

5 December 2012

STATISTICAL RELEASE: EXPERIMENTAL STATISTICS

Estimates of Home Insulation Levels in Great Britain: October 2012

Key points

It is estimated that at the start of October 2012:

- There are 26.9 million homes in Great Britain. Of these 23.5 million have lofts, 18.9 million have cavity walls with the remaining 7.9 million having solid walls.
- Through Government schemes since April 2008 (the start of CERT), there have been 4.9 million lofts insulated, 2.4 million cavity walls insulated and 88,000 solid walls insulated.
- Compared with July 2012, 320,000 more properties had loft insulation of at least 125mm, 150,000 more had cavity wall insulation and 9,000 more had solid wall insulation.
- 15.5 million homes had loft insulation of at least 125mm (66 per cent of homes with lofts).
- 13.1 million homes had cavity wall insulation (69 per cent of homes with cavity walls).
- 153,000 homes had solid wall insulation (2 per cent of homes with solid walls).

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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 2011-15¹ 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 including CERT², the Community Energy Saving Programme (CESP)³ and Warm Front⁴. 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. 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 October 2012, 13.1 million had cavity wall insulation (69 per cent of properties with a cavity wall), 15.5 million had loft insulation (66 per cent of properties with a loft) and 153,000 had solid wall insulation.

Table 1: Insulated homes in Great Britain, April 2008 to October 2012 (Thousands)

Start of:	Cavity wall insulation	Loft insulation >=125mm	Solid wall insulation
April 2008	9,980	10,090	65
April 2009	10,710	10,870	74
April 2010	11,440	12,400	94
April 2011	12,040	13,480	102
January 2012	12,490	14,340	123
April 2012	12,700	14,720	132
July 2012	12,910	15,200	144
October 2012 p	13,060	15,520	153

p, provisional figure.

¹ <http://www.decc.gov.uk/assets/decc/About%20us/decc-business-plan-2011-2015.pdf>

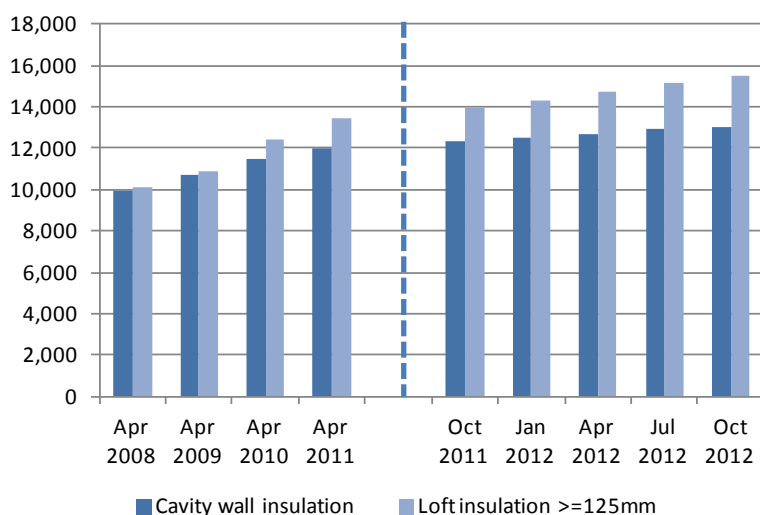
² <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx>

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

⁴ http://www.decc.gov.uk/en/content/cms/funding/warm_front/warm_front.aspx

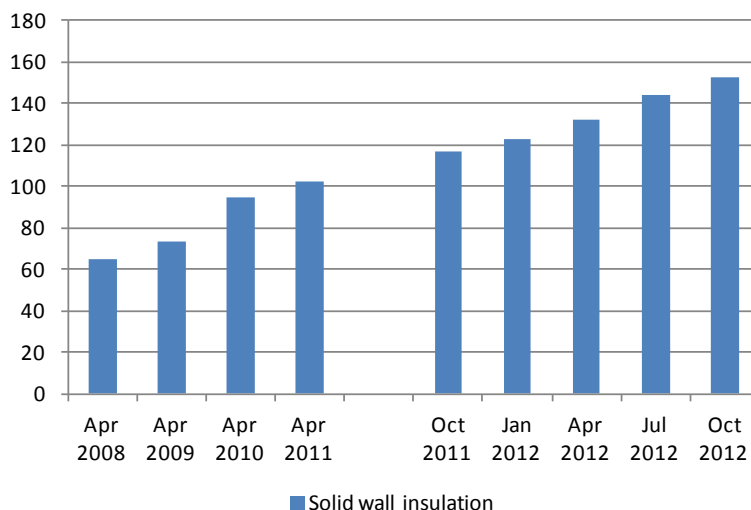
Taking into account Government schemes and new properties⁵ built during the last quarter, there were 320,000 more homes with at least 125mm of loft insulation, 150,000 more homes with cavity wall insulation and 9,000 more homes with solid wall insulation compared with the previous quarter.

Figure 1: Homes in Great Britain with cavity wall insulation and loft insulation: April 2008 to October 2012 (Thousands)



- The number of properties with cavity wall insulation increased by 6 per cent (740,000) between the start of October 2011 and October 2012.
- The number of properties with loft insulation with a depth of at least 125mm increased by 11 per cent (1,550,000) between the start of October 2011 and October 2012.

Figure 2: Homes in Great Britain with solid wall insulation⁶: April 2008 to October 2012 (Thousands)



- The number of properties with solid wall insulation increased by 31 per cent (36,000) between the start of October 2011 and October 2012.

⁵ 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.

⁶ Solid wall insulation has been defined throughout this report as internal or external wall insulation installed through Government schemes.

Sources of increase in insulation levels

Increases in the number of properties with insulation result from new properties being built⁷ and from retro-fit insulation, predominately through Government schemes. Table 2 and Figures 3 and 4 show where the insulation estimates have come from. Delivery of measures through CERT has made the largest contribution since April 2008, for lofts, cavities and solid wall insulation. However in the latest six months CESP has accounted for approximately 75% of solid wall insulation installed through Government schemes.

Table 2: Insulated homes in Great Britain by source, October 2012 (Thousands)

Source	Cavity wall insulation	Loft insulation ≥125mm	Solid wall insulation [^]
April 2008 housing surveys	9,980	10,090	65
Properties built since April 2008	650	490	..
CERT delivery (professional) since April 2008	2,400	3,150	53
CERT delivery (DIY) since April 2008 [*]	..	1,690	..
CESP delivery since January 2010 ^{**}	-	10	35
Warm Front delivery since April 2008	30	90	..
Total	13,060	15,520	153
Homes in Great Britain [†]	18,920	23,460	7,940
Percentage of homes insulated [‡]	69%	66%	2%

[^] 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.

^{*} Loft insulation is the only measure that can be delivered through DIY methods under CERT.

^{**} CESP commenced in September 2009 with the first measures installed in January 2010 (CESP data is reported 6 monthly, activity to the end of June in September and end of December in March).

[†] The number of homes in Great Britain with cavity walls, lofts and solid walls respectively.

[‡] 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.

- count less than 10,000.

.. not applicable.

⁷ 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.

Figure 3: Number of homes in Great Britain with cavity wall insulation and loft insulation by source, October 2012 (Thousands)

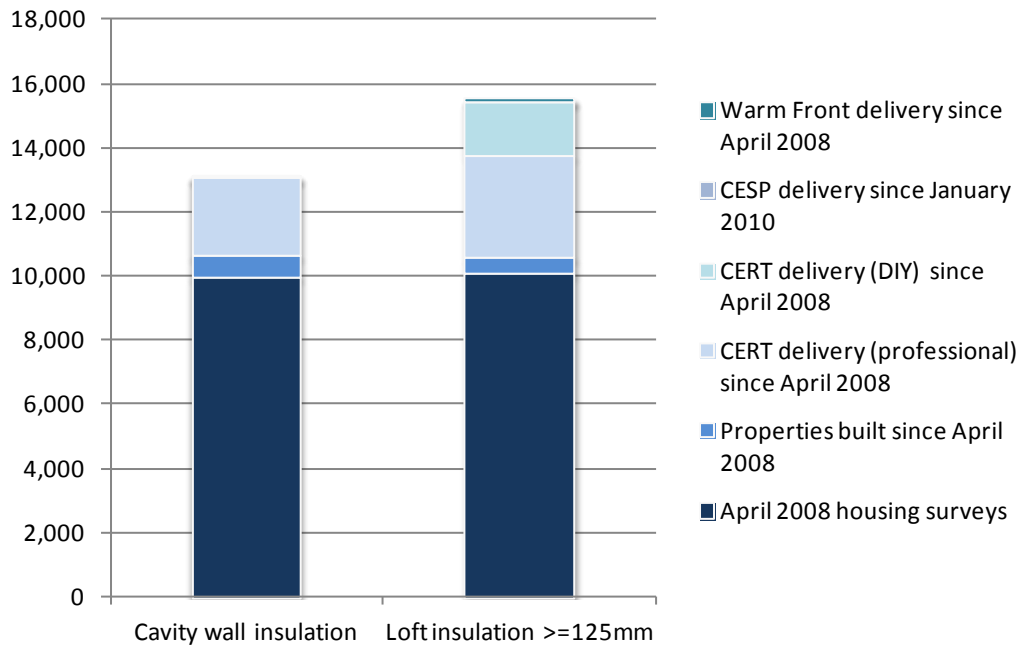
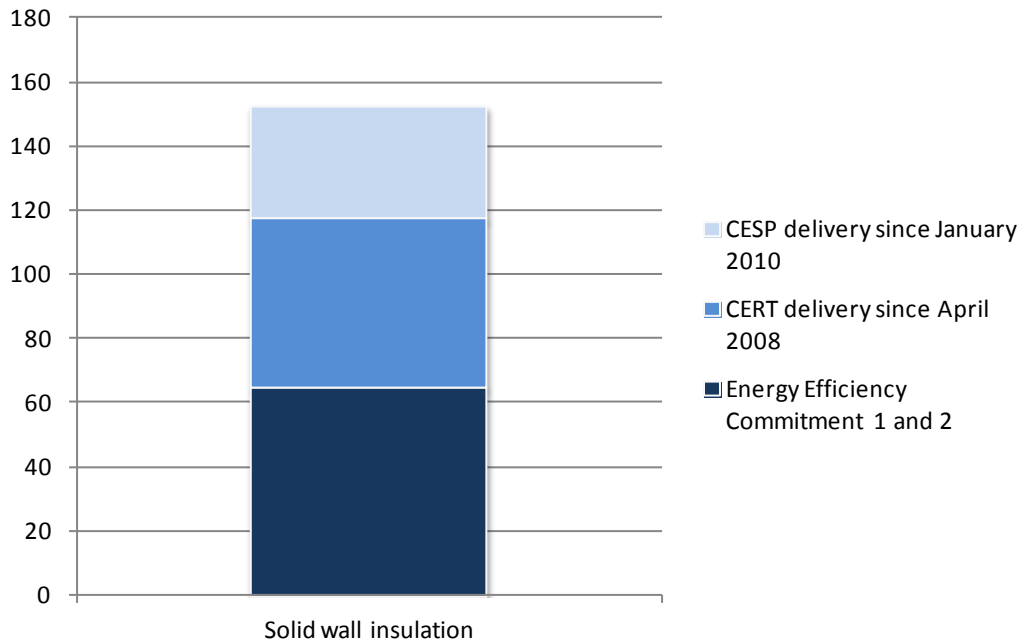


Figure 4: Number of homes in Great Britain with solid wall insulation by source, October 2012 (Thousands)⁸



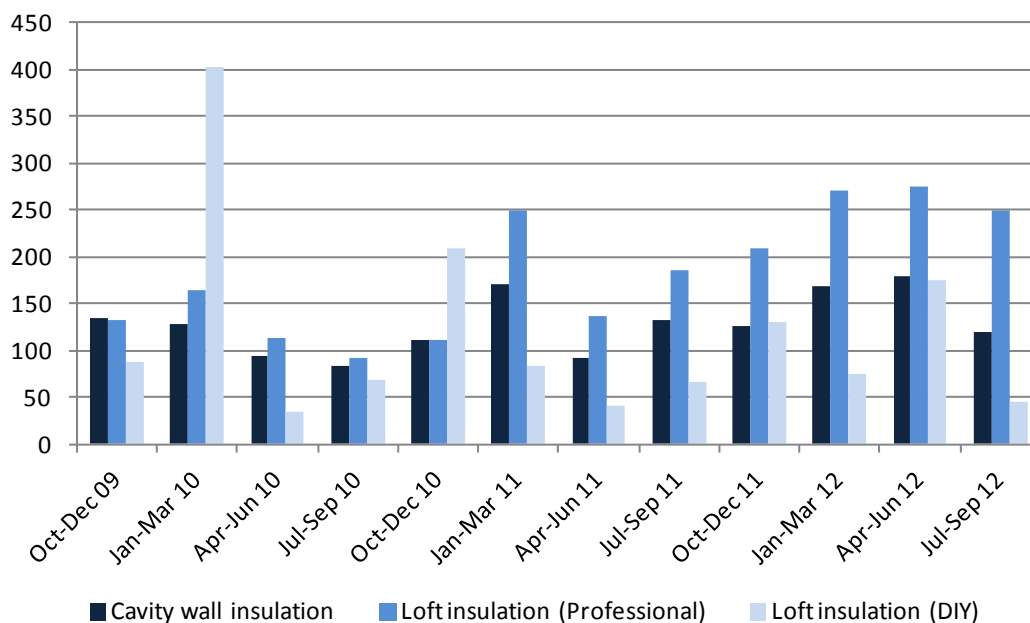
⁸ Estimates of solid wall insulation are based only on delivery of solid wall insulation through Government schemes (including the Energy Efficiency Commitment).

There are a number of factors that affect the amount of insulation delivered each year, including some seasonal variation and promotional offers run by insulation providers. Table 3 gives a breakdown of delivery of insulation through CERT by quarter as reported by Ofgem⁹. It should be noted that Ofgem report cumulative results since the start of CERT each quarter, these figures are not intended to provide a quarterly time series rather they provide number of completed installations from approved schemes on the last working day of each quarter, as such there will be fluctuations between data when reported quarterly. The below breakdown is included to give an indication of the quarterly delivery.

Table 3: Number of new insulation measures delivered through CERT, July 2011 to September 2012 (Thousands)^{10,11}

	Jul-Sep 11	Oct-Dec 11	Jan-Mar 12	Apr-Jun 12	Jul-Sep 12
Cavity wall insulation	133	127	169	180	119
Loft insulation (Professional)	187	209	272	275	251
Loft insulation (DIY)	67	131	76	174	46
Solid wall insulation	3	3	2	4	1

Figure 5: Number of installations of new CERT cavity wall insulation and loft insulation by quarter (Thousands)



⁹ <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx>

¹⁰ It is assumed that 10% of loft insulations are installed in properties which already have 125mm of loft insulation. So, to avoid double counting the number of insulated lofts, 10% of reported installations of insulation have been removed. This assumption is explained in the methodology note accompanying this statistical release and is not applied in the CERT update published by Ofgem.

¹¹ Source: Ofgem see footnote 2.

The key points from the CERT quarter 18 release are summarised below:

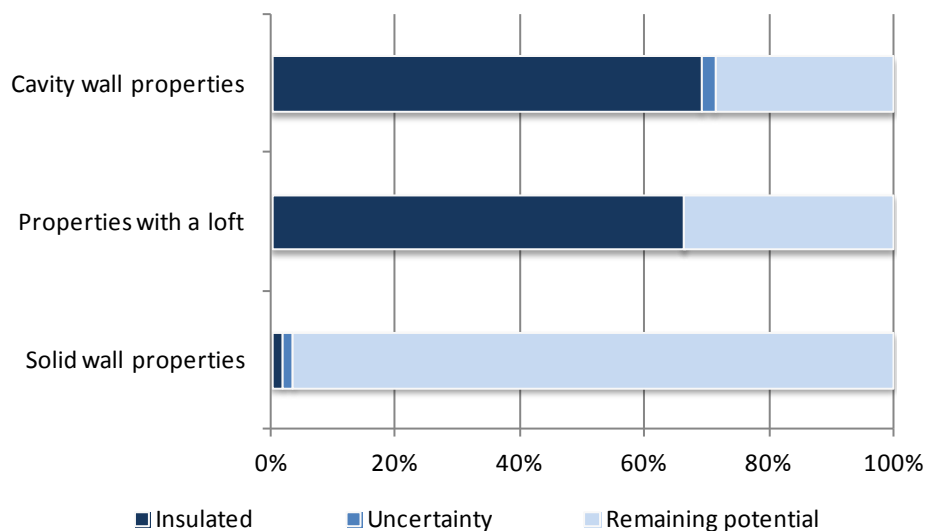
- 119,000 installations of cavity wall insulation were reported in the latest quarter, this is ten per cent less than the amount reported in the same quarter a year ago, and a third less than the previous quarter.
- The number of professional installations of loft insulation (251,000) reported in the latest quarter was a third higher when compared with the same quarter a year ago (187,000), but nine per cent less than the previous quarter.
- The number of DIY loft insulations reported in the latest quarter (46,000) is almost three quarters less than the previous quarter (174,000).

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 October 2012, for historical figures and a more detailed breakdown see Tables 4 to 8 in the Excel tables accompanying this publication.

Figure 6 gives a summary of the remaining potential for insulating the housing stock of Great Britain. It shows that just over two thirds of cavity wall properties already have insulation, similarly two thirds of properties with a loft already have insulation.

Figure 6: Remaining potential to insulate the housing stock in Great Britain, October 2012



Cavity wall insulation

Table 4 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 October 2012 there were 5.5 million cavity wall properties which could benefit from some cavity wall insulation (29 per cent of homes with cavity walls). Of these 1.4 million are considered to have limited

potential¹² (0.5 million of this 1.4 million are also considered hard to treat¹³) and 4.0 million are uninsulated (3.1 million of the 4.0 million uninsulated properties are considered hard to treat).

Table 4: Cavity wall insulation, October 2012 (Thousands)

Insulation type	Insulated	Uncertainty*	Remaining potential**	Cavity wall properties
Cavity wall insulation	13,060	410	5,450	18,920
	69%	2%	29%	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

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 5 below gives a breakdown of the remaining potential to insulate properties with a loft in the Great Britain housing stock. At the start of October 2012 it is estimated that there were 7.9 million uninsulated lofts (34 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 5: Loft insulation, October 2012 (Thousands)

Insulation type	Insulated	Uncertainty*	Remaining potential**	Properties with a loft
Loft insulation	15,520	40	7,910	23,460
	66%	0.2%	34%	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.

¹² 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.

¹³ 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.

Solid wall insulation

Table 6 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 October 2012 there were 7.7 million uninsulated solid walls (96 per cent of homes with solid walls). Government schemes to date have focused on insulating homes with cavity walls due to the costs involved with insulating 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.

Table 6: Solid wall insulation, October 2012 (Thousands)

Insulation type	Insulated	Uncertainty*	Remaining potential**	Solid wall properties
Solid wall insulation	153	126	7,670	7,940
	2%	2%	96%	100%

* 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 improve 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 $0.13 \text{ W/m}^2\text{K}$, 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 $0.35 \text{ W/m}^2\text{K}$ 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

Contact telephone: 0300 068 6289

The statistician responsible for this publication is Mary Gregory.

Further information on energy statistics is available at

<http://www.decc.gov.uk/en/content/cms/statistics/statistics.aspx>

Next release

There will be no publication in March 2013. The CERT scheme ends on 31st December 2012, therefore figures will require further quality assurance by Ofgem before estimates for the end of CERT can be published. Ofgem expect to publish their CERT figures for end of December 2012 in May 2013. DECC's next release of estimates of home insulation levels in Great Britain will be published on Wednesday 5th June 2013 at 9:30am, and will include estimates for the start of January 2013 and April 2013.

Issued by:

Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW
www.decc.gov.uk

Press Enquiries: 0300 068 5219
Out of hours: 020 7215 3505
General Enquiries: 0300 060 4000