170	23,730	7,990
Percentage of homes insulated <sup>‡</sup>	70%	68%	3%

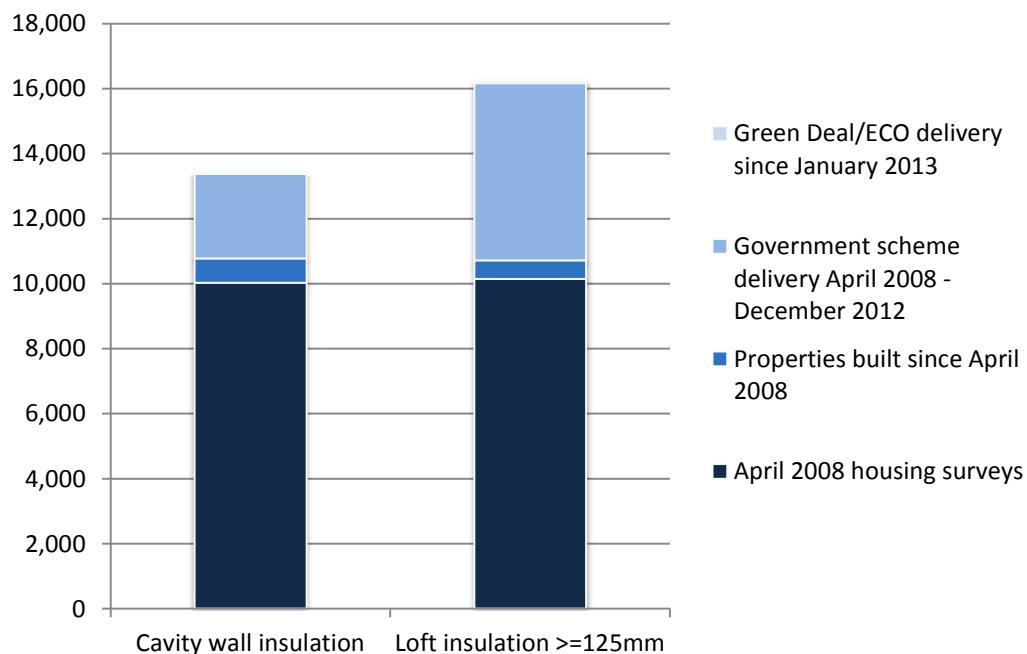
<sup>^</sup>2008 estimates for solid wall insulation are taken from the Government's Energy Efficiency Commitment (EEC) 1 and 2 reported activity rather than housing surveys.

<sup>†</sup> The number of homes in Great Britain with cavity walls, lofts and solid walls respectively.

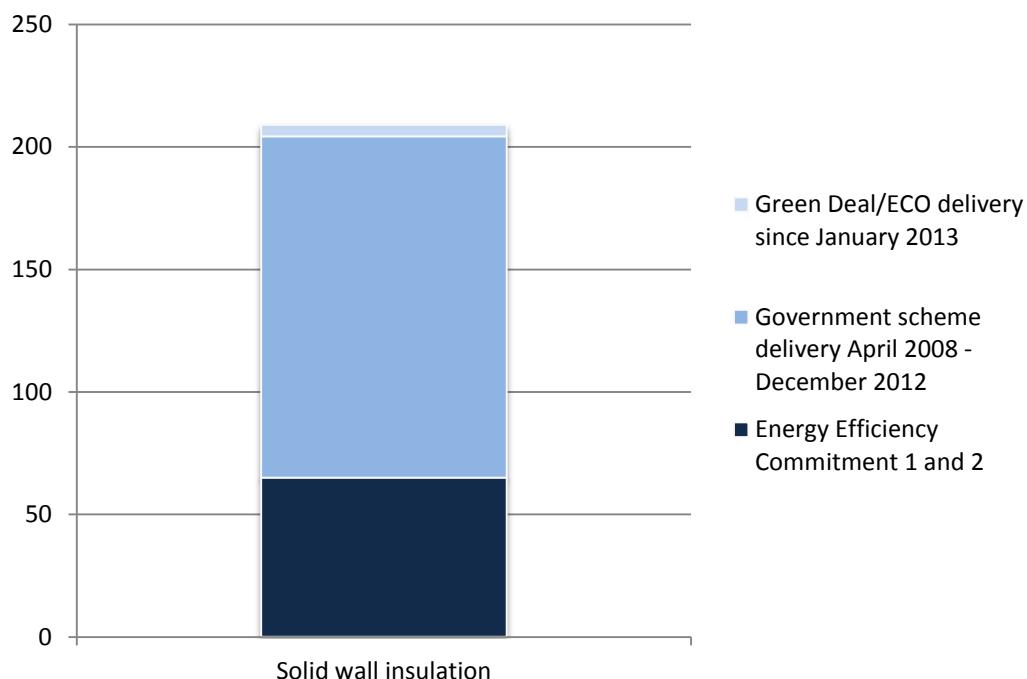
<sup>‡</sup> The solid wall insulation (SWI) percentage is calculated based on the number of homes with SWI delivered through Government schemes divided by the number of homes with non-cavity walls, this is likely to be an overestimate of the total number of properties with solid wall insulation as it may include a small number of hard to treat cavity wall properties.

.. not applicable.

**Figure 4: Number of homes in Great Britain with cavity wall insulation and loft insulation by source, July 2013 (Thousands)**



**Figure 5: Number of homes in Great Britain with solid wall insulation by source, July 2013 (Thousands)<sup>11</sup>**



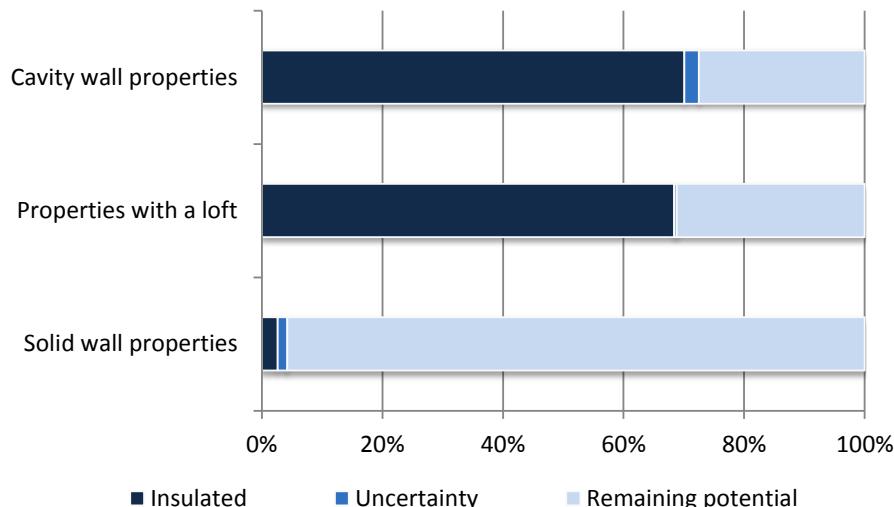
<sup>11</sup> Estimates of solid wall insulation are based only on delivery of solid wall insulation through Government schemes (including the Energy Efficiency Commitment).

## **Remaining potential**

A key use of these estimates for DECC is to identify homes that have the potential to receive cavity wall, loft and solid wall insulation in the future. The section below outlines remaining potential figures as at the beginning of July 2013, for historical figures and a more detailed breakdown see Tables 3 to 7 in the Excel tables accompanying this publication<sup>12</sup>.

Figure 6 gives a summary of the remaining potential for insulating the housing stock of Great Britain.

**Figure 6: Remaining potential to insulate the housing stock in Great Britain, July 2013**



### Cavity wall insulation

Table 3 below gives a breakdown of the remaining potential to insulate cavity wall properties in the Great Britain housing stock. It is estimated that at the start of July 2013 there were 5.3 million cavity wall properties which could benefit from some cavity wall insulation (27 per cent of homes with cavity walls).

Of these 1.4 million are considered to have limited potential<sup>13</sup> (0.5 million of this 1.4 million are also considered hard to treat<sup>14</sup>) and 3.8 million are totally uninsulated (3.1 million of the

<sup>12</sup> <https://www.gov.uk/government/statistical-data-sets/estimates-of-home-insulation-levels-in-great-britain>

<sup>13</sup> Although these properties are not fully insulated it is likely that they already have a relatively good thermal performance which means savings from having cavity wall insulation installed would be lower than for older properties. Limited potential properties are those built between 1983 and 1995 for England and Wales, and between 1984 and 1991 for Scotland.

<sup>14</sup> Hard to treat cavities are ones that are more difficult or more expensive to fill than standard cavities. This can include properties with a narrow cavity, and properties of either concrete or metal frame construction. The definition of hard to treat used in this publication is based on a report commissioned by DECC using the 2008 Housing Surveys ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48433/5620-review-of-the-number-of-cavity-walls-in-great-britain.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48433/5620-review-of-the-number-of-cavity-walls-in-great-britain.pdf)), the ECO definition of hard treat differs from this definition slightly as it also includes partial fill cavities and cavity wall dwellings over three storeys (compared to over four in the Inbuilt definition) and excludes some cavities which assessors would not be able to identify as hard to treat, such as dwellings with high exposure to wind and rain.

3.8 million uninsulated properties are considered hard to treat). There are therefore 0.7 million easy to treat, standard cavities remaining. Historical figures and a more detailed breakdown is available in Table 6 of the accompanying Excel tables (<https://www.gov.uk/government/statistical-data-sets/estimates-of-home-insulation-levels-in-great-britain>).

**Table 3: Cavity wall insulation, July 2013 (Thousands)**

Insulation type	Insulated	Uncertainty*	Remaining potential**	Cavity wall properties
<b>Cavity wall insulation</b>	13,430	470	5,300	19,170
	70%	2%	27%	100%

\* Properties which may or may not have cavity wall insulation.

\*\* Not all remaining potential properties could be insulated and some which could be insulated would not be cost effective to insulate. This could be due to properties being hard to treat, having limited potential to save energy or having unfillable cavities.

#### Loft insulation

In this publication lofts are defined as insulated if they have 125mm or more of insulation. Lofts with less than 125mm of insulation are defined as uninsulated as they would benefit most from top up insulation.

Table 4 below gives a breakdown of the remaining potential to insulate properties with a loft in the Great Britain housing stock. At the start of July 2013 it is estimated that there were 7.4 million uninsulated lofts (31 per cent of homes with lofts). Of these 1.7 million are considered to be hard to treat or unfillable which means the loft would be hard/costly to insulate or could not be insulated – this can occur in properties with a flat roof or in properties where the roof has a very shallow pitch which makes the loft space inaccessible.

**Table 4: Loft insulation, July 2013 (Thousands)**

Insulation type	Insulated	Uncertainty*	Remaining potential**	Properties with a loft
<b>Loft insulation</b>	16,240	100	7,400	23,730
	68%	0.4%	31%	100%

\* Properties which may or may not have loft insulation.

\*\* Not all remaining potential properties could be insulated and some which could be insulated would not be cost effective to insulate, due to lofts either being hard to treat or unfillable.

#### Solid wall insulation

Table 5 below gives a breakdown of the remaining potential to insulate solid wall properties in the Great Britain housing stock. It is estimated that at the start of July 2013 there were 7.7 million uninsulated solid walls (96 per cent of homes with solid walls). Government schemes to date (prior to Green Deal/ECO) have focused on insulating homes with cavity walls due to the costs involved with insulating solid wall properties, however the launch of the Green Deal and ECO in January 2013 should mean that the focus now switches to harder or more expensive to treat properties, including solid wall properties. Of the remaining potential it may not be possible to insulate all uninsulated solid wall properties, it is likely that some of

these will be too costly to treat or be within conservation areas and will therefore never be insulated, work is planned to assess the extent of this issue.

**Table 5: Solid wall insulation, July 2013 (Thousands)**

Insulation type	Insulated	Uncertainty*	Remaining potential**	Solid wall properties
<b>Solid wall insulation</b>	209	126	7,650	7,990

\* Properties which may or may not have solid wall insulation.

\*\* Not all remaining potential properties would be insulated as it is likely that some of these would be too costly to treat or be within conservation areas.

## **Appendix A – Explanation of measures**

This appendix outlines the types of insulation which are included in these estimates of home insulation levels in Great Britain.

### Cavity wall insulation

Many homes built in Great Britain have external walls made up of an inner and outer wall with a small cavity in between. These have been typical since the 1930s, but some older properties will also have them. Cavity walls were used initially because they were cheaper (as the inner leaf could use non-decorative brick) and had a greater resistance to moisture moving from outside to inside. The presence of a cavity also improves the thermal performance of the wall, especially if the cavity is insulated. Since the mid 1980s, homes have been increasingly built with pre-insulated cavity walls, though the type of blockwork used for the inner leaf has also contributed to the improved thermal performance required by Building Regulations.

### Loft insulation

Some loft insulation has been installed in new homes since 1965. Current building regulations for new homes require a roof to have a thermal transmittance (U-value) of at least as low as 0.13 W/m<sup>2</sup>.K, which would typically be achieved with 300mm of loft insulation. There is a strong ‘diminishing returns’ effect with savings from increasing the depth of loft insulation, so the first inch gives about half the savings from full insulation. Therefore, a threshold of 125mm is used in these statistics since homes with less than this would expect to see significant improvements in energy efficiency from a top-up.

### Solid wall insulation

It is possible to improve the thermal performance of solid walls by adding insulation either internally or externally. There is a wide variety of technical solutions that can be used to insulate either the internal or external face of the wall. Current building regulations require a target U-value of 0.35 W/m<sup>2</sup>.K to be reached if this modification to the wall is made. It is likely that installations of solid wall insulation before 2002 (i.e. before the first phase of the Energy Efficiency Commitment) may not achieve this level of thermal performance, so these are recorded separately in the statistics.

## **Further information and feedback**

Any enquiries or comments in relation to this statistical release should be sent to DECC's Energy Statistics Team at the following email address:

[EnergyEfficiency.Stats@decc.gsi.gov.uk](mailto:EnergyEfficiency.Stats@decc.gsi.gov.uk)

Contact telephone: 0300 068 6289

The statistician responsible for this publication is Mary Gregory.

Further information on energy statistics is available at

<https://www.gov.uk/government/organisations/department-of-energy-climate-change/about/statistics>

## **Next release**

DECC has published insulation statistics since November 2010. One of the main uses of these estimates are in relation to monitoring and policy development of the Green Deal and Energy Company Obligation (ECO). DECC therefore proposes that from December 2013 estimates of home insulation levels in Great Britain will be published as part of the quarterly release of domestic Green Deal and Energy Company Obligation quarterly rather than as a separate report. There will be no change to the outputs available as a result of this change; all tables included in the current homes insulation levels publication will be included in the new combined report.

Any comments on this proposal should be sent to DECC's Energy Efficiency Statistics Team at: [EnergyEfficiency.Stats@decc.gsi.gov.uk](mailto:EnergyEfficiency.Stats@decc.gsi.gov.uk)

If there are no objections to the above proposal this will be the last separate publication of estimates of home insulation levels in Great Britain, and the next estimates (up to the start of October 2013) will be published as part of the Green Deal and ECO statistical release due for publication on Thursday 19<sup>th</sup> December at 9:30am.

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