



Department for  
Business, Energy  
& Industrial Strategy

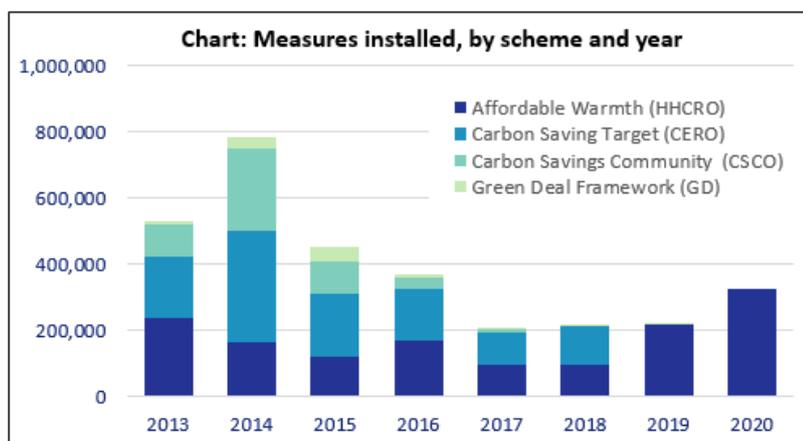


## Household Energy Efficiency detailed release: Great Britain Data to December 2020

18 March 2021

National Statistics

- Around 3.1 million measures have been installed in around 2.3 million properties through ECO and under the GD framework to the end of December 2020. Around 3.0 million of these installed measures (97 per cent) were delivered through ECO.
- During 2020, around 324,200 measures were installed through ECO - an increase of 47 per cent compared with 2019. Despite the impact of COVID-19 in Q2 2020, delivery rebounded strongly in the second half of the year.
- The provisional estimated lifetime carbon savings of measures installed under ECO (including Affordable Warmth), Cashback, GDHIF and GD Plans was up to 53.8 MtCO<sub>2</sub> by the end of December 2020, with provisional estimated lifetime energy savings up to 206,830 GWh. Of these totals, an estimated 3.4 MtCO<sub>2</sub> and 11,400 GWh are from measures installed in 2020.
- The ECO Affordable Warmth obligation has installed around 1,431,900 measures up to the end of December 2020. These measures are estimated to have delivered £15.4bn worth of notional lifetime bill savings, of which £2.2bn were delivered in 2020.
- At the end of 2020, 14.3 million properties had cavity wall insulation (70 per cent of properties with a cavity wall), 16.6 million had loft insulation (66 per cent of properties with a loft) and 772,000 had solid wall insulation (nine per cent of properties with solid walls).



### What you need to know about these statistics:

This annual report presents in-depth statistics on the Energy Company Obligation (ECO), the Green Deal (GD) and insulation levels in Great Britain (GB) and progress against the one million homes improved target, up to the target end date of April 2020. See the [Headline statistics release](#) and tables for the latest quarterly and monthly statistics.

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# Introduction

This annual report presents in-depth statistics on the Energy Company Obligation (ECO), the Green Deal (GD) and insulation levels in Great Britain (GB) up to the end of December 2020, plus progress against the one million homes improved target, up to the end date of April 2020. Additional analysis, charts and maps illustrate the delivery of the schemes and how the delivery pattern has changed over time. More recent analysis of ECO measures and GD Plans, are available in the [headline statistical releases](#). Both schemes cover Great Britain.

This annual report does not include energy efficiency measures installed under the Green Home Grant Vouchers (GHGV) scheme or the Local Authority Delivery Scheme (GHG LAD). These two schemes only cover England and separate statistics will be available for each scheme on the [Green Homes Grant Statistics](#) page.

## Section 1: Energy Efficiency Measures, Households and Carbon Savings

This commentary section provides detailed information on the overall number of energy efficiency measures delivered under central Government schemes, as well as reporting progress against the one million homes improved target. It also reports estimates of the carbon savings achieved through these installed measures.

In the [data tables](#) accompanying this publication, Tables 1.1 - 1.4 show the combined number of measures across all schemes, the total number of households reached by these schemes, progress towards the 1m homes target, and estimated carbon and energy savings.

### Energy Company Obligation (ECO) and Green Deal Schemes

The Energy Company Obligation (ECO) and Green Deal (GD) are Government energy efficiency schemes which began operating in 2013. They replaced the previous schemes: Carbon Emissions Reduction Target, Community Energy Saving Programme and Warm Front. Their aim is to improve the efficiency of Great Britain's homes by encouraging the uptake of energy efficiency measures, leading to impacts such as reduced consumer bills and increased comfort in the home.

Between January 2013 and December 2020, energy efficiency measures were installed in:

- 2,201,215 properties under the Energy Company Obligation (ECO);
- 13,830 properties using a GD Finance Plan;
- 35,347 properties using the Green Deal Home Improvement Fund (GDHIF) – *closed 2016*;
- 15,564 properties using GD Communities funding - *closed 2016*; and
- 14,743 properties following the redemption of Cashback vouchers - *closed 2014*.

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There is a small amount of double counting between these mechanisms (around 24,600 households) i.e. measures not installed in unique properties (Table 1.2).

Progress in other household energy efficiency schemes, including Renewable Heat Incentive, Feed in Tariff and Smart Metering, are reported in Annex C.

In July 2020, the government announced the Green Home Grant scheme to fund household energy efficiency improvements in England, through vouchers and a Local Authority Delivery scheme. Statistics on these two schemes will be release separately to this release.

## Estimated carbon and energy savings for measures installed

This section estimates savings derived from measures installed through ECO and GD.

### Estimated carbon and energy savings relating to measures installed (Table 1.4)

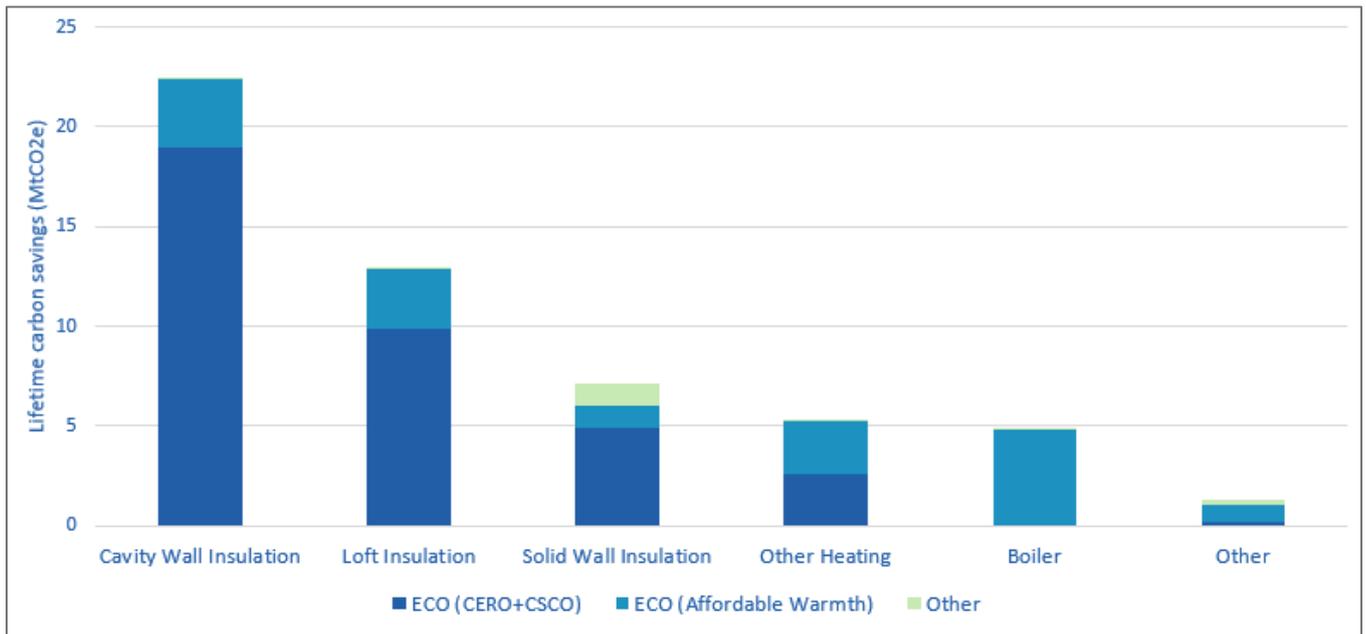
Since October 2018, ECO is only delivered under the Affordable Warmth obligation. This obligation was historically excluded from carbon and energy savings analysis, as it was defined in terms of lifetime bill savings, whereas the other ECO obligations were defined in terms of lifetime carbon savings. However, to continue reporting ECO carbon and energy savings, BEIS reviewed the process and identified a new method to estimate the carbon and energy savings of the Affordable Warmth obligation. The method uses the lifetime bill savings, along with the historical carbon and energy savings of CERO and CSCO. The October 2019 statistical release contained the first publication of these savings. Additional details are in the [Methodology Note](#).

The provisional estimated lifetime carbon savings of measures installed under ECO (including Affordable Warmth), Cashback, GDHIF and GD Plans was up to 53.8 MtCO<sub>2</sub> by the end of December 2020, with provisional estimated lifetime energy savings up to 206,830 GWh (Table 1.4). From this total figure, if ECO Affordable Warmth is excluded, the savings are up to 38.0 MtCO<sub>2</sub> and 150,600 GWh of lifetime savings. An estimated 3.4 MtCO<sub>2</sub> and 11,400 GWh are from measures installed in 2020.

Overall, 97 per cent of these lifetime carbon savings have been achieved through ECO, with the remaining 3 per cent from Green Deal schemes. Within Green Deal, 89 per cent of its lifetime savings are from solid wall insulation, which equates to 17 per cent of overall lifetime carbon savings for solid wall insulation.

Up to the end of December 2020, Affordable Warmth has delivered 48 per cent of all ECO measures but only delivered 30 per cent of the estimated lifetime carbon savings from ECO. This is due to the high share of boiler and heating measures delivered under the Affordable Warmth obligation, which produce a lower amount of lifetime carbon savings compared to insulation measures because of their shorter lifetime of around 12 years (Chart A, T1.4). Similarly, 11 per cent of all ECO measures were delivered in 2020, but which only accounted for six per cent of ECO estimated lifetime carbon savings. This is also due to the higher share of boiler and heating measures in 2020.

**Chart A: Estimated lifetime carbon savings – All schemes, up to end 2020**



## Section 2: The Energy Company Obligation

This section provides detailed information on different elements of ECO, including geographical breakdowns, ECO brokerage and ECO costs.

In the [data tables](#) accompanying this publication:

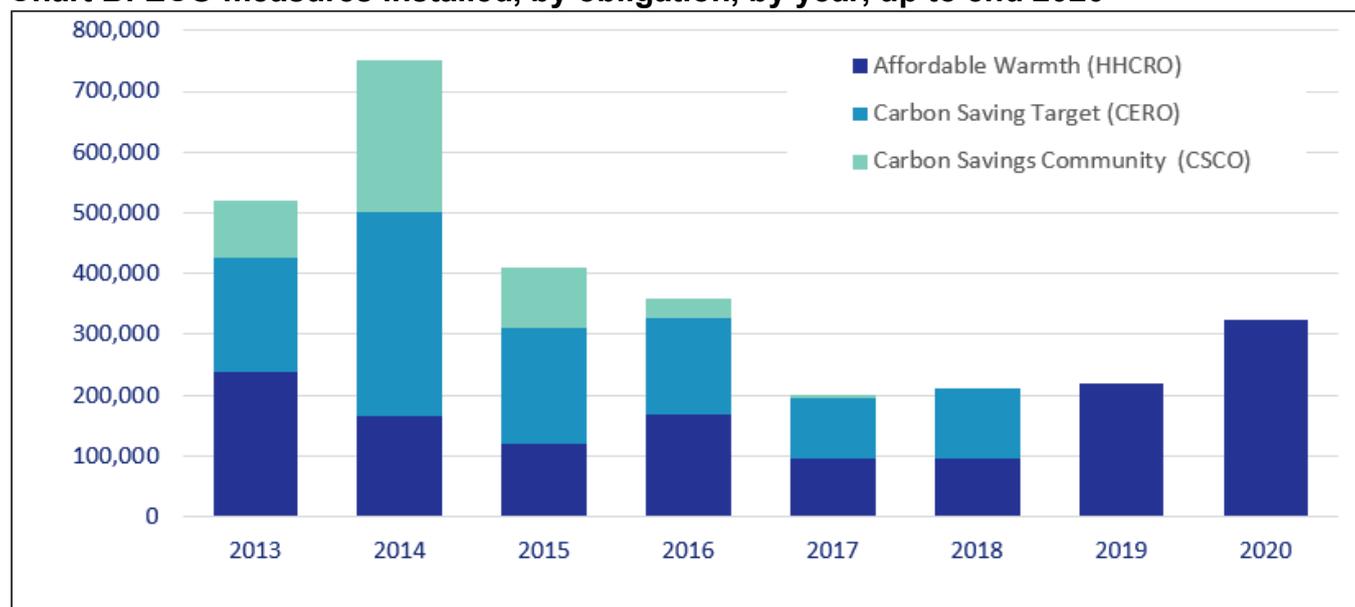
- Tables 2.1 - 2.8 show the detailed tables for each phase of ECO,
- Tables 3.1 - 3.9 present all ECO measures plus geographic analysis,
- Tables 4.1 - 4.5 present the number of households receiving ECO measures,
- Tables 5.1 - 5.5 present the measures traded through brokerage, and
- Tables 6.1 - 6.6 show the reported costs of the scheme.

### Measures installed under ECO

#### Headlines for ECO delivery

There were 2,997,741 measures installed under ECO up to the end of 2020, with 324,169 measures installed in 2020 around 47 per cent higher than the 220,615 measures installed in 2019. This increase in delivery in 2020 was despite the impact of COVID-19 and associated restrictions, with delivery continuing in accordance to guidance issued by Ofgem<sup>1</sup>. The number of measures delivered each year fell between 2014 and 2017, due to the size of the obligation being reduced over different phases of the scheme, but delivery has increased again in the last three years (Table 3.1). Despite the COVID-19 lockdown, ECO delivery in 2020 increased significantly on the previous year and was the highest level of ECO3, and the highest delivery on ECO since 2016 (Chart B). The overall size of the ECO obligation has been set at an assumed £640 million per year since the start of ECO Help-to-Heat in April 2017 rising in real terms – this is smaller than for earlier phases of ECO.

**Chart B: ECO measures installed, by obligation, by year, up to end 2020**



<sup>1</sup> Ofgem guidance: <https://www.ofgem.gov.uk/coronavirus-covid-19/coronavirus-covid-19-and-government-environmental-programmes> and <https://www.ofgem.gov.uk/publications-and-updates/eco-amidst-covid-19>

ECO3 went live on 3 December 2018 but measures were installed from October 2018. It is common for delivery rates to be slow at the start of new phases because it takes time for suppliers to transition to the new scheme. In 2020, 324,169 measures were delivered, accounting for 58 per cent of all measures installed under ECO3. In comparison, 220,615 measures were installed in 2019, accounting for 39 per cent of all ECO3 measures. The significant increase in 2020 measure delivery occurred despite the effect of the COVID-19 pandemic and the associated lockdown and restrictions. Throughout 2020, Ofgem issued updated guidance and advice to ensure measure installations were COVID-19 safe.

At the start of 2020, installers had to be Trustmark registered and meet new PAS standards, leading to initial lower measure installation levels in January 2020. Through late March, April and May 2020, measure delivery levels decreased significantly, as a result of a national lockdown and social distancing restrictions in response to COVID-19. However, following the easing of full lockdown restrictions, measure delivery increased, with each month from August to December having over 30,000 measures installed. (Chart 9, Table 2.5). In November 2020, 40,565 measures were installed, which was the highest monthly delivery level of ECO3 and the highest monthly level since March 2016. In the second half of 2020, 64 per cent of all measures installed in 2020 were delivered.

### Estimated lifetime bill savings for Affordable Warmth measures installed (Table 2.1)

There were 1,431,892 Affordable Warmth measures installed under ECO up to the end of 2020, with 324,169 measures installed in 2020. Since October 2018, the whole of ECO3 is now delivered under the Affordable Warmth Obligation, with the measures from this phase accounting for 39 per cent of all measures installed through this obligation.

Affordable Warmth is estimated to have delivered measures worth around £15.4bn of notional lifetime bill savings as of December 2020,<sup>2</sup> of which £2.2bn were delivered in 2020.

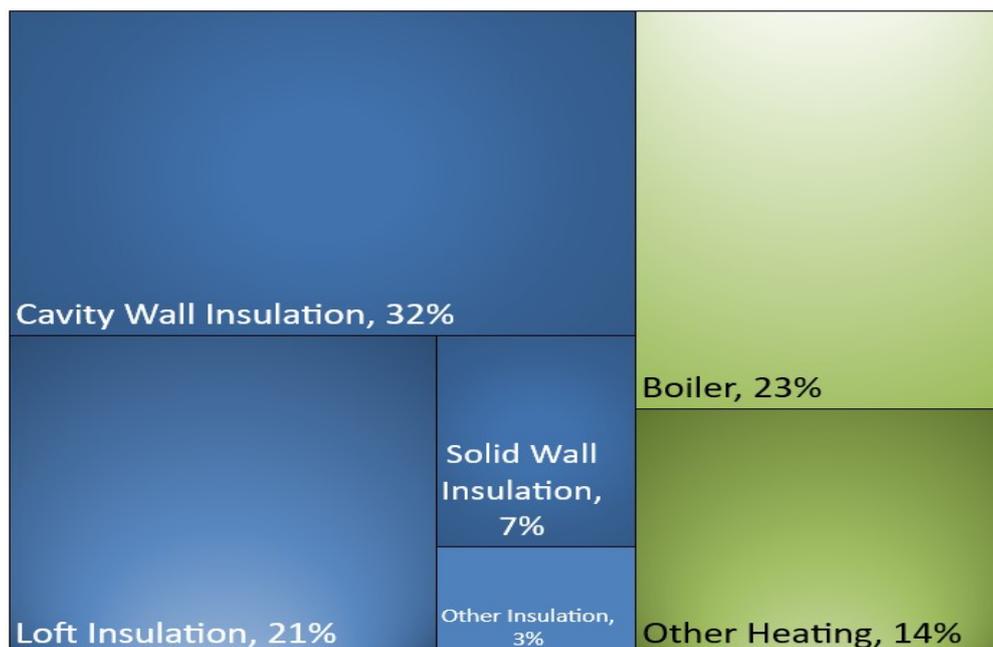
### Type of measures installed under ECO (Table 3.1)

Over the ECO scheme as a whole, 63 per cent of measures have been insulation measures, including cavity wall insulation (32 per cent), loft insulation (21 per cent), solid wall insulation (seven per cent) and 'other insulation' (three per cent). The remainder are mostly heating measures, with 23 per cent consisting of boiler measures and a further 14 per cent 'other heating' measures. Infographic 2 illustrates the share of all ECO measures by type.

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<sup>2</sup> Each Affordable Warmth measures is given an assumed lifetime bill saving based on the type of measure and the house in which it is installed. For ECO3 and Help-To-Heat, this is based on 'Deemed scores' and previously assumed saving using the Standard Assessment Procedure (SAP) methodology.

**Infographic 2: ECO measures by measure type, up to end December 2020.**

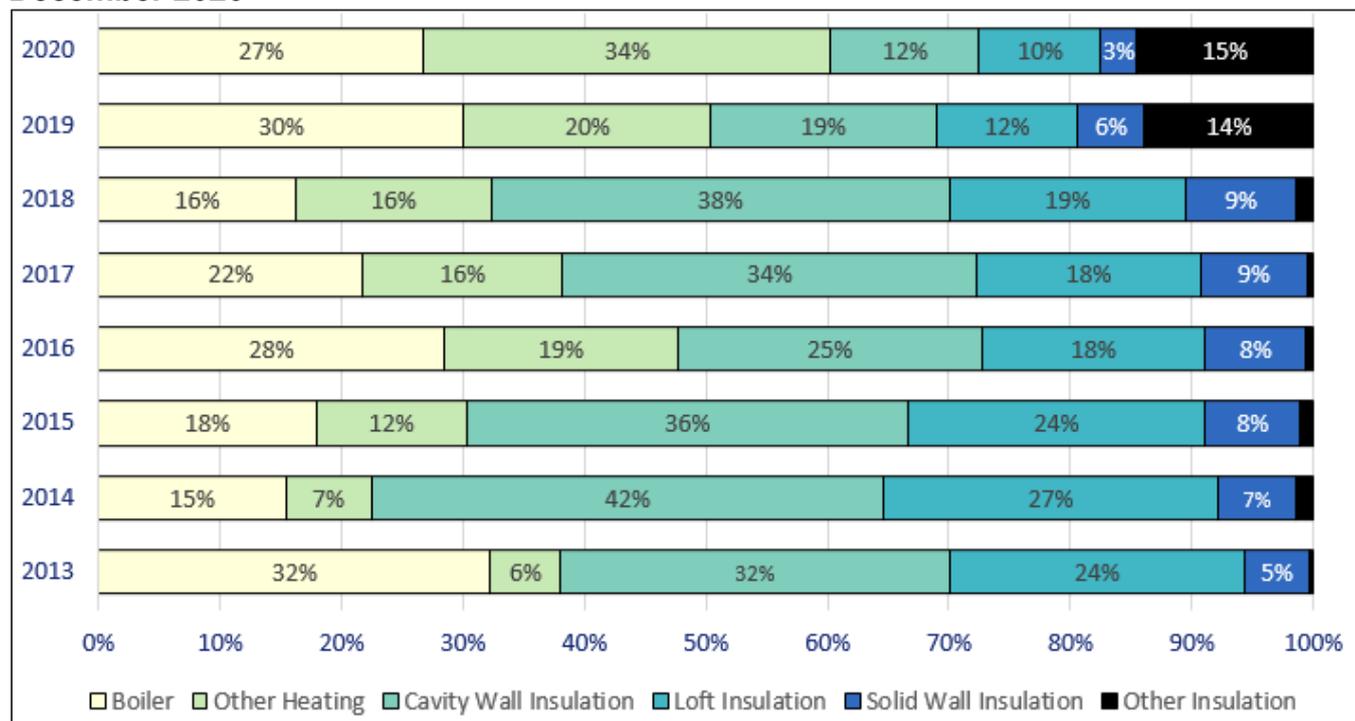


**3.00 million ECO measures installed in Great Britain**  
 Insulation 63% Heating 37%

The share of each type of measure has varied over time due to the policy design of different phases of ECO, see Chart C.

Over the year to December 2020, 27 per cent of measures have been boiler measures and 34 per cent have been ‘other heating’ measures. In 2020, the share of heating measures was 61 per cent, compared to 50 per cent in 2019 and 37 per cent across the whole of ECO. The reason for this shift is that ECO3 focuses exclusively on Affordable Warmth, which is the only obligation to allow boiler measures. However, it must be noted that over all ECO phases combined, 74 per cent of Affordable Warmth measures have been heating measures, so the current levels of ECO3 heating measures are comparably low within this obligation.

The 2020 share of ‘other heating’ measures (37 per cent) was 14 per cent higher than in 2019, reflecting the increase in heating control installations in 2020. As heating controls (both smart and conventional) currently make up 90 per cent of ‘other heating’, they have a disproportionate effect on the percentage share of the ‘other heating’ category (Table 2.8). For comparison, around 44,500 ‘other heating’ measures were installed in 2019, compared to around 108,200 in 2020, which represents a 143 per cent year on year increase.

**Chart C: Share of all ECO measures installed, by measure type, by year, up to end December 2020**Geographic location of measures installed under ECO (Tables 3.3-3.7)

Tables 3.3-3.6 present the number of measures installed under ECO, broken down by obligation, in each region (Table 3.3), Local Authority (Table 3.4) and Parliamentary Constituency (Table 3.6) up to the end of December 2020. Around one fifth (18 per cent) of ECO measures were installed in the North West (548,451), the highest in any region. Twelve per cent of ECO measures were installed in Scotland (367,400) and five per cent were installed in Wales (159,537).

Table 3.5 reports the measures installed through Flexible Eligibility<sup>3</sup> for Local Authorities who have been active in this aspect of the scheme. Up to the end of December 2020, 325 Local Authorities have participated in this aspect of the scheme, an increase of 12 per cent since the end of December 2019. Up to December 2020, 193 local authorities had seen 50 or more measures installed through Flexible Eligibility, 54 of these had over 500 measures installed. The South West and East Midlands regions had the highest share amongst regions in England, each having around 15 per cent of all flex measures installed in Great Britain. The largest number of Flexible Eligibility measures installed in Great Britain was in Scotland with 21,717 measures, equivalent to 19 per cent of measures. In Wales, 14,794 Flexible Eligibility were installed, equivalent to 13 per cent of Flexible Eligibility in Great Britain. (Table 3.5).

Table 3.7 presents the number of measures installed under ECO by measure type and region. Fifty-seven per cent of solid wall insulation was installed in England, 35 per cent in Scotland and nine per cent in Wales. Thirty-eight per cent of all window glazing installed under ECO was in London. Around one fifth (18 per cent) of all cavity wall insulation up to the end of December 2020 was installed in the North West, which also had the highest proportion of boiler

<sup>3</sup> Since April 2017, Local Authorities can determine eligible homes under the new 'flexible eligibility' mechanism. Suppliers can use this voluntarily for up to 25 per cent of their ECO3 obligation and up to 10 per cent of their Affordable Warmth obligation under ECO Help-to-heat.

installations (22 per cent). The North of England (North East, North West and Yorkshire & The Humber) account for 45 per cent of all boilers installed under ECO.

### Geographic location of households receiving ECO measures (Tables 4.1, 4.4 & 4.5 and Map 1 and Map1a)

When comparing areas, it is more representative to use the number of households in receipt of ECO measures per 1,000 households. In Great Britain, on average, there were around 83 households in receipt of ECO measures per 1,000 households or, in other words, around eight per cent of all households in Great Britain had a measure installed through the ECO scheme.

Three regions in England had a rate of over 100 households in receipt of ECO measures per 1,000 households: the North West (123), North East (109) and West Midlands (106). There were also around 120 per 1,000 households in Scotland and 84 per 1,000 households in Wales. Na h-Eileanan Siar<sup>4</sup> in Scotland had the highest proportion of households with ECO measures of any Local Authority (LA) in Great Britain, with 264 per 1,000.

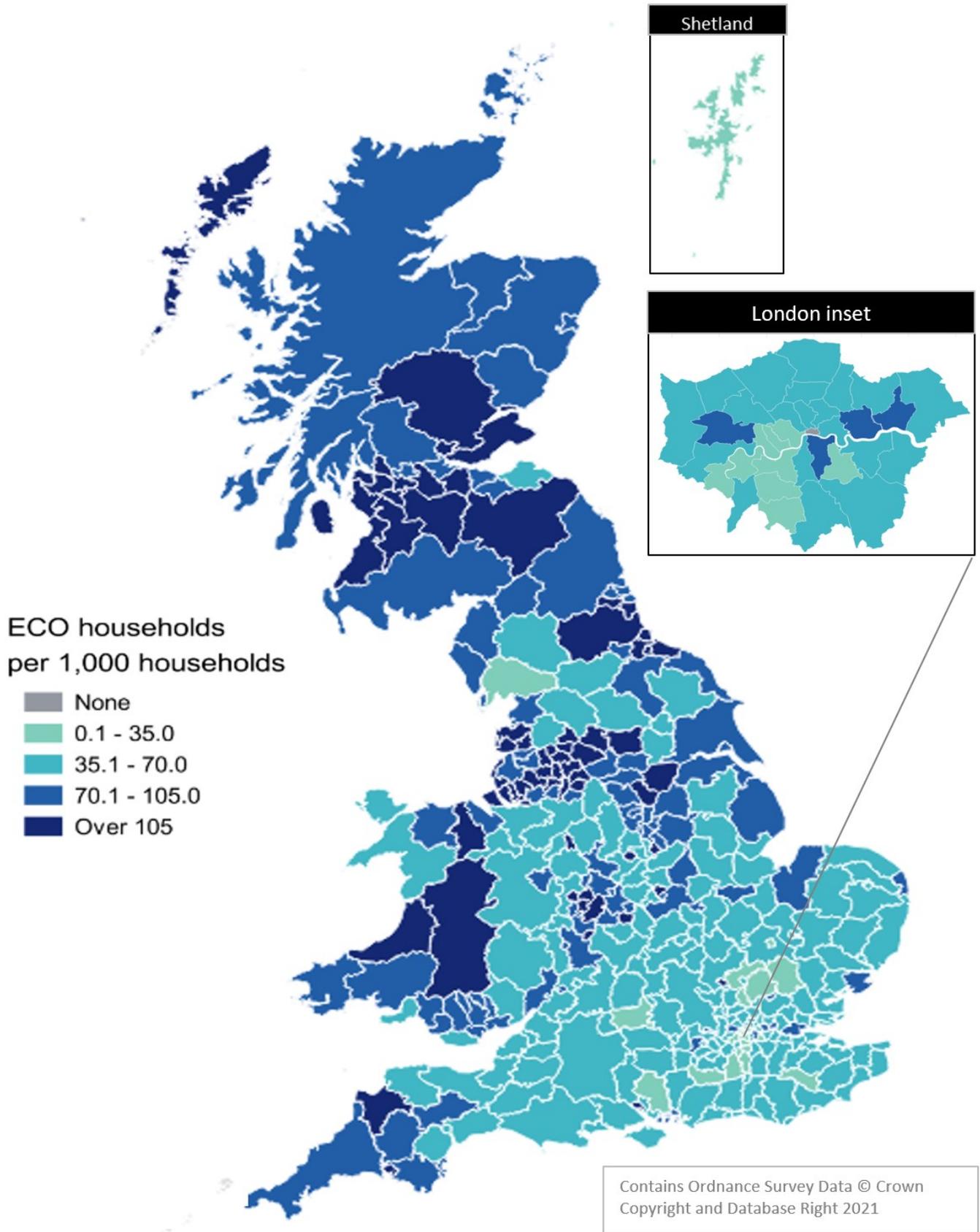
An interactive map for indicators of domestic energy efficiency is available with data up to December 2020, which includes the percentage of households receiving ECO measures down to Lower Layer Super Output Area: [www.domesticenergymap.uk](http://www.domesticenergymap.uk). The map also shows the number of loft and wall insulation measures installed in each area.

Map 1 shows the number of households in receipt of ECO measures by Local Authority per 1,000 households (Table 4.4). This illustrates the concentration of households in receipt of ECO measures in the North West, North East and West Midlands in England, as well as parts of Wales and the Central Belt in Scotland.

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<sup>4</sup> Na h-Eileanan Siar was formerly known as the Western Isles, then Eilean Siar and then Comhairle nan Eilean Siar.

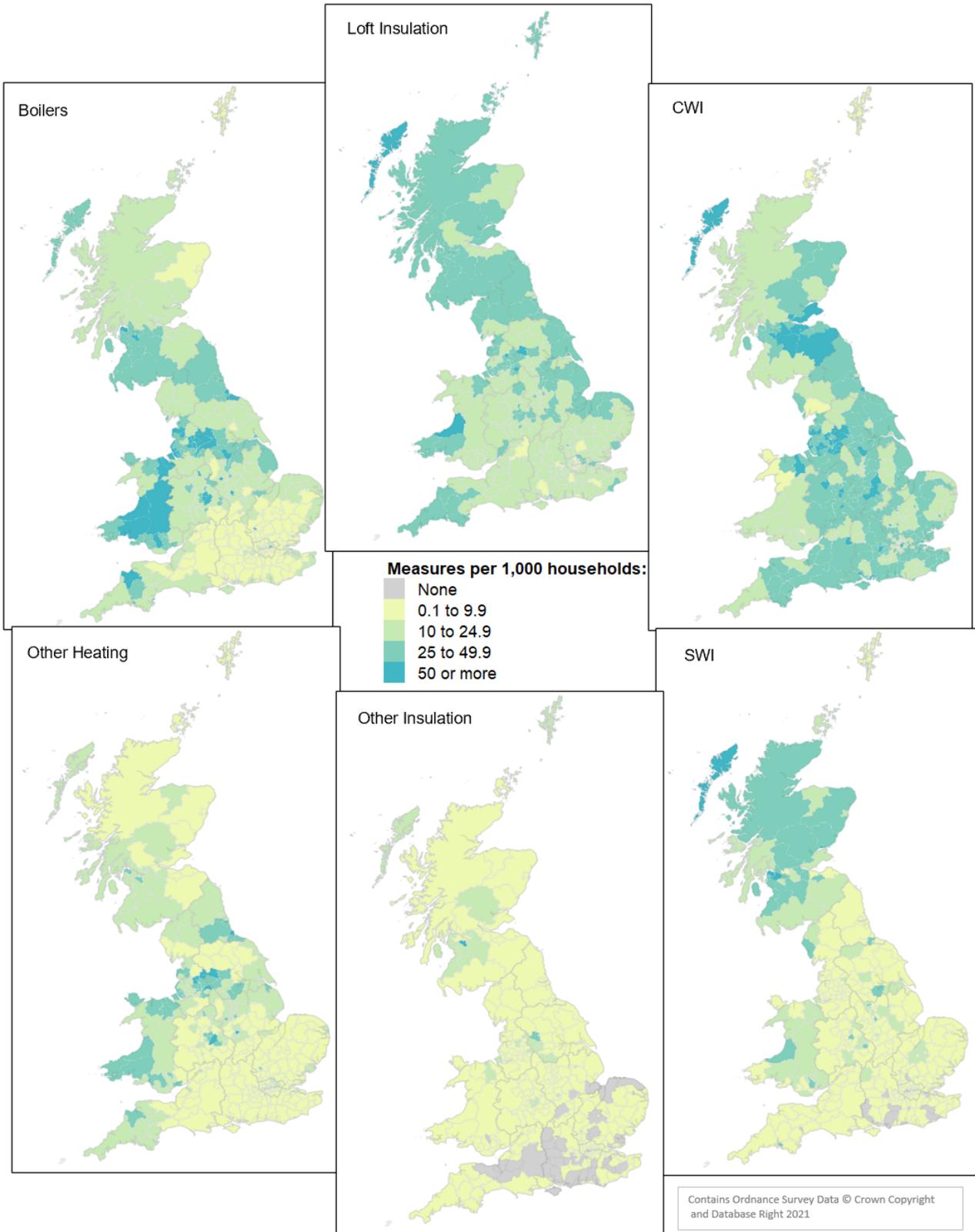
**Map 1: Households in receipt of ECO measures by Local Authority per 1,000 households up to end December 2020**



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Map 1a shows where different measure types have been installed. For the four insulation measure types, loft insulation and cavity wall insulation (CWI) have been installed across the country, solid wall insulation (SWI) has seen greater concentrations in Scotland and Wales, and 'Other Insulation' numbers are generally currently low across the country. Boiler and 'Other Heating' installation has been greater away from the south east of England.

**Map 1a ECO Measures per 1,000 household, by measure type and Local Authority, up to end December 2020**



### Rurality of measures installed under ECO (Tables 3.8-3.9)

Tables 3.8 and 3.9 provide a breakdown of measures installed under ECO into rural and urban areas, by country, obligation and region. Across the whole of Great Britain, around 14 per cent of measures were installed in “rural” areas.<sup>5</sup> This varies across the country, with 35 per cent of measures in Wales installed in rural areas compared to 15 per cent in Scotland and 14 per cent in England.

The rural sub-obligation was initially part of CSCO until March 2017, then CERO (April 2017 – September 2018) and Affordable Warmth since October 2018. Table 3.8 shows the number of measures installed under the rural sub-obligation across these phases.

### Further breakdowns of measures installed under ECO (Tables 3.2, 4.2 & 4.3)

These tables present further analysis of measures installed under ECO up to end December 2020.

Table 3.2 shows that 84 per cent of all ECO measures were installed in properties that used gas as their main fuel type (around 2,525,000 measures), broadly similar to the share of gas heated homes in Great Britain. The share of gas heated homes receiving ECO measures has varied over time, decreasing from 97 per cent in the first quarter of ECO to 59 per cent in the last quarter of ECO Help-to-Heat (Q3 2018) before rising to 82 per cent in Q4 2020 (Chart 3, Table 3.2).

Table 4.2 shows that around three quarters (72 per cent) of all properties with ECO measures were houses, 18 per cent were flats and the remainder were bungalows, maisonettes and park homes. However, this varies by obligation, with a greater proportion of properties with measures installed under the Carbon Saving Target and Carbon Saving Communities obligations being flats (23 to 20 per cent), compared with properties with measures installed under Affordable Warmth (11 per cent). This figure is lower because social housing was not eligible for Affordable Warmth prior to ECO Help-to-Heat. However, over the last two years (2019 and 2020), where social housing was eligible for Affordable Warmth, over 20 per cent of households receiving ECO measures were flats.

Table 4.3 shows that around 70 per cent of homes receiving ECO measures are in the owner-occupied sector (compared with 63 per cent of homes in Great Britain in that sector<sup>6</sup>), 16 per cent in the social rented sector (17 per cent of stock) and 14 per cent in the private rented sector (19 per cent of stock). Over the last year, 16 per cent of additional homes receiving ECO measures were in the social rented sector, reflecting the policy change in April 2017 when social housing became eligible for Affordable Warmth measures.

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<sup>5</sup> Includes the groups, rural town and fringe, rural town and fringe in a sparse setting, rural village, rural village in a sparse setting, rural hamlet and isolated dwellings, rural hamlet and isolated dwellings in a sparse setting, or in Scotland Accessible Rural, remote rural, and very remote rural. This summary is not based on the rural sub-obligation.

<sup>6</sup> Based on figures for Great Britain in 2017 from MHCLG Live table 102:

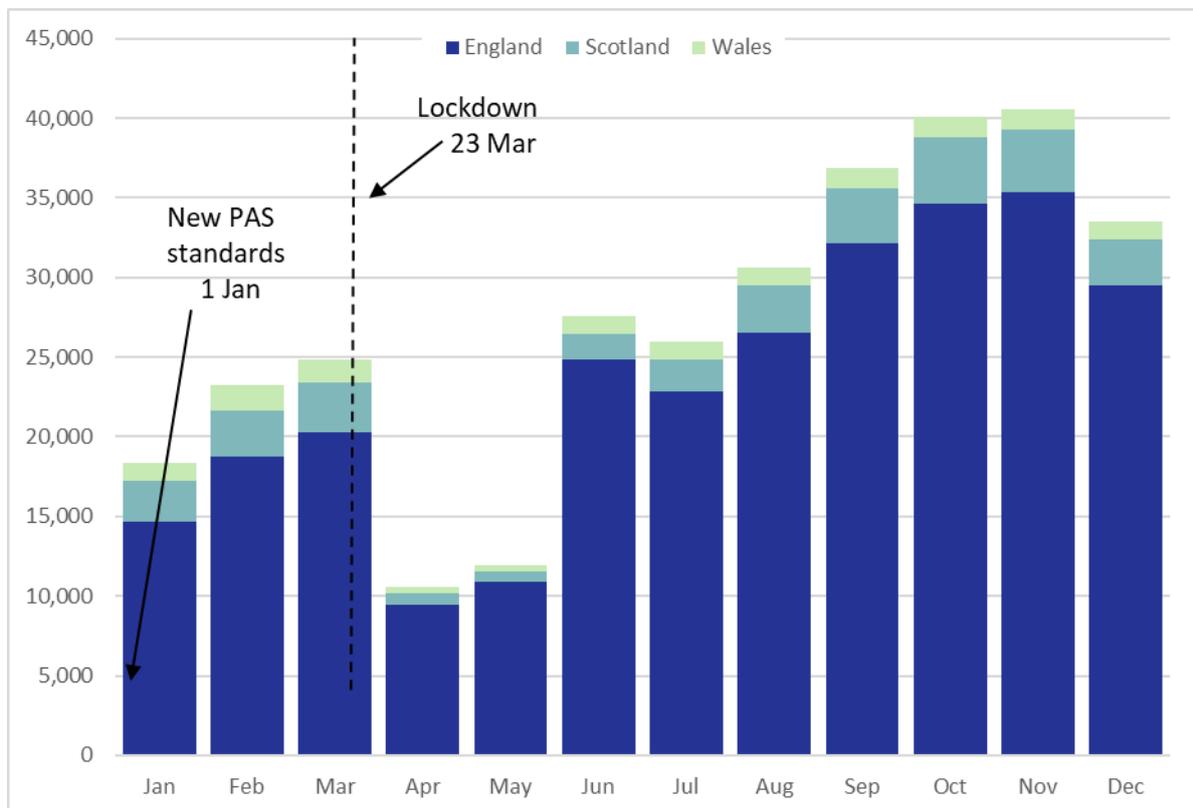
<https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants>.

## ECO Delivery and Covid-19 Impacts

The delivery of ECO in 2020 was affected by the COVID-19 pandemic, as a result of the lockdown and social distancing rules put in place. In response to the various national and regional lockdowns, Ofgem issued guidance to energy companies on how to proceed with the scheme<sup>7</sup>.

With the introduction of a UK-wide lockdown on 23<sup>rd</sup> March 2020, ECO measure installations decreased in subsequent months, with delivery in April down 57 per cent on March. In a year-on-year comparison, in April 2020 measure delivery decreased by 22 per cent relative to April 2019. Throughout April and May, ECO installation levels remained significantly below the monthly average. Following the easing of restrictions, levels gradually increased through June to November, except for a slight decrease in July. In October and November, installation levels were at record high levels for ECO3, and the total measures installed in both months were the highest since March 2016, despite the effects of the COVID-19 pandemic. The monthly trends for 2020 by country are illustrated in Chart D, demonstrating the initial impact of lockdown on installations and access to properties, followed by high delivery levels in the second half of the year.

**Chart D: ECO measures installed by month and country, January to December 2020**

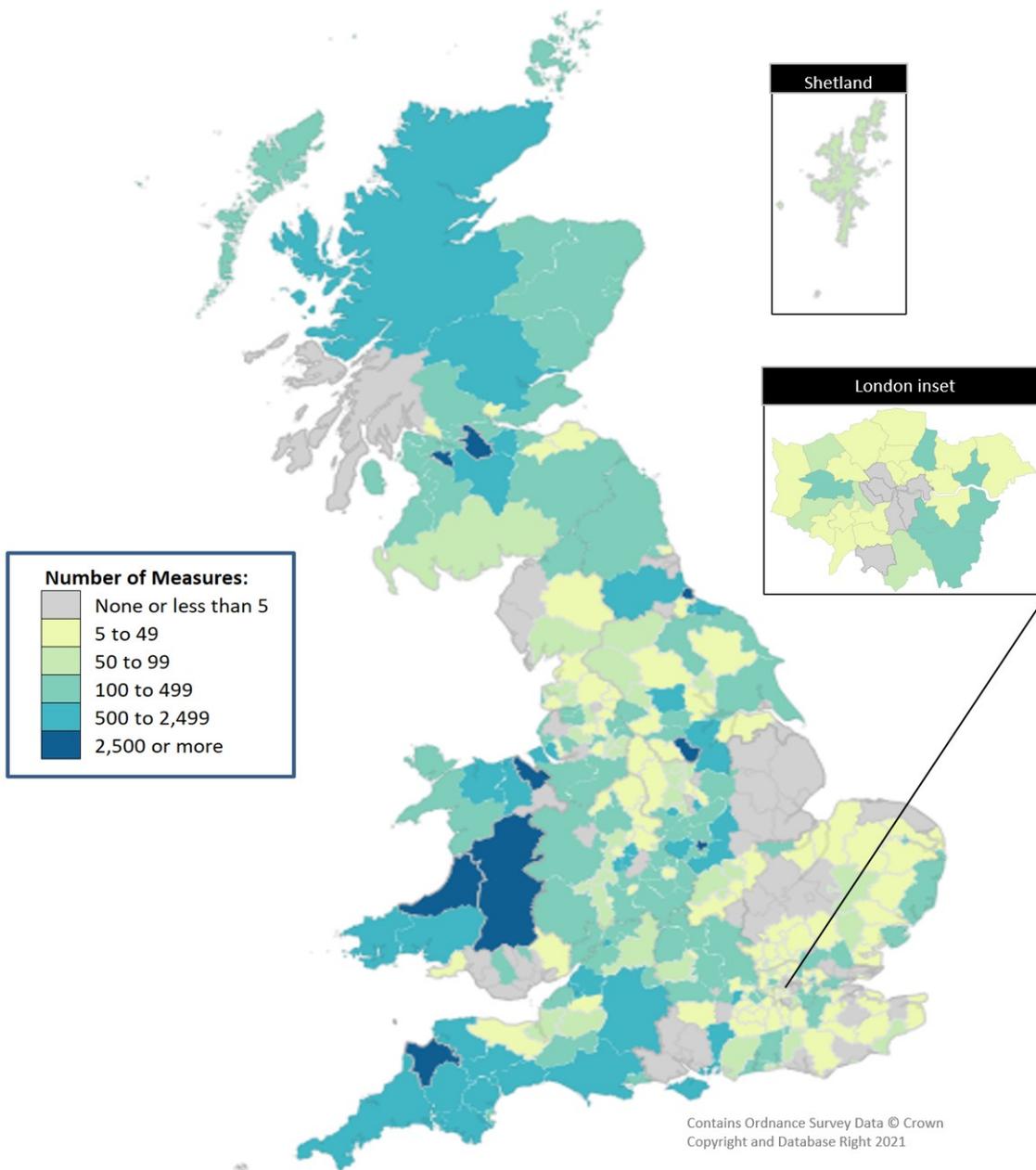


<sup>7</sup> This guidance is available from Ofgem here: <https://www.ofgem.gov.uk/coronavirus-covid-19/coronavirus-covid-19-and-government-environmental-programmes> and <https://www.ofgem.gov.uk/publications-and-updates/eco-amidst-covid-19>

## LA Flexible eligibility

Local Authorities can determine whether a home is eligible for an Affordable Warmth measure under the 'Flexible Eligibility' mechanism, which is permitted to deliver up to 25 per cent of the ECO3 obligation.

**Map 2: ECO measures installed through Flexible Eligibility, by Local Authority (April 2017 - December 2020)**



Local Authorities are shown only if they have at least 5 flexible eligibility measures. In total, 325 Local Authorities had at least 1 flex measure up to December 2020.

Up to December 2020, 193 local authorities had seen 50 or more measures installed through Flexible Eligibility, 54 of which had over 500 measures installed. Scotland had the highest number of flex measures installed of any region, with around 19 per cent of the flex measures in Great Britain, whereas Wales had 13 per cent. The South West and East Midlands regions

had the highest share amongst regions in England, each having around 15 per cent of all flex measures installed in Great Britain (Table 3.5).

Since the introduction of Flexible Eligibility, 117,226 measures have been delivered through this aspect of the scheme up to the end of December 2020 (Tables 2.7 & 2.8). Under ECO3 (since October 2018), up to 25 per cent of the obligation can be delivered through Flex, with around 20 per cent of this obligation delivered through Flex up to the end of December 2020 (Table 2.2).

The table below shows the urban/rural split where Flex measures have been installed.<sup>8</sup> During ECO Help-to-Heat, when Flex was first introduced, around 53 per cent of Flex measures were in rural areas and 93 per cent of flex measures in Wales went to homes in rural areas. This reflects that rural Local Authorities were more likely to be early adopters of the scheme, with homes off the gas grid more likely to be assessed as fuel poor. Up to December 2020, ECO3 has seen just 20 per cent of Flex installations in rural areas.

To date, 86 per cent of Flex measures have been delivered through ECO3, where a higher share of flex measures can be delivered relative to ECO Help-to-Heat.

**Table A: Flex measures by Urban/Rural split and by country, up to December 2020**

					Percentage	
		Urban	Rural	Total	Urban	Rural
<b>ECO Help-to-Heat</b>	England	6,000	4,000	10,000	60%	40%
	Scotland	1,200	300	1,500	80%	20%
	Wales	300	4,000	4,300	7%	93%
	<b>Total</b>	<b>7,500</b>	<b>8,300</b>	<b>15,800</b>	<b>47%</b>	<b>53%</b>
<b>ECO3</b>	England	59,100	11,600	70,700	84%	16%
	Scotland	16,800	3,300	20,200	83%	16%
	Wales	4,900	5,600	10,500	47%	53%
	<b>Total</b>	<b>80,800</b>	<b>20,500</b>	<b>101,300</b>	<b>80%</b>	<b>20%</b>

## Innovation measures

Under ECO3, energy suppliers are able to deliver up to 10% of their obligation through the installation of innovation measures to eligible households. There are two innovation routes under the scheme:

Demonstration actions – measures that have previously been tested in a laboratory setting and now require testing at scale in a live environment or are marketable products that are being sold in the market and may need additional support.

Innovation measures – a measure that is different from those previously delivered under supplier energy efficiency obligations by having, for example, an improved material that

<sup>8</sup> Measures are assigned as urban/rural based on postcode and using the '2011 Census Rural -Urban Classification' from the National Statistics Postcode Lookup (NSPL). NSPL user-guide: [https://geoportal.statistics.gov.uk/search?collection=Document&sort=-modified&tags=DOC\\_NSPL\\_UG](https://geoportal.statistics.gov.uk/search?collection=Document&sort=-modified&tags=DOC_NSPL_UG).

can demonstrate improved energy efficiency performance, or an improved installation technique.<sup>9</sup>

All measures have to be approved by Ofgem's Technical Advisory Panel. Suppliers will receive an uplift of 25 per cent to the lifetime bill savings deemed score for installing innovation measures.<sup>10</sup>

The first innovation measures were approved in March 2019 and installed from August 2019. Up to the end of December 2020, 2,108 innovation measures have been installed, including 70 Demonstration Action measures. Up to the end of December 2020, eleven different innovation measures had been approved by the Ofgem Technical Advisory Panel.<sup>11</sup>

## ECO Brokerage

The [ECO Brokerage](#) system operates as a fortnightly anonymous auction, where providers can sell 'lots' of future measures of their ECO Obligation to other energy companies in return for an ECO subsidy (Tables 5.1 - 5.5). From 19<sup>th</sup> February 2021, auctions will take place monthly.

Up to December 2020, 214,377 ECO measures have been traded through brokerage (7.2 per cent of all measures), with a total of £485.3m traded. The share of measures traded through brokerage has fallen over time, with just 0.1 per cent of measures installed in 2020 (around 257 measures) traded through brokerage.<sup>12</sup>

For more details on the results of individual auctions, please see [ECO Brokerage](#).

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<sup>9</sup> Additional details can be found here: <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>.

<sup>10</sup> Uplifts are applied to deemed scores where required by legislation and mean that the score for a measure is higher than would be the case were it based on cost savings alone.

<sup>11</sup> Information on innovation measures: <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>.

<sup>12</sup> In Tables 5.1, 5.3, 5.4 & 5.5 brokerage is reported based on the date of the auction. In Table 5.2, measures are reported against the completion date of the measure. Measures can be traded prior to or post installation.

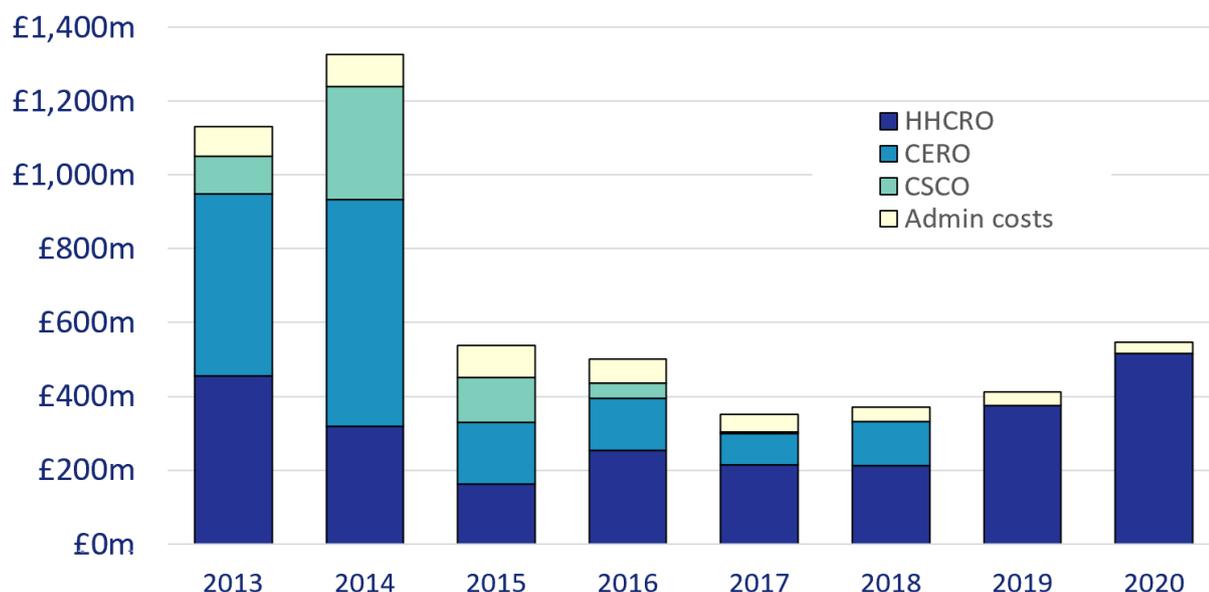
## ECO Costs

As with any scheme, there are costs associated with delivering the ECO scheme. BEIS receives summary information, reported by energy suppliers, covering the costs associated with delivering ECO for all obligated energy suppliers at the end of each quarter. For more information on ECO costs, please see Annex A. Full definitions are included in the [Methodology note](#).

The latest aggregate delivery costs are included in Table 6.1, which covers the whole of ECO1, ECO2, ECO Help-To-Heat and ECO 3 up to the end of 2020.

Chart E below shows annual delivery costs from January 2013 to December 2020. In total, delivery costs over that entire period were around £4.70bn, with an additional £476m in administrative costs. This means that the total cost of ECO over this period has been around £5.18bn. During 2020, suppliers spent £546m, including £31m in administrative costs (Table 6.1). The decrease in costs reported from the 2013 and 2014 levels reflect how the size of the ECO obligation has reduced.

**Chart E: Estimated ECO delivery costs by obligation and year up to December 2020**



Tables 6.2-6.3 show the final average cost by obligation and the highest average cost and lowest average cost reported by suppliers for the ECO 1-2 phase of the obligation (Table 6.2) and the ECO Help-to-Heat phase (Table 6.3). Table 6.4 shows the average cost, median and upper and lower quartiles for reported costs for ECO3 up to December 2020 (Table 6.4). Upper and lower quartiles were introduced to reduce the potential impact of outliers within the data. The suppliers have not been identified to protect commercial confidentiality. These tables show that some energy suppliers are discharging their obligation more cost effectively than others.

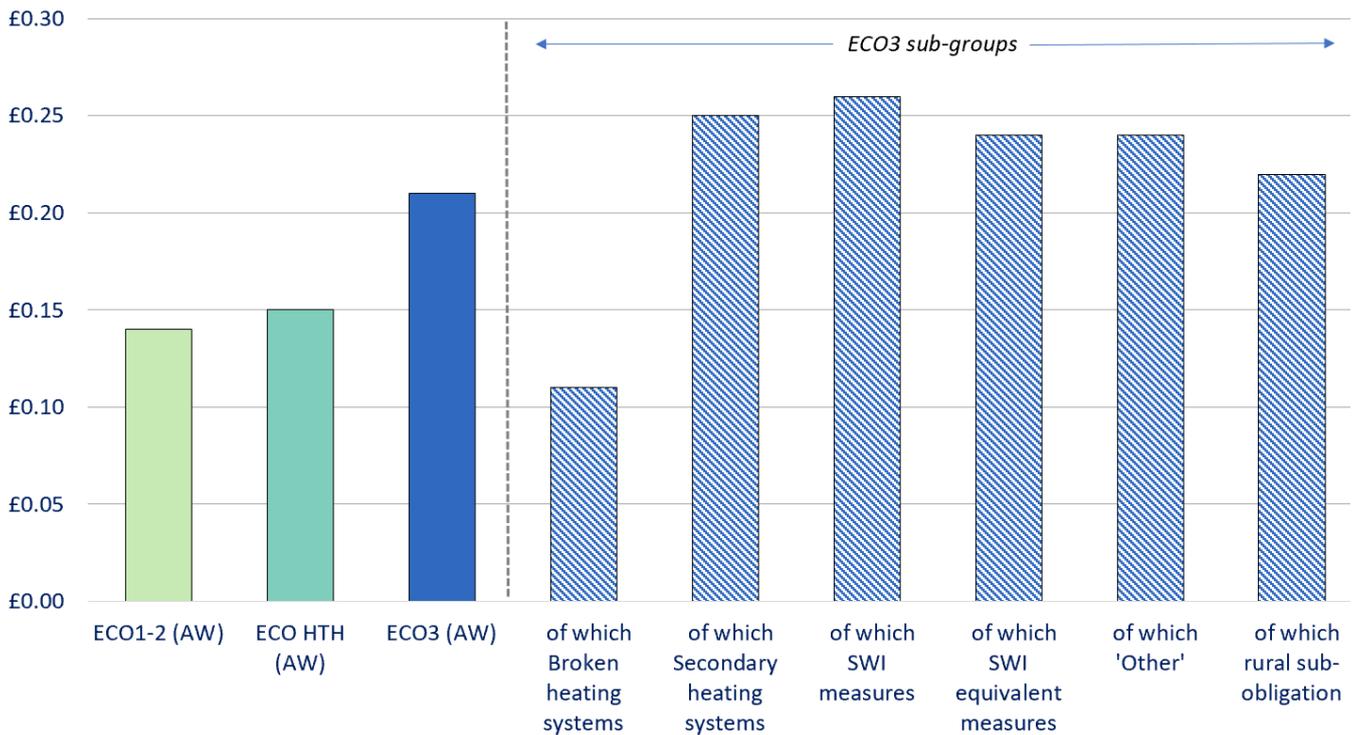
Chart F shows minimal change in the costs incurred *per bill savings* by energy suppliers in delivering the Affordable Warmth obligation between ECO1-2 and ECO Help-to-Heat.

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However, under ECO3, up to the end of December 2020, this cost *per bill* saving has risen to 21 p/£, compared to 15 p/£ in ECO Help-to-Heat.

Within ECO3 there is a large variation in the cost/£ lifetime bill savings across the different groups of measures, with solid wall insulation the most expensive set of measures (26p/£) and broken heating systems the cheapest (11p/£).

**Chart F: Affordable Warmth average cost per £ lifetime bill savings by phase and ECO3 category up to December 2020**



## Section 3: The Green Deal

This section provides the latest information on Green Deal Finance Plans. Several schemes have existed within the Green Deal Framework since its launch in 2013. Green Deal Finance Plans is the only live scheme and reported on below. For final figures for other schemes, please see the [2017 Detailed report](#).

### Green Deal Finance Plans

The Green Deal (GD) is a government initiative that is designed to help homeowners install energy efficiency measures in their properties. The costs of these measures are then paid back through their energy bill over a period of time in the form of a Green Deal Finance Plan (GD Plan). These plans are unlike a conventional loan because they stay with the property where the measures were installed rather than moving with the individual who took out the loan.

At the end of 2020, there were 13,867 'live' or 'completed' GD Plans in unique properties in Great Britain, with 10,731 of these plans 'live' and 3,136 plans 'completed'. During 2020, 511 plans were completed. For the latest statistics please see the latest [Headline release](#).

We estimate that the total initial loan amounts (i.e. excluding APR interest payments) associated with all 'live' plans was around £39.6m as of December 2020, with 'completed' plans accounting for a further £9.8m. Therefore, the average initial loan amount per GD Plan was around £3,600.

The most common measures installed were boilers, accounting for 31 per cent of all recorded measures. The next most common measures installed were photovoltaics (29 per cent), external wall insulation (14 per cent) and heating controls (8.5 per cent).

Uptake of the GD was below expectations so, in July 2015, the Government [announced](#) there would be no further public investment in the scheme. Since then, the framework to support the programme has remained in place to service existing GD Plans and any private finance providers wishing to enter the market. The Green Deal Finance Company – the vehicle created to finance GD loans and in which the Government ended public investment during 2015 – was purchased in January 2017 by new owners, who are now offering new GD plans. No Green Deal measures have been installed since June 2019 and just 108 measures have been installed since April 2016.

### Green Deal Supply Chain

The number of accredited GD Assessor organisations decreased from 13 at the end of 2019 to 10 at the end of 2020 (Table 7.4). Through 2020, the number of active individual Advisors also decreased, from 511 to 465, alongside a reduction in GD Providers from 134 to 130. However, Green Deal accredited installer organisations increased by 22 per cent in 2020 compared to 2019, to 1,196; this increase may be indirectly due to an increased interest in installer work following the announcement of the Green Homes Grant.

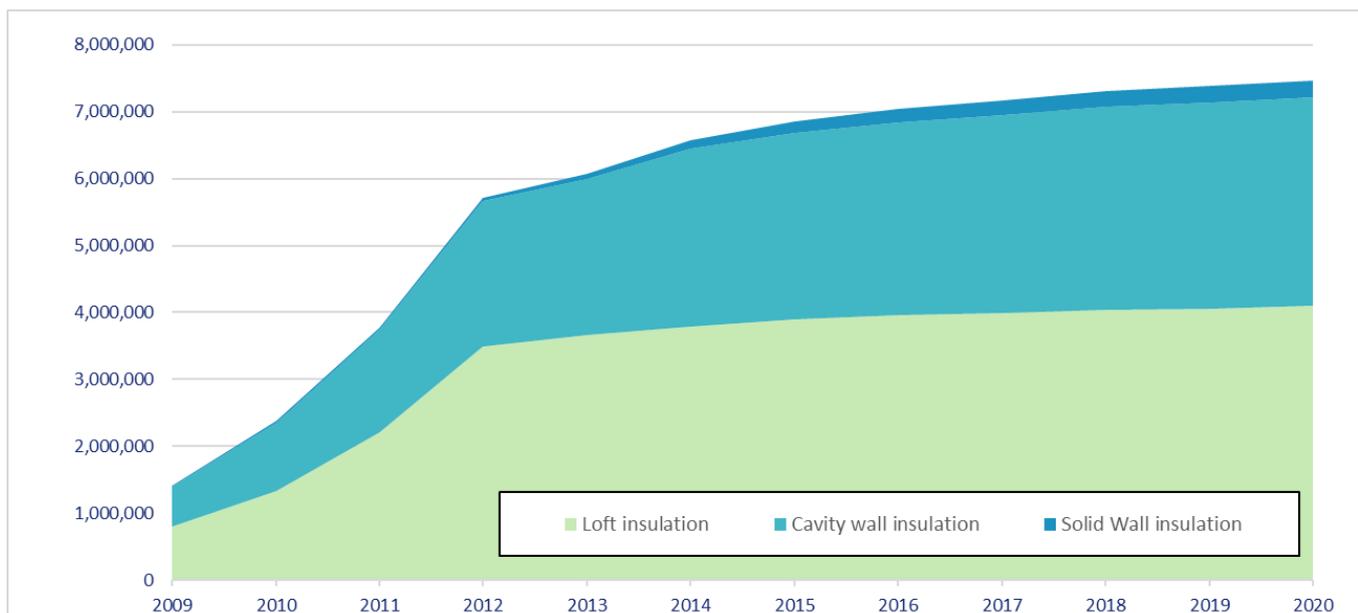
## Section 4: Estimates of Home Insulation Levels in Great Britain

This section presents estimates of the number of homes in Great Britain (GB) with loft, cavity wall and solid wall insulation. It gives headline estimates for the number of insulated properties and sets out the remaining potential for insulation to be installed in properties in GB. Estimates of insulation levels are based from April 2013 to reflect information available in the English, Welsh and Scottish Housing Surveys close to the start of the Energy Company Obligation and Green Deal schemes. Adding on the observed delivery of measures is considered more accurate than re-basing to more recent surveys.

This year the presentation of these estimates has been expanded to show the share of homes with loft, cavity wall and solid wall insulation separately for England, Wales and Scotland. Full details on how these estimates were constructed, based on the new methodology, can be found in the [Methodology note](#).

Chart G shows that 7.5m major professional insulation measures (cavity wall, solid wall and loft) have been installed through ECO and previous Energy Obligations since 2009. While the number of measures delivered per year has fallen as the size of the obligation has been reduced, the focus of the obligation has changed to include more expensive measures, such as solid wall insulation, and to target the scheme towards more vulnerable households.

**Chart G: Cumulative professional insulation measures installed through Energy Obligations 2009-2020**



## Housing stock

The housing stock in Great Britain is made up of properties with different characteristics, such as cavity walls or solid walls. It is important to understand the profile of the housing stock because different insulation measures are suitable for different property types.

At the end December 2020 there were an estimated:



## Levels of insulation

Estimating levels of insulation types in the housing stock makes it possible to see both how much progress has been made to date and how much work there is left to do.

At the end of December 2020:

- 14.3 million properties had cavity wall insulation (70 per cent of properties with a cavity wall);
- 16.6 million had loft insulation (66 per cent of properties with a loft); and
- 772,000 had solid wall insulation (nine per cent of properties with solid walls).

## Progress over the last twelve months

Taking into account both retrofit insulation delivered through Government schemes<sup>13,14</sup> and new properties<sup>15</sup> built with insulation during the last year, the following progress was made in 2020:

<sup>13</sup> Insulation measures delivered in Scotland exclusively under the Green Homes Cashback scheme are excluded from the figures.

<sup>14</sup> The Government schemes covered exclude both the Green Homes Grant Vouchers and Green Homes Grant Local Authority Delivery schemes.

<sup>15</sup> Information is not available on the wall construction of new homes. Building regulations would typically be met by insulated cavity walls but other construction types could be used with an equivalent insulating performance. In this publication, it is assumed that all new builds since April 2013 have cavity wall insulation. It is estimated that around 206,000 new builds were completed in 2019: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>.

- 213,000 more homes with cavity wall insulation (a 1.5 per cent increase between the end of December 2019 and December 2020), of which 39,000 were through retrofit and 174,000 through new build;
- 185,000 more homes with at least 125mm of loft insulation (a 1.1 per cent increase between the end of December 2019 and December 2020), of which 33,000 were through retrofit and 152,000 through new build;
- 8,000 more homes with solid wall insulation (a 1.0 per cent increase between the end of December 2019 and December 2020), of which all are assumed to be through retrofit.

## Sources of increase in insulation levels by Devolved Administration

Tables 8.7b-8.7d of the accompanying [Excel tables](#) show the share of homes insulated for each Devolved Administration in 2013 as well as the additional insulation measures delivered through newly built homes and retrofits.

Charts H and I below show the estimated number of homes with insulation prior to the start of ECO and GD in 2013, as well as the increase resulting from Government schemes<sup>14</sup> and newly built properties.

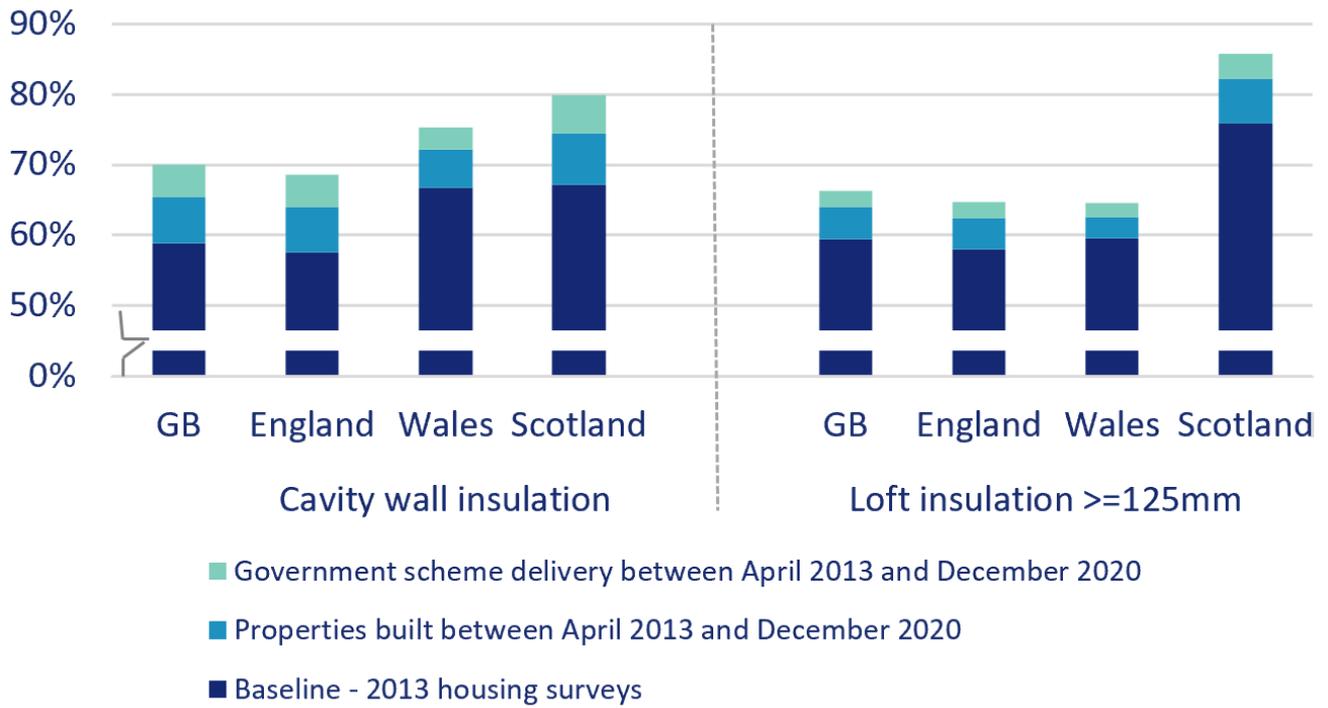
For all three of these measures, Scotland had the highest share of insulated homes in 2013 and also the highest rates of delivery since then. At the end of December 2020, it is estimated that Scotland had:

- 80 per cent of cavity wall homes insulated, compared to 70 per cent for Great Britain;
- 86 per cent of homes with a loft insulated with at least 125mm of loft insulation, compared to 66 per cent for Great Britain; and
- 22 per cent of solid wall homes insulated, compared to nine per cent for Great Britain.

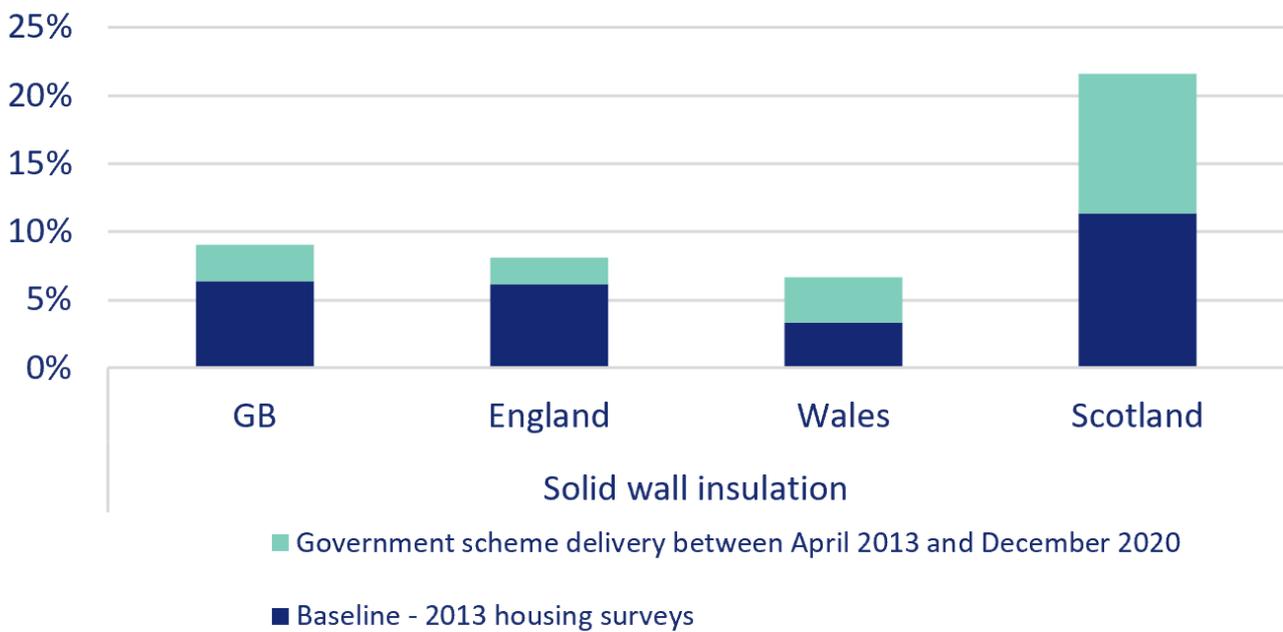
At the end of December 2020, Wales had a slightly higher share of insulated cavity wall homes than England, the same levels of loft insulation, but slightly lower levels of and solid wall insulation.

Of retrofit insulation measures since 2013, over 99 per cent of cavity wall and loft insulation measures have been delivered through ECO. Over 80 per cent of solid wall insulation over this period has also been through ECO, in addition to 39,000 solid wall measures delivered through the Green Deal framework making up the other 20 per cent.

**Chart H: Share of homes with cavity wall insulation and loft insulation by source, Great Britain and Devolved Administration, December 2020**



**Chart I: Share of homes in GB with solid wall insulation by source, Great Britain and Devolved Administration, December 2020**

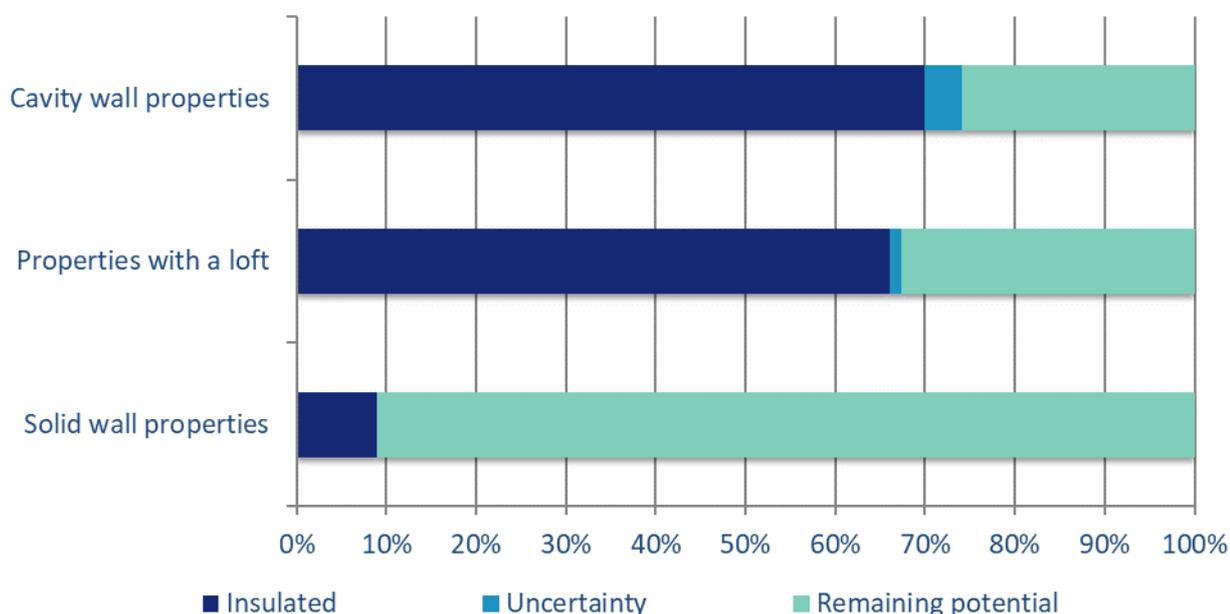


## Remaining potential

A key use of these estimates for BEIS is to identify how many homes have the potential to receive cavity wall, loft or solid wall insulation in the future, which can then aid the design of future policies.

Chart J gives a summary of the remaining potential for insulating properties in Great Britain. It shows that around two-thirds of properties with cavity walls (70 per cent) and properties with a loft (66 per cent) are insulated. In comparison, only nine per cent of properties with solid walls are insulated.

**Chart J: Remaining potential to insulate the housing stock in Great Britain, end December 2020**



Both historical figures and a more detailed breakdown of Great Britain's remaining insulation potential are available in Tables 8.4 - 8.6 of the accompanying [Excel tables](#).

### Cavity wall insulation

At the end of December 2020, it is estimated that there were 14.3 million homes with cavity wall insulation in Great Britain (70 per cent of homes with cavity walls). Of the 5.2 million homes without cavity wall insulation, 3.9 million are easy to treat standard cavities and 1.3 million are hard to treat.<sup>16</sup> It is also worth noting that there are around 0.9 million properties

<sup>16</sup> Hard to treat cavities are ones that are more difficult or more expensive to fill than standard cavities. This includes 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 the definition used in the 2013 Housing Surveys. The ECO definition of hard to treat differs from this definition slightly as it also includes partial fill cavities and cavity wall properties over three storeys (compared to over four). It also excludes some cavities which assessors would not be able to identify as hard to treat, such as properties with high exposure to wind and rain.

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which may or may not have cavity wall insulation (Chart J, Table 8.4), due to the level of uncertainty from the survey of what is insulated.

### Loft insulation

Lofts are defined as insulated in this publication 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.

At the end of December 2020, it is estimated that there were 8.0 million uninsulated lofts in Great Britain (32 per cent of homes with lofts). Of these, around 5.7 million homes require easy to treat loft insulation and 2.3 million are considered to be hard to treat or unfillable, which means that the loft would be hard or costly to insulate or could not be insulated at all. This can occur in properties with a flat roof, properties with a room in their roof, or properties where the roof has a very shallow pitch, which makes the loft space inaccessible. It is also worth noting that there are around 0.4 million properties which may or may not have loft insulation (Chart J, Table 8.5), due to the level of uncertainty from the survey of what is insulated and whether new build homes have lofts.

### Solid wall insulation

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

It is estimated that there were 7.7 million uninsulated solid wall properties at the end of December 2020 (91 per cent of homes with solid walls), with around 772,000 insulated solid wall properties in Great Britain. Prior to 2013, Government schemes focused on insulating homes with cavity walls due to the costs involved with insulating solid wall properties. However, the focus has switched in recent years to harder or more expensive to treat properties due to policies like ECO, including solid wall properties. Of the remaining insulation potential, it may not be possible to insulate all solid wall properties. Some of these properties are likely to be too costly to treat or to be located within conservation areas, which means that they will never be insulated.

# Annex A – Background

## Energy Company Obligation

The [Energy Company Obligation](#) (ECO) is now in its fourth phase. ECO broadly takes over from two previous Energy Obligation schemes: Carbon Emissions Reduction Target (CERT) and Community Energy Saving Programme (CESP). The ECO3 scheme focuses on providing energy efficiency measures to low income and vulnerable consumers, as well as those living in 'hard-to-treat' properties.

- ECO1 started on 1 January 2013 (although energy companies were able to count measures delivered since 1 October 2012 against their targets) and ran until 31 March 2015.
- ECO2 commenced in April 2015 and ran until 31 March 2017.
- ECO Help-to-Heat commenced in April 2017 and ran until September 2018.
- ECO3 went live on 3 December 2018 (although suppliers can count measures delivered since October 2018 against their targets), with the scheme due to run until March 2022.

There have been three main ECO obligations: the Carbon Emission Reduction Obligation (CERO) which closed in September 2018; the Carbon Saving Communities Obligation (CSCO) which closed at the end of March 2017; and the Affordable Warmth Obligation (also known as The Home Heating Cost Reduction Obligation or HHCRO) which makes up 100% of the ECO3 obligation.

Energy Suppliers are set targets for each phase of the scheme based on two criteria: the number of customers that they have and the amount of energy that they supply to domestic properties in Great Britain. This threshold remained the same for ECO1, 2 & Help-to-Heat but it is tightening through ECO3. Suppliers are obligated to participate in the scheme if they exceeded both the customer number threshold and the electricity or gas supply threshold as of 31 December of the previous year.

Phase 1 of ECO3 placed obligations on 14 energy suppliers meeting the threshold at 31 December 2017. Phase 1 ran from 3<sup>rd</sup> December 2018 to 31<sup>st</sup> March 2019. At the start of phase 2, there were 18 obligated suppliers based on the threshold on 31 December 2018. Phase 2 ran from 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2020. Based on the threshold on 31 December 2019, there were 23 suppliers obligated. Two other suppliers were obligated under Phase 1 and 2 but were not obligated under Phase 3. Phase 3 runs from 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021.

**Table B: ECO Supplier Obligation Thresholds: 2013-2022**

	Phase 1		Phase 2	Phase 3	Phase 4
	Up to 3 Dec 2018	3 Dec 2018 – 31 Mar 2019	1 Apr 2019 – 31 Mar 2020	1 Apr 2020 – 31 Mar 2021	1 Apr 2021 – 31 Mar 2022
Number of domestic customers	250,000	250,000	200,000	150,000	150,000
Electricity supply to domestic customers	400 GWh	500 GWh	400 GWh	300 GWh	300 GWh
Gas supply to domestic customers	2,000 GWh	1,400 GWh	1,100 GWh	700 GWh	700 GWh

Carbon Emissions Reduction Obligation – *Closed end September 2018* – This obligation covered the installation of measures such as wall insulation, roof insulation and connections to district heating systems. From April 2017, this obligation also included a rural sub-obligation, where at least 15 per cent of a supplier's CERO obligation within their Help-to-Heat scheme had to be achieved in rural areas.

Carbon Saving Communities Obligation – *Closed end March 2017*. This obligation provided insulation measures and connection to district heating measures to households in specified areas of low income. It also made sure that 15 per cent of each supplier's obligation was used to deliver eligible measures either to members of the affordable warmth group living in a rural area, or to any domestic premises in a deprived rural area.

Affordable Warmth Obligation – This obligation supports fuel poor and low-income consumers or consumers who are vulnerable to the impact of living in cold homes, including the elderly, disabled and families, by providing them with heating and insulation measures. Since April 2017, it has also been targeted at consumers living in social housing properties with energy efficiency ratings of E, F or G. Local Authorities can also nominate eligible homes under the 'flexible eligibility' mechanism that was introduced in 2017, if the households are determined to be 'living in fuel poverty' or 'living on a low income and vulnerable to cold'. Up to 25% of this obligation can be delivered through Flexible Eligibility under ECO3, up from 10% under ECO Help-To-Heat. From October 2018, this obligation has included a rural sub-obligation where at least 15 per cent of a supplier's ECO3 obligation must be achieved in rural areas. Furthermore, under ECO3, suppliers are able to meet up to 10% of their obligation by delivering innovation measures to eligible households. A further 10% can be used to monitor the actual energy performance of measures in homes.

## ECO Brokerage

The [ECO Brokerage](#) system operates as a fortnightly anonymous auction where GD Providers can sell 'lots' of ECO CERO measures, ECO CSCO measures (until March 2017) and ECO Affordable Warmth measures, to energy companies in return for ECO subsidy. New lot types have been introduced over time to reflect changes to the policy most recently in February 2019 following the start of ECO3. From 19th February 2021, the brokerage auctions will move to monthly, rather than fortnightly.

This market-based mechanism is to support an open and competitive market for the delivery of the ECO. Brokerage allows a range of GD Providers to fairly compete on price to attract ECO support and enables energy suppliers to deliver their obligations at the lowest possible cost, thereby reducing the impact on customer energy bills.

Sellers (GD Providers) can make a competitive offer on brokerage by leveraging additional sources of finance, such as part funding measures through GD Finance, partnerships with local authorities, or driving down costs by economies of scale.

## ECO delivery costs

ECO delivery costs are reported by obligated energy suppliers following each reporting quarter.

**ECO delivery costs** are defined as the cost of installing an ECO measure in a property. This includes the costs of technical monitoring, measure assessment costs, costs involved with searching for ECO properties, installation costs and marketing costs by delivery partners involved with promoting the ECO obligations. Figures up to the end of December 2020 show aggregate expenditure of £4.70bn.

In addition, **administrative costs** are collected from suppliers and include reporting and compliance, own marketing, and direct administrative costs (such as development of IT/reporting systems to support delivery of the scheme). Figures up to the end of December 2020 show aggregate expenditure of £476m. Suppliers make returns on delivery and administrative costs by the end of the second month following each reporting quarter.

Full definitions on ECO costs are included [here](#).

## Green Deal

The [Green Deal](#) (GD) was launched in January 2013 in England and Wales (and in February 2013 in Scotland). It enables consumers to take out loans to pay for energy efficiency improvements in their properties, with repayments made through their energy bill. Repayments are made on a “Pay As You Save” (PAYS) basis: after the improvement has been made, the consumer begins to save energy, their energy bills are less than they would have been without the improvement, and these savings are used to repay the loan. A principle called the “Golden Rule” is intended to ensure that the loan repayments should not exceed the savings.

Customers having GD Assessments undertaken have the choice of how they proceed. They might take the view that their home is sufficiently energy efficient, or that they want to finance work through a GD Plan or that they want to use alternative funding arrangements (e.g. use of savings).

Uptake of the GD was below expectations and in July 2015 the Government [announced](#) there would be no further public investment in the scheme. The Framework to support the programme has remained in place to service existing GD Plans and for any private finance providers wishing to enter the market. The Green Deal Finance Company – the vehicle created to finance GD loans and in which the Government ended public investment during 2015 – was purchased in January 2017 by new owners, who are now offering new GD plans.

A brief description of how the GD process works is shown below:

**Step 1 – Assessment** – A GD Assessor will come to the home, talk to the owner/occupier about their energy use and see if they can benefit from making energy efficiency improvements to their property.

**Step 2 – Recommendations** – The GD Assessor will recommend improvements that are appropriate for the property and indicate whether they are expected to pay for themselves through reduced energy bills.

**Step 3 – Quotes** – GD Providers will discuss with the owner/occupier whether a GD Plan is right for them and quote for the recommended improvements, including the savings estimates, savings period, first year instalments and payment period for each improvement. A number of quotes can be obtained.

**Step 4 – Signing a Plan** – The customer chooses to proceed with a given provider and package of measures. The owner/occupier needs to obtain the necessary consent to make improvements to the property before they can agree terms with the GD Provider of a GD Plan,<sup>17</sup> at which stage they enter a cooling-off period.<sup>18</sup>

**Step 5 – Installation** – Once a GD Plan has been agreed, the Provider will arrange for the improvements to be made by a GD Installer. Once the installation has been completed, a letter is sent to the Bill Payer and, at this stage, the GD Plan goes ‘live’.

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<sup>17</sup> The Plan is a contract between the owner/occupier and the Provider – it sets out the work that will be done and the repayments.

<sup>18</sup> For example, in the case of a GD Plan that is regulated by the Consumer Credit Act 1974, the consumer will have 14 days to withdraw from the part of the GD Plan which provides credit.

**Step 6** – Payment ends - ‘live’ GD Plans can be paid off before their expected last payment date. These are known as ‘completed’ GD Plans.

Following a GD Assessment there have been a range of delivery mechanisms which could be used to improve the energy efficiency of the property. Using record level data matching we have estimated the number of households that have benefitted from energy efficiency installations through more than one delivery mechanism. Full details of this are available in the accompanying [Methodology note](#).

## Legacy Green Deal Schemes

Measures installed from these legacy schemes are still included in Table 1.1-1.4 but the detailed scheme figures are not reported in this release but are available in the [2017 Detailed report](#).

### Green Deal Home Improvement Fund

On 23 July 2015, it was [announced](#) that there will be no future funding releases of the Green Deal Home Improvement Fund (GDHIF).

The GDHIF was an incentive scheme open to all householders in England and Wales wanting to improve the energy efficiency of their homes. The scheme allowed householders to choose one or both of two offers and they were eligible to claim up to £7,600. Householders could also claim a refund of up to £100 for a GDAR. GDHIF release 1 closed to new applicants at 6:30pm on 24 July 2014. GDHIF release 2 commenced on 10 December 2014 (and closed to new Solid Wall Insulation applicants on 11 December 2014) and GDHIF release 3 commenced on 16 March 2015 (and closed to new Solid Wall Insulation applicants on 26 March 2015) and closed for the “two-measure” offer on 30th September 2015. The scheme closed down in June 2016. A number of different separate Cashback schemes operated in Scotland (see [website](#) for the latest statistics).

### Green Deal Communities

The Green Deal Communities scheme was in operation from April 2014 until September 2016.<sup>19</sup> Twenty-three areas in England (covering 98 individual Local Authorities) received £85 million to help deliver the Government’s Green Deal home energy efficiency programme.

Participating areas have installed a range of energy efficiency measures, including solid wall insulation, other insulation and heating measures. Many areas are providing funding to householders in rural areas, the private rented sector and households living in fuel poverty.

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<sup>19</sup> Some installations were until end of November 2016.

## Insulation statistics

Levels of home insulation are estimated by BEIS based on the housing surveys of England, Wales and Scotland in 2013,<sup>20</sup> the delivery of insulation measures through Government Schemes and an estimate of the number of new homes built. It is assumed that new homes are built with cavity wall insulation and adequate loft insulation, where a loft is present. For the first time in 2020, BEIS published the share of insulated homes separately for England, Wales and Scotland (Table 8.7).

The following types of insulation are included in the estimates of home insulation levels. Given the rise of underfloor insulation delivered in 2019, it may be possible to include this measure in future estimates of homes insulated as well.

### Cavity wall insulation

Many homes built in GB 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. 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 (0.15 W/m<sup>2</sup>.K in Scotland), 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. Building regulations require a target U-value of 0.30 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.

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<sup>20</sup> The estimate of 2013 insulation levels for Wales is estimate from the 2007 Living in Wales Survey. Continuous surveys are run in England (English Housing Survey) and Scotland (Scottish House Condition Survey)

# Annex B – Sources and Methodology

More information on the methodology is included [here](#).

## Green Deal and ECO data sources

Administrative data generated as part of ECO and GD processes is used for this statistical release.

The following are the main sources of information used in this report:

- Ofgem – who administer the Energy Company Obligation (ECO) and collect information from energy companies on measures installed under ECO.
- Data on ECO brokerage is publicly available following each auction.
- Green Deal Central Charge Database – which manages the recording and administration of GD Plans including when plans are completed.
- Northgate – who manage the national lodgement of GD measures in England and Wales.
- Energy Savings Trust (EST) – who manage the national lodgement of GD measures in Scotland.
- The Green Deal Oversight and Regulation Body (ORB) – who administer the certification of GD organisations (including assessors, installers and providers).

## Revisions

All data in this release should be treated as provisional and subject to revision.

On occasions, previously published data will need to be revised due to changes to source data, methodology or correcting of errors. Explanation will be provided for any significant revisions.

# Annex C - Household Energy Efficiency schemes

This section of the report presents activity levels on the Energy Company Obligation (ECO) and Green Deal (GD) between January 2013 and December 2019 alongside figures on Feed-In Tariffs installations, Renewable Heat Premium Payment voucher redemptions, and Smart Electricity and Gas Meter installations that have been previously published in their own statistical releases. These figures are shown in Table 9.1 of the Detailed [tables](#).

## ECO and the Green Deal

It is estimated that around 2,201,200 households benefitted from ECO and around 13,800 households had funded measures through GD Finance Plans up to December 2020.

In addition, around 14,700 households installed measures through legacy Green Deal schemes and received money from the Cashback scheme, 35,300 households had funded measures through GDHIF and 15,600 households had measures funded under the Green Deal Communities.

There is a small amount of double counting between these mechanisms (around 24,600 households). For the latest statistics, please see the latest [Headline release](#).

## Feed-In Tariffs

The Feed-in Tariff (FITs) scheme was launched in April 2010 and is a financial support scheme for eligible low-carbon electricity technologies, aimed at small-scale installations with a capacity of less than 5 megawatts (MW). FITs support new anaerobic digestion (AD), solar photovoltaic (PV), small hydro and wind, by requiring electricity suppliers to make payments (generation tariffs) to these generators based on the number of kilowatt hours (kWh) they generate. An additional guaranteed export tariff is paid for electricity generated that is not used on site and exported to the grid. The scheme also supports micro combined heat and power installations with an electrical capacity of 2 kW or less.

The majority of the installations installed under FITs are in the domestic sector (96 per cent) but, as these tend to be smaller in size, the capacity of domestic schemes makes up 47 per cent of the total capacity installed under FITs. The majority of the domestic schemes are solar PV (99 per cent). These solar PV schemes cover 98 per cent of the total installed domestic capacity, whilst domestic wind installations account for 1.5 per cent of capacity.

Between January 2013 and the end of December 2020, 483,600 domestic installations were confirmed onto the Central FIT Register. Since the FIT scheme began in April 2010, 828,900 domestic installations were confirmed onto the Central FIT Register to the end of December 2020.

Since the closure of the Feed in Tariff scheme in March 2019, 15,800 domestic installations have been confirmed onto the Central FIT Register. These installations had been commissioned before the closure date, however there can be a lag of 18 months before a site is confirmed onto the scheme.

## Domestic Renewable Heat Incentive (RHI)

The domestic Renewable Heat Incentive (RHI) is a financial incentive scheme introduced to encourage a switch to renewable heating systems in the domestic sector in Great Britain. Participants of the scheme receive tariff payments for the heat generated from an eligible renewable heating system which is heating a single property. The scheme covers single domestic properties and is open to owner-occupiers, private landlords, social landlords and self-builders. There are four renewable heating technologies covered by the scheme: air-source heat pumps; ground and water-source heat pumps; biomass-only boilers and biomass pellet stoves with integrated boilers; and solar thermal panels.

Up until the end of December 2020, 84,707 systems have been accredited to the scheme. These data refer to applications made after the launch of the domestic RHI scheme on 9 April 2014 which gained accreditation to the scheme.

## Renewable Heat Premium Payment (Legacy scheme)

The Renewable Heat Premium Payment (RHPP) scheme was introduced as an interim measure in the absence of the domestic Renewable Heat Incentive (RHI). It was designed to support the uptake of domestic renewable heat and maintain the supply chain, to learn about renewable heat technologies and the way consumers use them to better shape the domestic RHI policy and contribute to the renewable energy target. The scheme encompassed three components: the householder's scheme, social landlord competition and community's scheme. These components were designed to give greater coverage across the different parts of the housing market.

Solar Thermal and Air Source Heat Pumps were the most popular technologies in all phases, accounting for over two thirds of redeemed or claimed vouchers in total.

## Smart Meters

Smart meters<sup>21</sup> are the next generation of electricity and gas meters and offer a range of intelligent functions. Smart meters allow customers to have near real time information on their energy consumption to help them control and manage their energy use, save money and reduce emissions. They also provide consumers with more accurate information and bring an end to estimated billing.

By the end of December 2020, there were 22.2 million smart meters operating across homes in Great Britain, of which 17.6 million were operating in smart mode.

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<sup>21</sup> The definition of a 'Smart Meter' is an electricity or gas meter that is compliant with the [Smart Meter Equipment Technical Specification \(SMETS\)](#) and has functionality such as being able to transmit meter readings to suppliers and receive data remotely. Energy suppliers report the number of smart meters installed and operating in smart mode to BEIS. This includes both meters that are SMETS compliant and those they expect to upgrade to become SMETS compliant. Some smart meters currently installed will need to receive updates before they are fully SMETS compliant.

## Green Homes Grant

In July 2020, the Chancellor announced a £2 billion Green Homes Grant scheme to upgrade homes across England. The scheme consists of two elements: vouchers and local authority delivery.

For the Green Homes Grant Vouchers (GHGV) scheme, householders or landlords can apply directly for funding to install energy efficiency measures in their property. Vouchers will cover two-thirds of the cost of eligible improvements, up to a maximum government contribution of £5,000. If a householder or a member of the household is in receipt of certain benefits, the households may be eligible for a voucher covering 100% of the cost of the improvements, up to a maximum value of the voucher is £10,000. Measures are split into two categories, with a primary measure (either insulation or low carbon heating) required, while secondary measures (such as heating controls or energy efficient windows and doors) are optional. More information on GHGV is available at [GHGV Information](#).

The Green Homes Grant Local Authority Delivery (GHG LAD) scheme received £500 million funding to be allocated to local authorities, to improve the energy efficiency of homes of low-income households, helping reduce fuel poverty, phasing out high carbon fossil fuel heating, and delivering progress towards the UK's commitment to net zero by 2050. The scheme is targeted at raising the energy efficiency of low income and low energy performance homes (those with energy performance certificate (EPC) ratings of E, F or G), including off-gas grid homes. The scheme was split into two phases, with Phase 1 requiring Local Authorities (LAs) to bid for funding, while Phase 2 will be administered by the local energy hubs. More information on GHG LAD is available at [GHG LAD Information](#).

In February 2021, the first statistics on GHGV were published. Further analysis will be incorporated into subsequent releases. In due course, statistics will be published on the GHG LAD scheme. Both statistical publications will be available at [GHG Statistics](#).

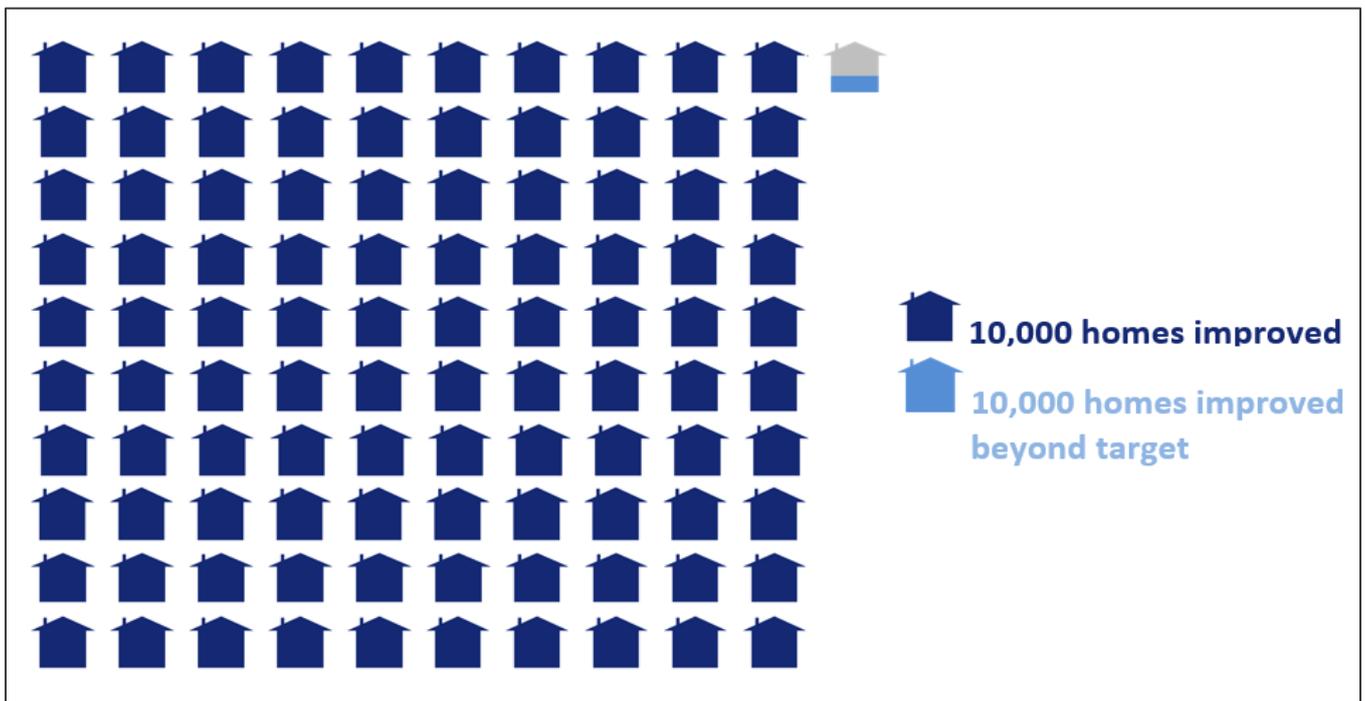
# Annex D: Target to improve One million homes

The Government had a target to upgrade around one million homes through Government domestic energy efficiency schemes. The target covered a five-year period, from the start of May 2015 to the end of April 2020. By the end of April 2020, around 1,002,900 homes had at least one improvement measure installed under ECO or the Green Deal (Infographic 1, Table 1.3).

Please see the methodology note [here](#) for more details on how this target is measured.

There are no plans to issue further updates to this table, though revised data may be published following scheme transfers with a revision footnote added to Table 1.3 to advise of this change.

**Infographic 1: Proportion of the 1 million homes target achieved, up to end April 2020**



## Technical information

Further information regarding the methodology and quality assurance process used to produce estimates for this statistical series can be found in the [Methodology Note](#):

## Definitions

The Energy Company Obligation required the larger energy suppliers to achieve savings in homes. CERO & CSCO are measured in terms of lifetime carbon savings, whereas Affordable Warmth is measured in terms of lifetime bill savings.

Over the course of ECO3, the threshold is gradually tightening, bringing more smaller energy suppliers into the Obligation.

### ECO Supplier Obligation Thresholds: 2013-2022

	Phase 1		Phase 2	Phase 3	Phase 4
	Up to 3 Dec 2018	3 Dec 2018 – 31 Mar 2019	1 Apr 2019 – 31 Mar 2020	1 Apr 2020 – 31 Mar 2021	1 Apr 2021 – 31 Mar 2022
Number of domestic customers	250,000	250,000	200,000	150,000	150,000
Electricity supply to domestic customers	400 GWh	500 GWh	400 GWh	300 GWh	300 GWh
Gas supply to domestic customers	2,000 GWh	1,400 GWh	1,100 GWh	700 GWh	700 GWh

Within the Energy Company Obligation there are sub-obligations

<p><b>Carbon Saving Target (CERO)</b></p>	<p>This covered the installation of measures like solid wall and hard-to-treat cavity wall insulation, which ordinarily can't be financed solely through Green Deal Plans. From April 2017, this included a rural sub-obligation where at least 15 per cent of a supplier's CERO for Help-to-Heat must be achieved in rural areas. (Closed end September 2018)</p>
<p><b>Carbon Saving Communities (CSCO)</b></p>	<p>This provides insulation measures to households in specified areas of low income. It also makes sure that 15 per cent of each supplier's obligation is used to upgrade more hard-to-reach low-income households in rural areas. (Closed end March 2017)</p>
<p><b>Affordable Warmth<sup>22</sup> (HHCRO)</b></p>	<p>This provides heating and insulation measures to consumers who receive particular means-tested benefits. Since April 2017, it enables those in social housing living in E, F and G rated properties to receive insulation measures, and some heating measures. This obligation supports low-income consumers who are vulnerable to the impact of living in cold homes, including the elderly, disabled and families. From October 2018, this included a rural sub-obligation where at least 15 per cent of a supplier's ECO3 must be achieved in rural areas.</p>
<p><b>Flexible Eligibility</b></p>	<p>Local Authorities can determine eligible homes under the new 'Flexible Eligibility' mechanism, introduced in 2017. Up to 25% of the Obligation can be delivered through Flexible Eligibility under ECO3, up from 10% under ECO Help-To-Heat. Households can be assessed by local authorities to be 'living in fuel poverty' or assessed to be 'living on a low income and vulnerable to cold'.</p>
<p><b>Innovation Measures</b></p>	<p>Under ECO3, suppliers are able to meet up to 10% of their obligation to deliver innovation measures to eligible households. A further 10% can be used to monitor the actual energy performance of measures in homes.</p>

<sup>22</sup> Also known as The Home Heating Cost Reduction Obligation

## Accompanying tables

The underlying tables are available in Excel format on the department's statistics [website](#).

## Further information

### Future updates to these statistics

The next headline quarterly release is planned for publication at 9.30am on **27 May 2021** which will contain a full update of ECO measures, Green Deal plans and measures. There are also monthly headline releases updating key tables of ECO delivery and brokerage. The next detailed (annual) release will be in spring 2022.

### Revisions policy

The [BEIS statistical revisions policy](#) sets out the revisions policy for these statistics, which has been developed in accordance with the UK Statistics Authority [Code of Practice for Statistics](#).

### Uses of these statistics

These statistics are used by Government to monitor the delivery and effectiveness of the ECO and GD schemes. They are used to monitor the delivery of the ECO obligation and the share of the obligation delivered through key aspects of the scheme, including Flexibility Eligibility and innovation measures. The data are used within the [National Energy Efficiency Data-framework](#) to assess the impact of these measures in different types of homes.

### User engagement

Users are encouraged to provide comments and feedback on how these statistics are used and how well they meet user needs. Comments on any issues relating to this statistical release are welcomed and should be sent to: [EnergyEfficiency.Stats@beis.gov.uk](mailto:EnergyEfficiency.Stats@beis.gov.uk)

The BEIS statement on [statistical public engagement and data standards](#) sets out the department's commitments on public engagement and data standards as outlined by the [Code of Practice for Statistics](#).

### National Statistics designation

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

## Household Energy Efficiency Detailed Release

The statistics last underwent a [full assessment](#) against the [Code of Practice for Statistics](#) on 12 June 2014

## Pre-release access to statistics

Some ministers and officials receive access to these statistics up to 24 hours before release. Details of the arrangements for doing this and a list of the ministers and officials that receive pre-release access to these statistics can be found in the [BEIS statement of compliance](#) with the Pre-Release Access to Official Statistics Order 2008.

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