

17 June 2011

## STATISTICAL RELEASE: EXPERIMENTAL STATISTICS

### ESTIMATES OF HOME INSULATION LEVELS IN GREAT BRITAIN: April 2011

DECC estimates of the number of homes in Great Britain with loft, cavity wall and solid wall insulation.

#### Headline results

It is estimated that at the start of April 2011:

- There are 26.6 million homes in Great Britain. Of these 23.3 million have lofts. 18.7 million have cavity walls with the remaining 7.9 million having solid walls.
- 13.2 million homes had loft insulation of at least 125mm, around 357,000 higher than in January 2011.
- 10.8 million homes had cavity wall insulation, around 203,000 more than in January 2011.
- 104 thousand homes had solid wall insulation, around 4,000 more than in January 2011. *Solid wall insulation has been defined throughout this report as internal or external wall insulation installed through Government programmes Carbon Emissions Reduction Target (CERT) or Energy Efficiency Commitments (EEC1, EEC2)*

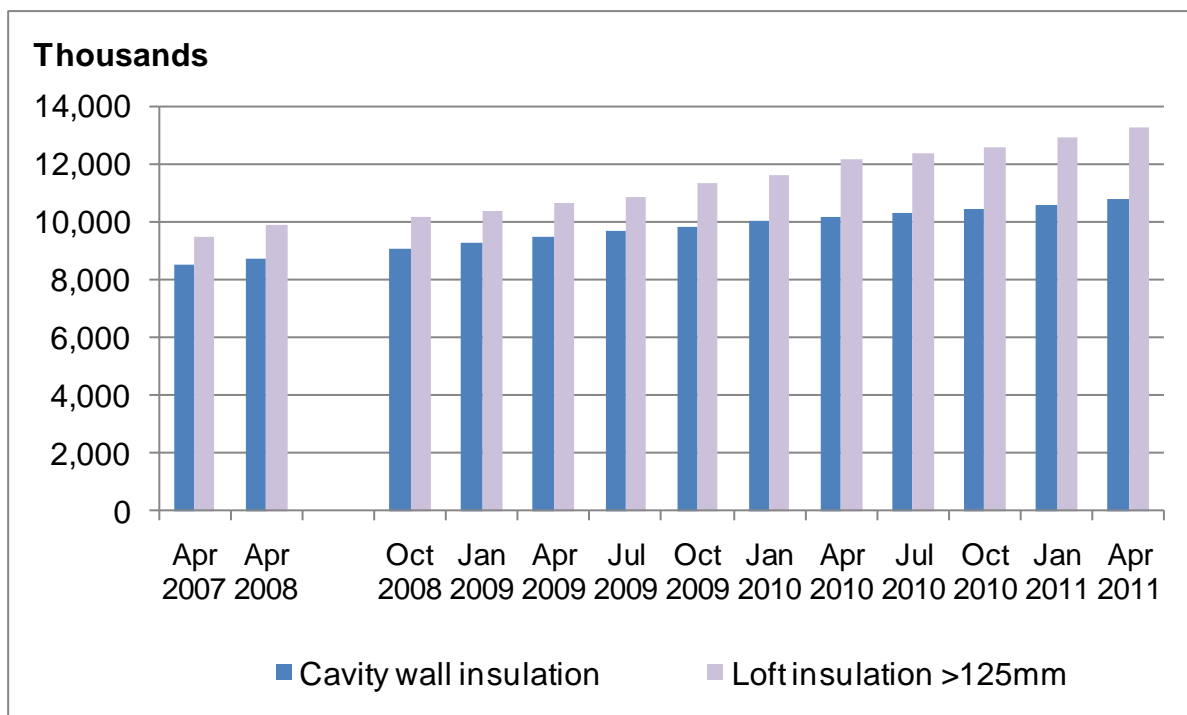
In addition in April 2008, about 900 thousand homes are known to have other forms of non-cavity wall insulation that fall outside this definition of solid wall insulation.

Table 1 and Charts 1a and 1b show headline data for the number of insulated homes. A summary of how these data are derived for the latest period is shown in Table 2 and Chart 2, whilst Table 3 and Chart 3 provide information on installations delivered through Government policies to promote energy efficiency. Table 4 shows how changes reported through administrative data compare with survey data for 2008-09.

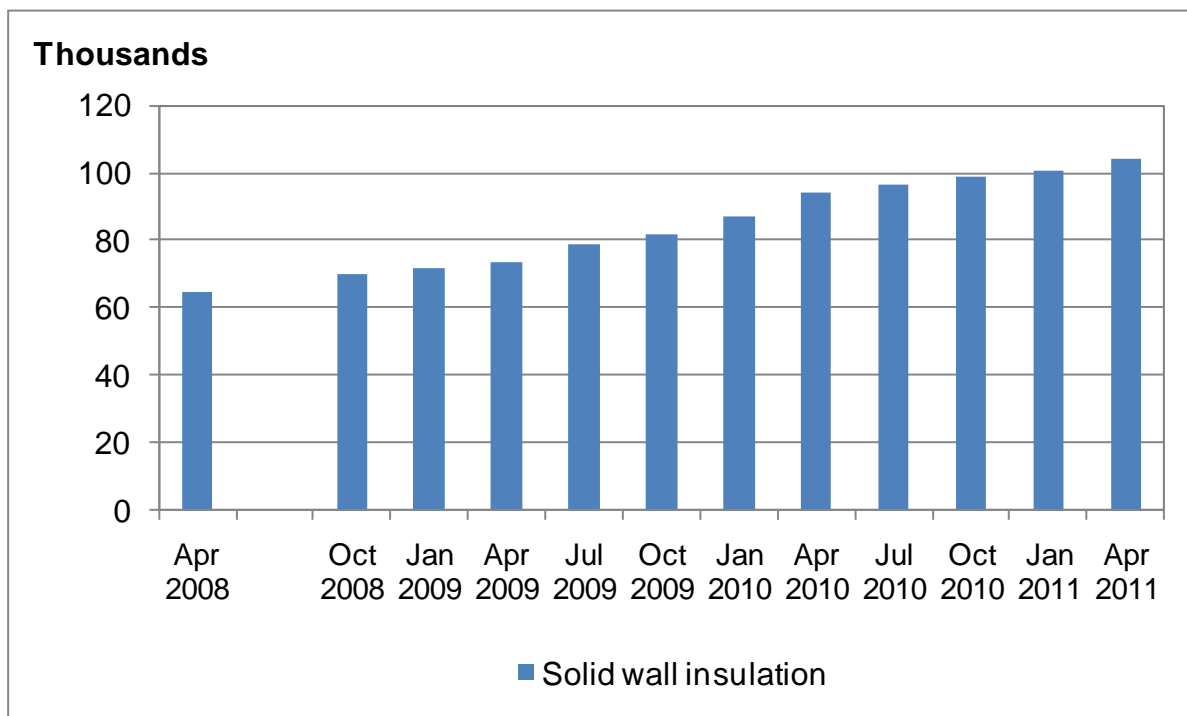
**Table 1: Insulated homes in Great Britain (Thousands)**

Date	Cavity wall insulation	Loft insulation >125mm	Solid wall insulation
April 2007	8,490	9,500	n/a
April 2008	8,700	9,860	65
October 2008	9,020	10,160	70
January 2009	9,250	10,350	72
April 2009	9,440	10,650	73
July 2009	9,650	10,860	79
October 2009	9,830	11,320	82
January 2010	10,010	11,580	87
April 2010	10,170	12,180	94
July 2010	10,300	12,350	96
October 2010	10,410	12,570	99
January 2011	10,560	12,880	100
April 2011	10,760	13,230	104

**Chart 1a: Time series of homes with cavity wall insulation and loft insulation in Great Britain since 2007**



**Chart 1b: Time series of homes with solid wall insulation in Great Britain since 2008**



### Sources and methodology

The English Housing Survey (EHS) and equivalent surveys for other Devolved Administrations collect information on insulation measures in homes. Due to the nature of these surveys and the sample sizes needed to produce robust estimates, figures are not available until two years after the reported date.

The high level methodology for producing the estimates in this Statistical Release is to take the starting point from the 2008 housing surveys, which coincides with the start of the Carbon Emissions Reduction Target (CERT), and add known changes delivered through this and other schemes based on quarterly updates published by OFGEM<sup>1</sup> and data on new buildings from Communities & Local Government. Detailed methodology and assumptions are set out in the *Methodology Note*<sup>2</sup>.

<sup>1</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx>

<sup>2</sup> <http://decc.gov.uk/publications/basket.aspx?filetype=4&filepath=Statistics%2fenergyefficiency%2f947-methodology-note-home-insulation.pdf&minwidth=true>

**Table 2: Number of insulated homes: Great Britain, April 2011 (Thousands)<sup>3,4</sup>**

	<b>Cavity wall insulation</b>	<b>Loft insulation &gt;125mm</b>	<b>Solid wall insulation</b>
2008 survey	8,700	9,860	65
New build since Apr '08	430	300	0
Carbon Emissions Reduction Target delivery (Professional) since Apr '08	1,580	1,820	40
Carbon Emissions Reduction Target delivery (DIY) since Apr '08	-*	1,160	-*
Warmfront delivery since Apr '08	50	100	0
<b>TOTAL</b>	<b>10,760</b>	<b>13,230</b>	<b>104</b>

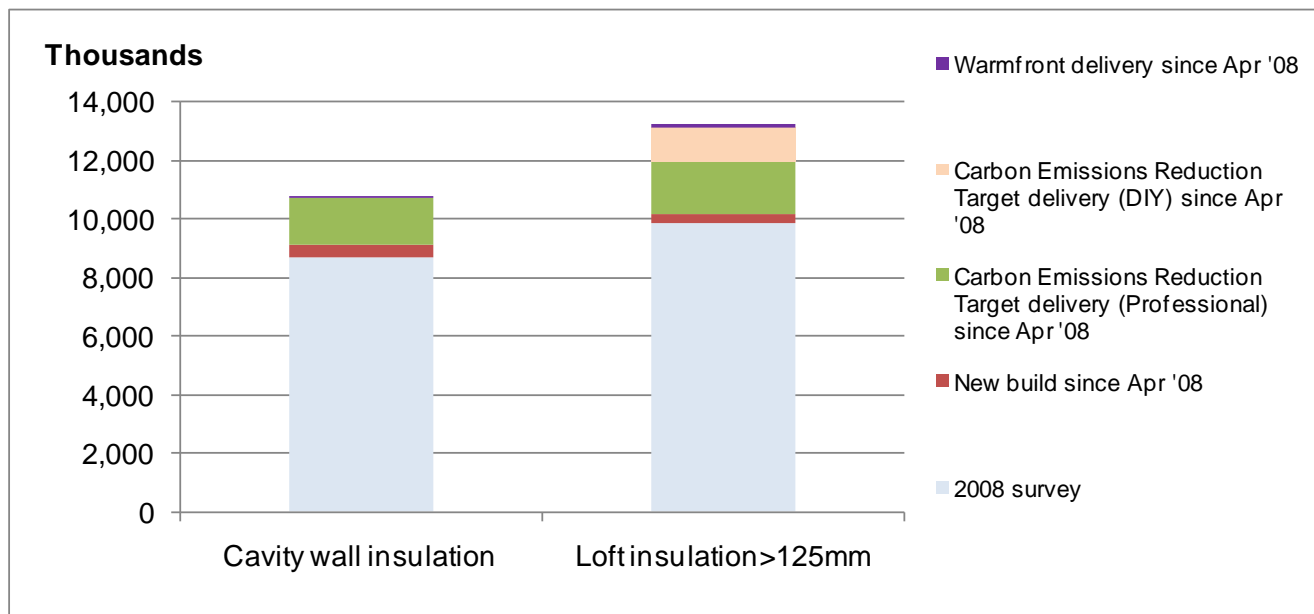
\*Cavities and solid walls cannot be insulated through DIY methods under the Carbon Emissions Reduction Target (CERT)

†Data included for Warmfront are up to March 2010 only

<sup>3</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 analysis it has been assumed that all new homes have cavity wall insulation.

<sup>4</sup> 2008 estimates for solid wall insulation are taken from EEC1 and EEC2 reported activity rather than a survey.

**Chart 2: Number of homes with cavity wall insulation and loft insulation: Great Britain, April 2011**



There are a number of factors that affect the amount of insulation delivered on a quarterly basis, including some seasonal variation and promotional offers run by insulation providers. Table 3 includes comparisons with both the previous quarter and the same quarter of the previous year.

**Table 3: Number of new CERT insulations during the last quarter January – March 2011 and comparative periods<sup>5</sup> (Thousands)**

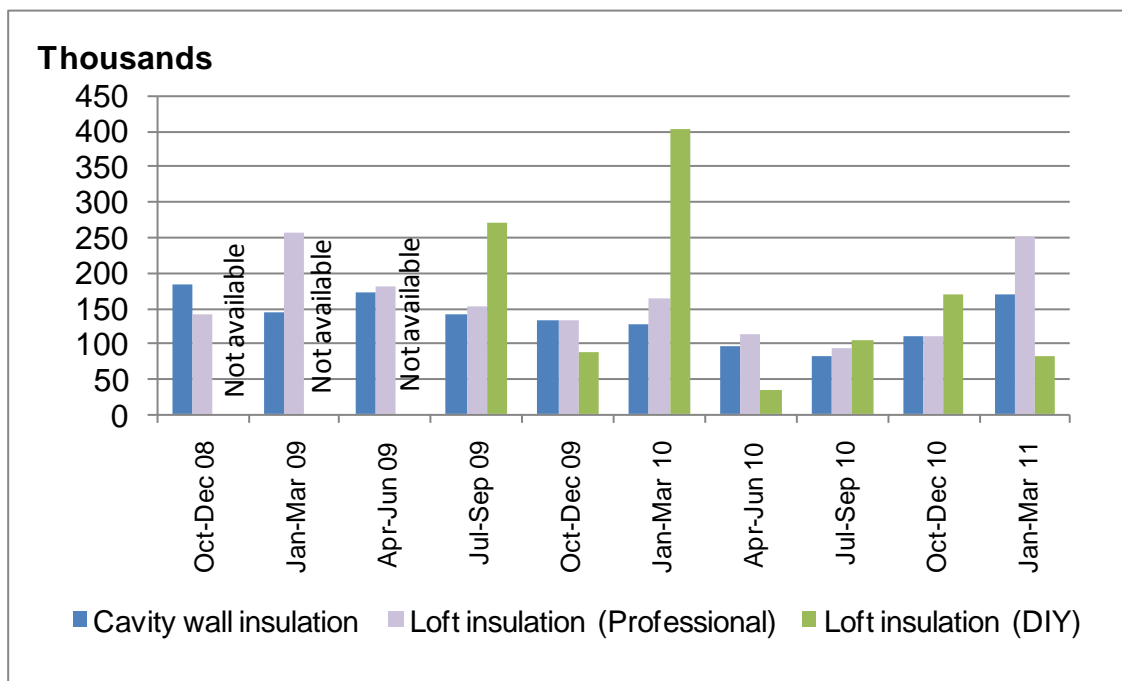
	<i>Same Quarter last year</i>	<i>Previous Quarter</i>	<i>Latest Quarter</i>
<b>Insulations</b>	<b>Jan-Mar 10</b>	<b>Oct-Dec 10</b>	<b>Jan-Mar 11</b>
Cavity wall insulation	128	112	170
Loft insulation (Professional)	165	112	251
Loft insulation (DIY)	403	171	83
Solid wall insulation	7	2	4

Source: Ofgem quarterly updates<sup>6</sup>

<sup>5</sup> To avoid double counting the number of insulated lofts, 10% of reported installations have been removed. This assumption is explained in the methodology note

<sup>6</sup> Available at <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Pages/CU.aspx>

**Chart 3: Number of installations of cavity wall insulation and loft insulation, excluding new dwellings by quarter**



Excluding new homes:

- The number of cavity wall insulations in the last quarter increased from 112,000 to 170,000, a rise of 52 per cent and is a third higher than the number installed in the same quarter last year.
- The number of professionally installed loft insulations in the last quarter more than doubled from 112,000 in the previous quarter to 251,000 and is 52 per cent higher than the number installed in the same quarter last year.
- The number of DIY loft insulations in the last quarter halved from 171,000 to 83,000 and is one fifth of the amount installed in the same quarter last year, although delivery between Jan-Mar 2010 was unusually high.
- The number of solid wall insulations in the last quarter was 4,000, twice the level of the previous quarter but 42 per cent lower the number installed in the same quarter last year.

When taking into account new properties built during the last quarter, there were 357,000 more homes with at least 125mm of loft insulation and 203,000 more homes with cavity wall insulation at the beginning of April 2011 compared with January 2011. It is assumed that no new homes are built with solid wall insulation.

## Solid Wall Insulation

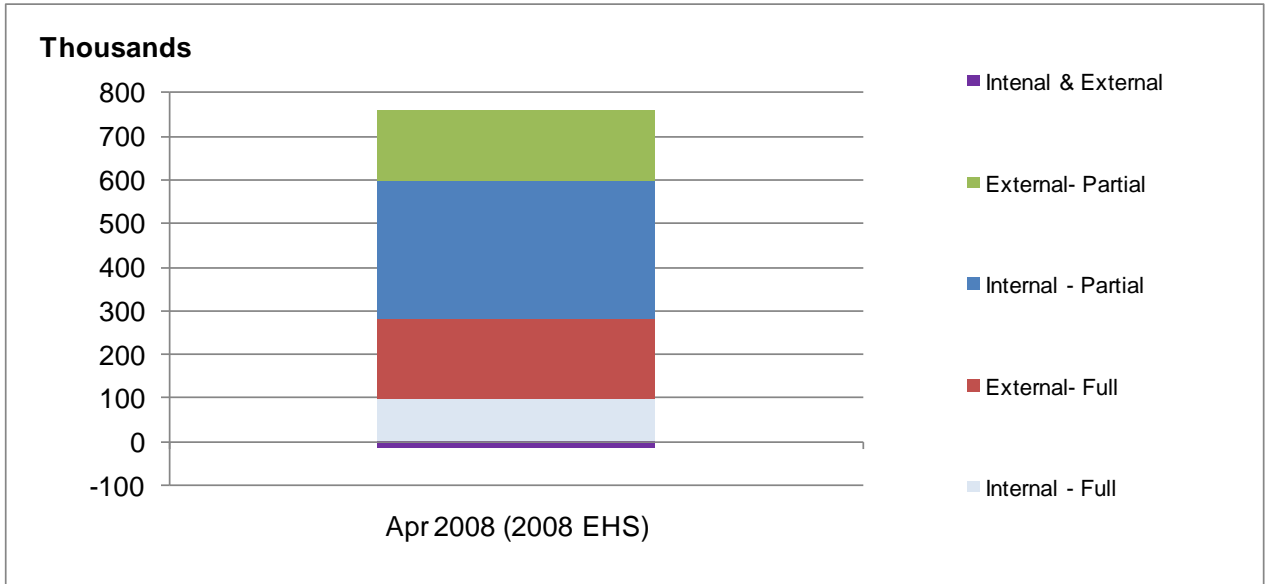
- An estimate of the number of homes with Solid Wall Insulation (SWI) is being reported for the first time by DECC in this Statistical Release. Establishing a definition of SWI has been complicated because there are a variety of materials that could be included. The purpose of this statistical series is to report homes with high standards of insulation. Recent installations of SWI use materials such as expanded polystyrene, mineral wool, or phenolic board and are likely to have been delivered through Government schemes, Energy Efficiency Commitment (EEC), Carbon Emissions Reduction Target (CERT) and Community Energy Savings Programme (CESP)<sup>7</sup>.
- The 2008 baseline for this series takes the 65 thousand installations of SWI delivered since 2002 through EEC1 and EEC2. To date a further 40 thousand homes have received SWI through CERT.
- Some older installations may not have reached modern standards of thermal performance<sup>8</sup> and are therefore reported separately.
- Solid wall insulation can be applied externally or internally, although there are good reasons why a few households have taken both types. Internal SWI has the advantage of not changing the external appearance of period properties, while external SWI leaves the floor area unchanged. External SWI finishes, either rendered or cladding, can be used to improve the exterior appearance of properties undergoing refurbishment.
- For a variety of reasons, households may have insulation applied to specific rooms (internal SWI) or certain walls only (internal or external SWI). The headline figures reported in this statistical release include all homes with at least one wall or room with SWI. Chart 4 shows the breakdown of solid wall insulation by type and coverage for the 2008 baseline in England. Figures are not available for the rest of Great Britain on a comparable basis.

---

<sup>7</sup> Data from the Community Energy Saving Programme (CESP) has not been included since it reports schemes at a community level not individual property measures.

<sup>8</sup> Current SWI installations should have a thermal transmittance (u-value) of 0.35 W/m<sup>2</sup>.K or less

**Chart 4: Number of Homes in England with Non-Cavity Wall Insulation: EHS 2008<sup>9, 10</sup>**



- In total it is estimated that just over 900 thousand homes in Great Britain had some form of non-cavity wall insulation by 2008.
- Some homes with solid wall insulation or other non-cavity wall insulation may have cavity walls. There are technical reasons why some unfilled cavity walls are hard to treat, which means that external insulation may be preferable. This should be considered when comparing with the number of remaining homes that could benefit from solid wall insulation.

<sup>9</sup> 15,000 homes are reported to have both internal and external non-cavity wall insulation. To avoid double counting of homes with both types of insulation these are presented in Chart 4 as negative.

<sup>10</sup> These figures will include the 65,000 homes with Solid Wall Insulation delivered through the Energy Efficiency Commitments.

## Indicators

- DECC set out in its Departmental Business Plan 2011-15<sup>11</sup> that this measure would be one of its key impact indicators. The total number of energy efficiency installations (cavity wall and loft insulation) in GB households are used by DECC to track progress on insulating homes.

## Technical appendix

- Many homes in Great Britain built have a small cavity between the inner and outer walls. These have been typical since the 1930s, but some older properties will have them. Cavity walls were initially designed to prevent penetration of water but insulating these will reduce heat loss from buildings. Since the late 1980s most homes have been built with pre-insulated cavity walls.
- Current building regulations for new homes require a roof to have a thermal transmittance (u-value) of at least 0.13 W/m<sup>2</sup>.K, which would typically be achieved with 300mm of loft insulation. 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.

## Experimental statistics

These figures are being released as Experimental Statistics while the methodology is developed and tested further. The accuracy of the estimates will be continue to be assessed against other data sources. These figures have been produced based on the need for timely estimates of insulation levels.

The figures are not classified as National Statistics but most of the components are National Statistics. Once the methodology has been tested fully these figures could be considered for assessment to be classified as National Statistics.

---

<sup>11</sup> <http://www.decc.gov.uk/assets/decc/About%20us/decc-business-plan-2011-2015.pdf>

## Comparisons with the latest housing surveys

Results are now available for 2009 from both the English Housing Survey (EHS), published in February 2011, and Scottish House Condition Survey (SHCS), published in November 2010. These represent an equivalent time point to April 2009.

These are both sample surveys and are subject to sampling error, which makes it difficult to accurately quantify year on year changes in the number of homes with insulation. Both surveys are wide ranging housing surveys and are not specifically designed to measure occurrences of specific housing features.

**Table 4: Comparison of changes between April 2008 and April 2009 as reported in insulation statistics and housing surveys<sup>12</sup> (Thousands)**

	<b>Change in survey</b>	<b>Reported insulation and new buildings</b>	<b>Difference</b>
<b>Loft insulation (&gt;=125mm)</b>	625	790	165
<b>Cavity wall insulation</b>	337	735	398

While these differences appear large, they are consistent with the magnitude of similar comparisons for previous years. The housing surveys are designed to monitor long term changes and the longer term comparisons have a higher level of consistency.

Given the level of uncertainty in EHS and SHCS estimates of homes with insulation the statistical series will continue to be based on 2008 estimates and updated administrative sources to provide a consistent time series. DECC will continue to monitor the consistency of these estimates.

---

<sup>12</sup> Housing surveys also include estimates for Wales based on the English Housing Survey

**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 5025

Further information on energy statistics is available at

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

**Next release**

It is intended that these figures will be updated on a quarterly basis. The next release, containing estimates for July 2011, is due to be published in September 2011.

**ISSUED BY:**

Department of Energy and Climate Change

3 Whitehall Place

London SW1A 2AW

The statistician responsible for this publication is Julian Prime.

**TELEPHONE:**

Press Enquiries: 0300 068 5219

General Enquiries: 0300 060 4000

Out of hours: 020 7215 3505