25 September 2012

STATISTICAL RELEASE: EXPERIMENTAL STATISTICS

Estimates of Home Insulation Levels in Great Britain: July 2012

Revisions – impact on figures

This statistical release contains 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. The key changes to the **2008 baseline** are:

- 10.0m properties now estimated to have cavity wall insulation compared to 8.7m previously – an increase of 1.3m properties.
- 10.1m properties now estimated to have loft insulation compared to 9.9m previously – an increase of 234,000 properties.

The complete methodology note for these estimates and more details of revisions can be found at the following link:
http://www.decc.gov.uk/media/viewfile.ashx?filetype=4&filepath=11/stats/energy/energy-efficiency/1917-methodology-note-for-stats-may2011.pdf&minwidth=true

Key points

It is estimated that at the start of July 2012:

- There are 26.8 million homes in Great Britain. Of these 23.4 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 4.5 million lofts insulated, 2.2 million cavity walls insulated and 78,000 solid walls insulated.
- Compared with April 2012, 480,000 more properties had loft insulation, 220,000 more had cavity wall insulation and 11,000 more had solid wall insulation.
- 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).

Tables

Charts

Appendices

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. For the first time, this quarter it also sets out the remaining potential for insulation in dwellings in Great Britain.

DECC set out in its Departmental Business Plan 2011-15[1] 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 CERT[2], the Community Energy Saving Programme (CESP)[3] and Warm Front[4]. This is supplemented with data on house building from 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 explanation of measures). At the start of July 2012, 12.9 million had cavity wall insulation (68 per cent of properties with a cavity wall), 15.2 million had loft insulation (65 per cent of properties with a loft) and 144,000 had solid wall insulation.

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

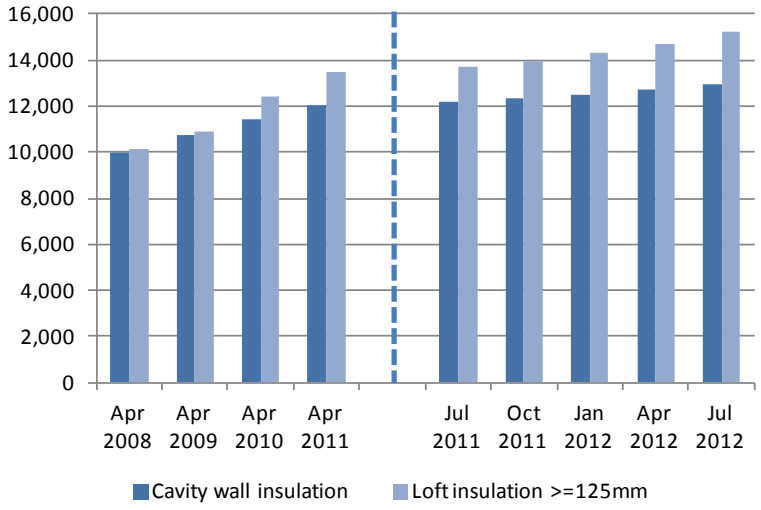
Start of:		Cavity wall insulation	Loft insulation >=125mm	Solid wall insulation
April 2008	r	9,980	10,090	65
April 2009	r	10,710	10,870	74
April 2010	r	11,440	12,400	94
April 2011	r	12,040	13,480	102
October 2011	r	12,330	13,970	117
January 2012	r	12,490	14,340	123
April 2012	r	12,700	14,720	132
July 2012	p	12,910	15,200	144

r, revised figure.
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

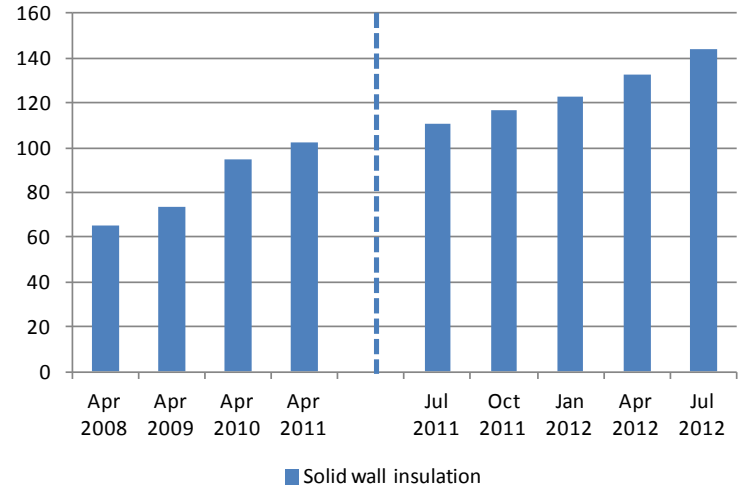
Taking into account Government schemes and new properties built during the last quarter, there were 480,000 more homes with at least 125mm of loft insulation, 220,000 more homes with cavity wall insulation and 11,000 more homes with solid wall insulation compared with the previous quarter.

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



- The number of properties with cavity wall insulation increased by 6 per cent between the start of July 2011 and July 2012.
- The number of properties with loft insulation with a depth of at least 125mm increased by 11 per cent between the start of July 2011 and July 2012.

Figure 2: Homes in Great Britain with solid wall insulation[5]: April 2008 to July 2012 (Thousands)



- The number of properties with solid wall insulation increased by 30 per cent between the start of July 2011 and July 2012.

[5] 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 built[6] 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 71% of solid wall insulation installed through Government schemes.

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

Source	Cavity wall insulation	Loft insulation >=125mm	Solid wall insulation[7]
April 2008 housing surveys	9,980	10,090	65
Properties built since April 2008	620	460	..
CERT delivery (professional) since April 2008	2,280	2,900	51
CERT delivery (DIY) since April 2008*	..	1,640	..
CESP delivery since January 2010**	-	10	27
Warm Front delivery since April 2008	30	90	..
Total	**12,910**	**15,200**	**144**
Homes in Great Britain†	18,870	23,420	7,940
Percentage of homes insulated‡	68%	65%	2%

* 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.
- count less than 10,000.
.. not applicable.

[6] 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.
[7] 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.

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

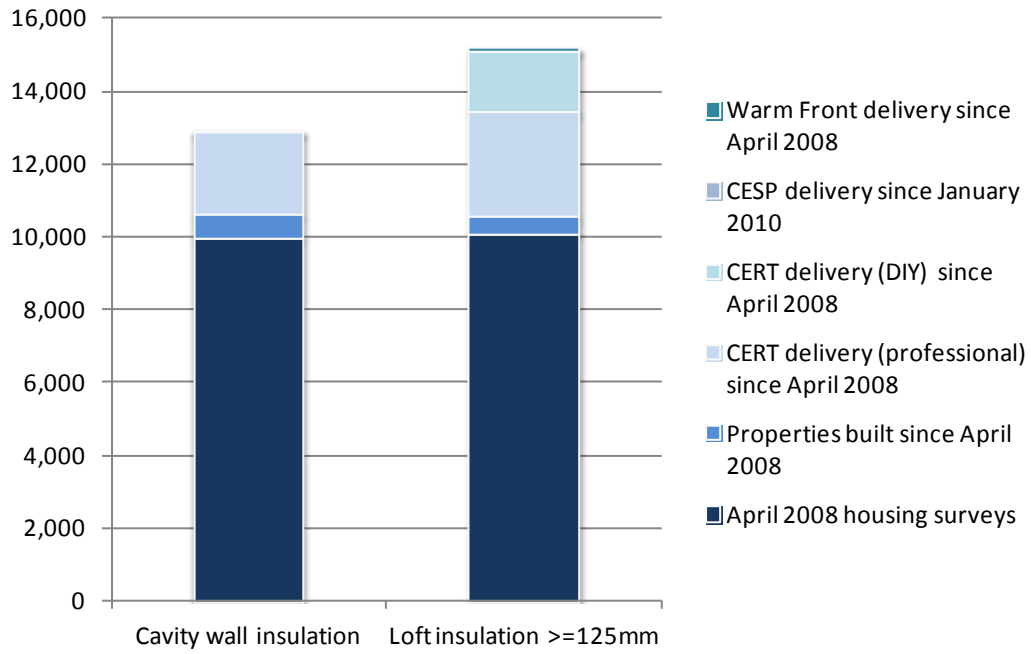
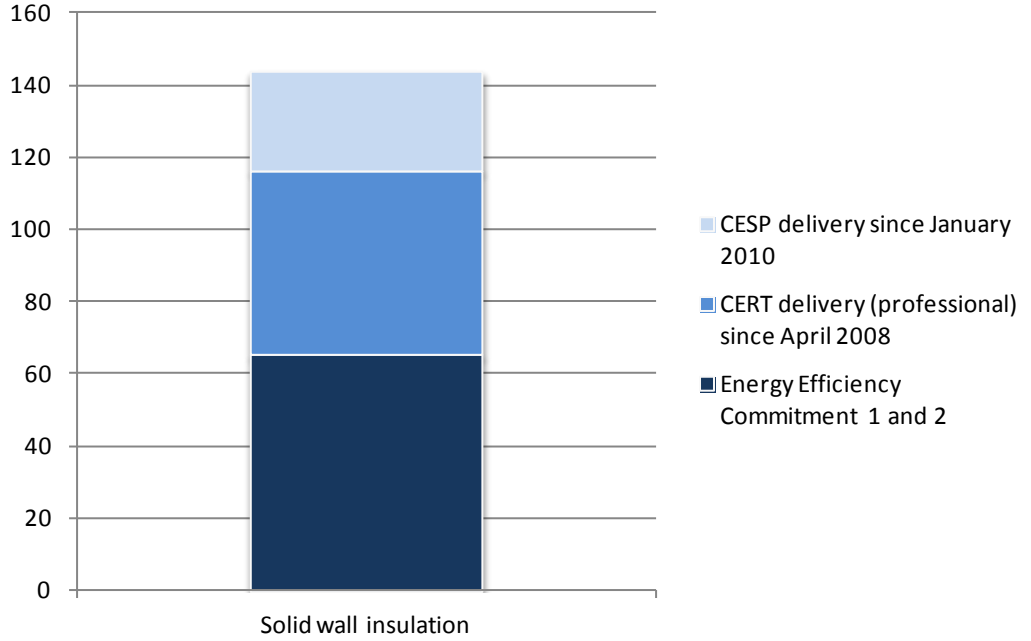


Figure 4: Number of homes in Great Britain with solid wall insulation by source, July 2012 (Thousands)

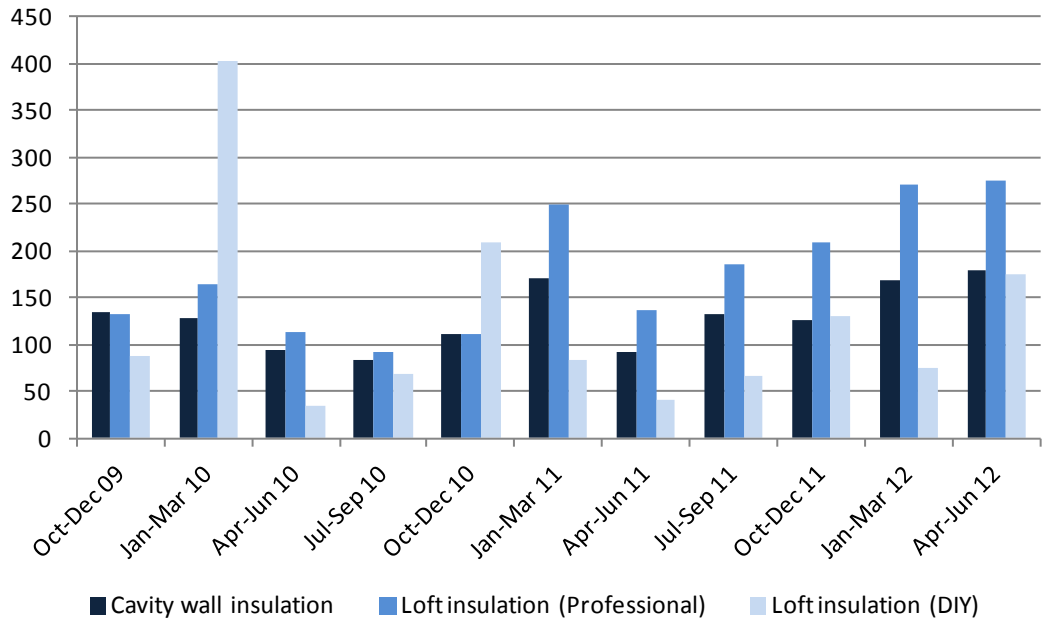


There are a number of factors that affect the amount of insulation delivered each year, including some seasonal variation and promotional offers run by insulation providers. Table 3 gives a breakdown of delivery of insulation through CERT by quarter.

Table 3: Number of new insulation measures delivered through CERT, April 2011 to June 2012 (Thousands)[8,9]

	Apr-Jun 11	Jul-Sep 11	Oct-Dec 11	Jan-Mar 12	Apr-Jun 12
Cavity wall insulation	92	133	127	169	180
Loft insulation (Professional)	137	187	209	272	275
Loft insulation (DIY)	40	67	131	76	174
Solid wall insulation	2	3	3	2	4

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



Each quarter Ofgem[10] publish an update on measures delivered through CERT, the key points from the CERT quarter 17 release are summarised below:

- The number of cavity wall insulations (180,000) reported in the last quarter almost doubled compared with the same quarter a year ago (92,000), and shows a small increase on quarter 16 (6 per cent).

[8] 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.
[9] Source: Ofgem see footnote 2.
[10] http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx

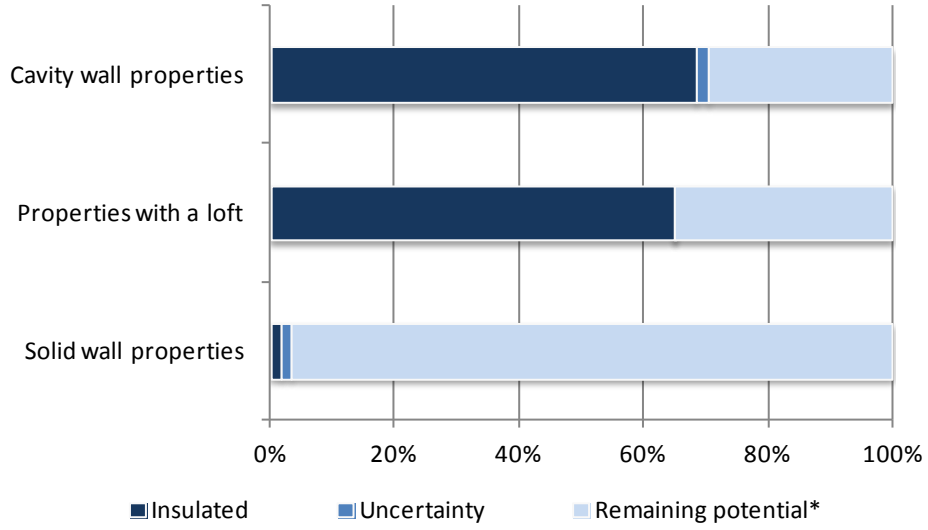
- 275,000 professional installations of loft insulation were reported in the last quarter, this is double the amount reported in the same quarter a year ago (137,000), but very similar to the previous quarter.
- The number of DIY loft insulations reported in the last quarter (174,000) is nearly 100,000 more than the previous quarter.
- The number of solid wall insulations reported in the last quarter was around 4,000, approximately twice as many as the number installed in the equivalent quarter of the previous year.

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 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 to insulate the housing stock in Great Britain. It shows that two thirds of cavity wall properties already have insulation, similarly just under two thirds of properties with a loft already have insulation.

Figure 6: Remaining potential to insulate the housing stock in Great Britain, July 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 July 2012 there were 5.6 million cavity wall properties remaining to be insulated (30 per cent of homes with cavity walls). Of these 1.4 million are considered to have limited potential[11] (0.5 million of this 1.4

[11] 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

million would also be considered hard to treat[12]) and 4.1 million are uninsulated (3.1 million of the 4.1 million uninsulated properties are considered hard to treat).

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

Insulation type	Insulated	Uncertainty*	Remaining potential**	Cavity wall properties
Cavity wall insulation	12,910	388	5,570	18,870
	68%	2%	30%	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 July 2012 it is estimated that there were 8.2 million uninsulated lofts (35 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, July 2012 (Thousands)

Insulation type	Insulated	Uncertainty*	Remaining potential**	Properties with a loft
Loft insulation	15,200	18	8,200	23,420
	65%	0.1%	35%	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 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 July 2012 there were 7.7 million uninsulated solid walls (97 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

properties. Limited potential properties are those built between 1983 and 1995 for England and Wales, and between 1984 and 1991 for Scotland.

[12] 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.

all uninsulated solid wall properties, it is likely that some of these will be too costly to treat or be within in conservation areas and will therefore never be insulated.

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

Insulation type	Insulated	Uncertainty*	Remaining potential**	Solid wall properties
Solid wall insulation	144	126	7,670	7,940
	2%	2%	97%	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 use 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/m².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/m².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

These figures will continue to be updated on a quarterly basis. The next release, containing estimates for October 2012, is due to be published on Wednesday 5th December 2012 at 9:30am.

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