ofgem e-serve Making a positive difference for energy consumers

Energy Companies Obligation Final Report

January 13 - March 15

www.ofgem.gov.uk/eco

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Foreword

Energy efficiency is a central part of the government's policies for reducing UK greenhouse gas emissions. Between January 2013 and March 2015 the Energy Companies Obligation (ECO) was the main legislative driver for making British homes more energy efficient. It was the successor to the Carbon Emissions Reduction Target (CERT) and the Community Energy Savings Programme (CESP) and was designed to work alongside the Green Deal.

The Department of Energy and Climate Change (DECC) was responsible for setting the overall targets and designing the policy. We (Ofgem[1]) administered ECO on behalf of the Gas and Electricity Markets Authority.

We administered ECO in line with The Electricity and Gas (Energy Companies Obligation) Order 2012 as amended (referred to here as the 'Order' or the 'ECO Order'). A new Order, referred to as the ECO2 Order, was laid in December 2014 extending the scheme from April 2015 to March 2017.

Throughout the scheme the Order required us to report progress each month to the Secretary of State. We also published monthly compliance reports from August 2013. This report concludes the reporting requirements placed on us and details the final position of ECO at the end of the obligation period (which covered January 2013 to March 2015).

Managing Director of E-serve

Chris Poulton

[1] The Office of Gas and Electricity Markets

Contents

Associated Documents

- The Electricity and Gas (Energy Companies Obligation) Order 2012 http://www.legislation.gov.uk/uksi/2012/3018/contents/made.
- The Electricity and Gas (Energy Companies Obligation) (Determination of savings) (Amendment) 2014 http://www.legislation.gov.uk/uksi/2014/2897/contents/made.
- The Electricity and Gas (Energy Companies Obligation) (Amendment) Order 2014 http://www.legislation.gov.uk/uksi/2014/1131/contents/made.
- The Electricity and Gas (Energy Companies Obligation) (Amendment) (No.2) Order 2014 http://www.legislation.gov.uk/uksi/2014/3231/contents/made.
- The Electricity and Gas (Energy Company Obligation) Order 2014 http://www.legislation.gov.uk/uksi/2014/3219/contents/made.
- Energy Companies Obligation (ECO): Guidance for Energy Companies (Version 1.2) https://www.ofgem.gov.uk/sites/default/files/docs/2014/12/eco_guidance_for_energy_companies_version_1_2_final.pdf.

Executive Summary

i. The Energy Companies Obligation (ECO), which started in 2013, was a Government scheme for Great Britain that placed legal obligations on larger energy companies to deliver energy efficiency measures to domestic premises.

ii. There were three main obligations under ECO which energy companies were required to meet. The obligations were the Carbon Emissions Reduction Obligation (CERO), the Carbon Saving Community Obligation (CSCO) and the Home Heating Cost Reduction Obligation (HHCRO). CSCO also had a sub-obligation focused on rural areas (the CSCO rural sub-obligation).

Overall energy company performance

iii. The final position of the ECO scheme is summarised below:

- every energy company met all of their ECO obligations and sub-obligations
- the total lifetime carbon savings[2] achieved under CERO were 18.33 $MtCO_2$, which is 131% of the target
- the total lifetime carbon savings achieved under CSCO were 9.87 $MtCO_2$, including 1.79 $MtCO_2$ achieved under the rural sub-obligation. These constitute 145% of the CSCO target and 175% of the rural sub-obligation target
- the total lifetime cost savings achieved under HHCRO were 5.16 £Bn, which is 123% of the target

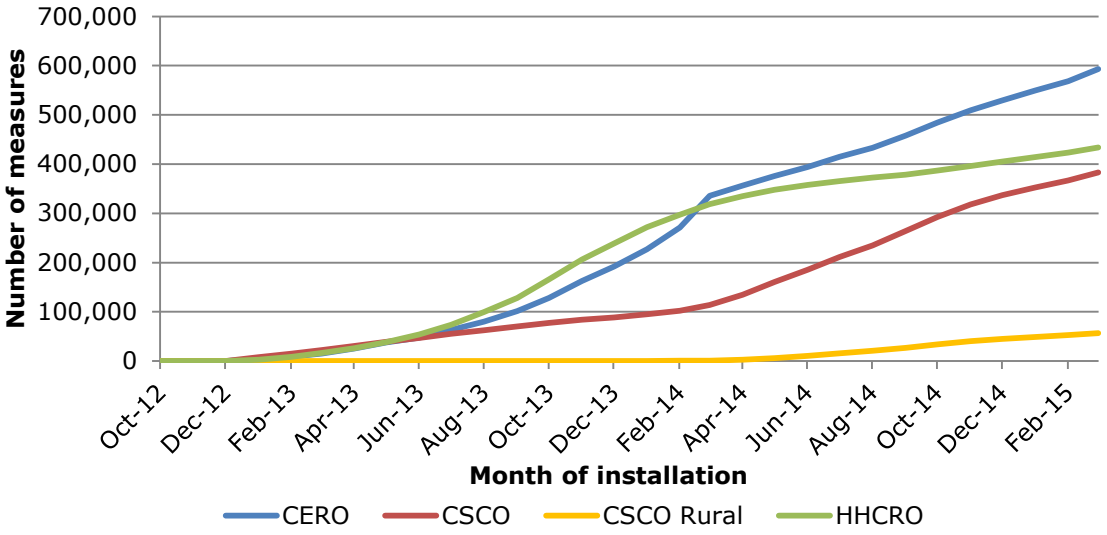
iv. It is likely that the majority of any excess savings will be carried forward into ECO2.

Table of energy company performance against obligations

Energy company	CERO	CSCO	CSCO Rural	HHCRO
British Gas	123%	134%	160%	115%
The Co-operative Energy	109%	114%	111%	109%
EDF Energy	128%	134%	142%	141%
E.ON	155%	177%	236%	127%
First Utility	141%	113%	176%	104%
npower	130%	148%	141%	124%
Scottish Power	134%	127%	135%	127%
SSE	125%	157%	223%	118%
Utility Warehouse	109%	106%	109%	107%

[2] The CERO and CSCO targets were measured in the amount of carbon dioxide emissions that the measures will reduce over their lifetimes (ie 'carbon savings'). The HHCRO target was measured in the amount of bill savings it will provide for consumers over the measures' lifetimes (ie 'cost savings').

Cumulative ECO delivery over time



Key observations

v. Below are some of the main observations and findings from the administration of ECO:

- the legislation was amended in December 2014 to reduce the costs of the scheme. These changes amended the eligibility requirements under CERO and CSCO and significantly affected delivery under these obligations

- overall, the most frequently installed measure type under ECO was cavity wall insulation (including hard-to-treat cavity wall insulation), followed by loft insulation and boiler replacements

- a greater number of measures per household were delivered in Scotland for CERO and CSCO than in England or Wales. A greater number of measures per household were delivered in Wales for HHCRO than in England or Scotland. This is likely due to funding made available by the devolved Governments which could be claimed alongside ECO funding

- several issues were identified throughout ECO which raised concerns over the quality of installations. We saw an improvement in technical monitoring and audit rates throughout ECO. We have amended our processes for ECO2 taking into account lessons learnt from ECO

- throughout ECO we had more communication with energy companies and the supply chain than we had as part of previous energy efficiency schemes. We worked together to find ways to improve the efficiency of the administration of the scheme.

1. Legislative context

Chapter Overview

This chapter describes the background to the ECO legislation. It also summarises the legislative changes that occurred during the obligation period and how they affected delivery of measures.

Introduction

1.1. ECO placed a legal obligation on larger energy companies to deliver energy efficiency measures to domestic premises.[3] Energy companies with more than 250,000 customers and that supplied more than a minimum amount of gas or electricity in a specific period were obligated under ECO.[4] The obligation period for ECO began on 1 January 2013 and ended on 31 March 2015.

1.2. ECO was introduced as a successor to the Carbon Emissions Reduction Target (CERT) and Community Energy Savings Programme (CESP) schemes which ran from April 2008 to December 2012 and October 2009 to December 2012 respectively.

1.3. ECO had three distinct obligations, which were initially conceived as:

- the Carbon Emissions Reduction Obligation (CERO) focused primarily on the installation of insulation measures in hard-to-treat properties with a target of 20.9MtCO_2 lifetime savings
- the Carbon Saving Community Obligation (CSCO) focused on low income areas with a target of 6.8MtCO_2 lifetime savings, 15% of which was to be delivered in rural areas to consumers on certain types of benefits (the rural sub-obligation), and
- the Home Heating Cost Reduction Obligation (HHCRO)[5] focused on reducing heating costs for consumers on certain types of benefits as a way of targeting vulnerable households. The HHCRO target was £4.2bn lifetime savings.

1.4. The ECO Order established three phases for ECO:

[3] Under the Order, obligations were imposed on individual gas or electricity licence holders (referred to as 'suppliers') rather than on the parent company of a group of licence holders. The analysis presented throughout this report is aggregated at group level (referred to as an 'energy company').
[4] See Chapter 2 of our guidance for energy companies for details of entry requirements.
[5] DECC referred to this obligation as the 'affordable warmth' target. The policy intent was to make it more affordable for low-income and vulnerable consumers, also known as the Affordable Warmth Group (AWG), to heat their homes.

- phase 1: 1 January 2013 to 31 March 2013
- phase 2: 1 April 2013 to 31 March 2014, and
- phase 3: 1 April 2014 to 31 March 2015.

1.5. Energy companies' obligations were determined for each phase of ECO. The obligations did not need to be met separately for each phase, but cumulatively for the overall obligation period.

1.6. The number of energy companies with obligated licences increased across the three phases. Six energy companies were obligated from phase one, with two additional energy companies (First Utility and The Co-operative Energy) becoming obligated under phases two and three respectively. Utility Warehouse purchased two obligated licences in December 2013.

1.7. Although the obligation period officially began on 1 January 2013, ECO measures could be installed from 1 October 2012 when only draft legislation was available. Ahead of the legislation coming into force, we published a series of open letters to give energy companies guidance on ECO requirements and how we would administer the scheme in this interim period until final guidance was published.

1.8. 845 measures were installed in the period from 1 October 2012 to 1 January 2013. This low number was expected at the start of the scheme. It may have been a result of energy companies continuing to focus on CERT and CESP in order to meet their obligations for those schemes as well as them being uncertain about the final ECO requirements.

1.9. The ECO Order came into force on 5 December 2012, following which we published full guidance for energy companies on 13 March 2013, replacing the open letters.

Amendments to the ECO Order

1.10. Over the course of ECO there were several legislative changes to reflect amendments to the overall intent of the scheme and which affected the eligibility criteria of measures (see 'Associated documents' for details of the different ECO Orders). The timeline in **Figure 1.1** further below shows the key milestones for ECO.

1.11. Of the various legislative changes, the most significant was announced by DECC in December 2013, which included:

- a reduction of the CERO target by 33% from 20.9MtCO_2 to 14MtCO_2
- changes to the requirements for carrying over savings from CERT and CESP to ECO (excess actions)[6]

[6] Excess actions are measures that were approved under CERT and CESP but were not required

- a savings increase of 75% for CERO primary measures[7] that energy companies delivered before 31 March 2014 (the levelisation process). This process was intended to reward early delivery under CERO

- extending the eligibility for CSCO from 15% to 25% of the lowest income areas on the Index of Multiple Deprivation, plus simplifying the qualifying criteria for the rural sub-obligation, and

- the introduction of roof insulation[8], standard cavity wall insulation and connections to district heating systems (DHS) as primary measures in CERO.

1.12. These changes were largely the result of concerns around the cost to energy companies of delivering the scheme, which were passed on to consumer fuel bills. The changes reduced the cost of meeting the targets by reducing the overall carbon savings to be achieved, allowing for wider delivery of lower cost measures and simplification of some of the requirements.

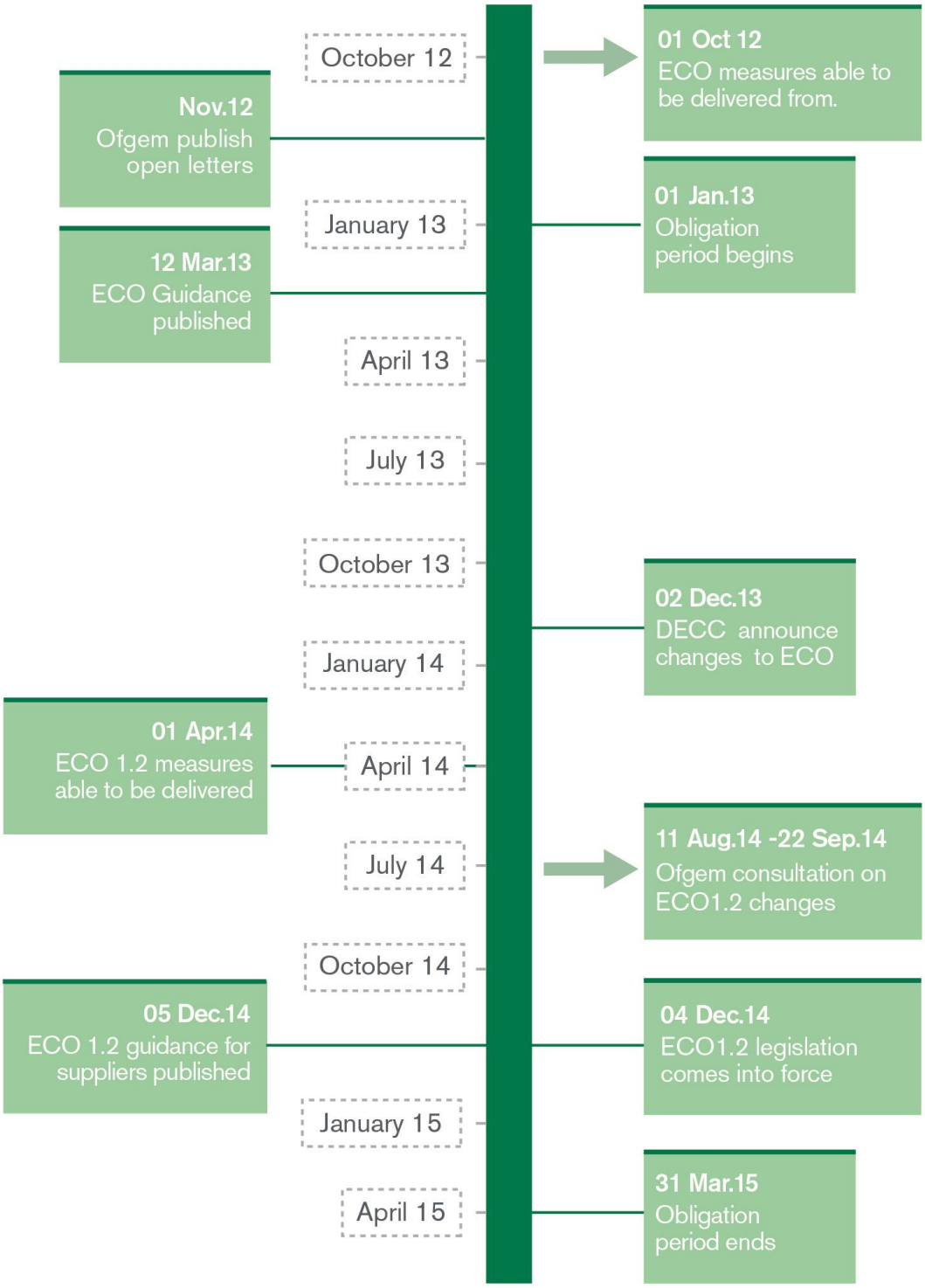
1.13. Although the amending legislation for these changes did not come into force until December 2014, many of these requirements applied to measures installed from 1 April 2014. This group of legislative amendments and the measures installed in accordance with them are referred to as ECO1.2.

to meet those obligations (ie were in excess of them).

[7] Primary measures were intended to be the main measure types installed in CERO (solid wall insulation and hard-to-treat cavity wall insulation in the original Order), which could support secondary measures in the same property.

[8] Roof insulation includes loft insulation as well as room-in-roof insulation, flat roof insulation and rafter insulation.

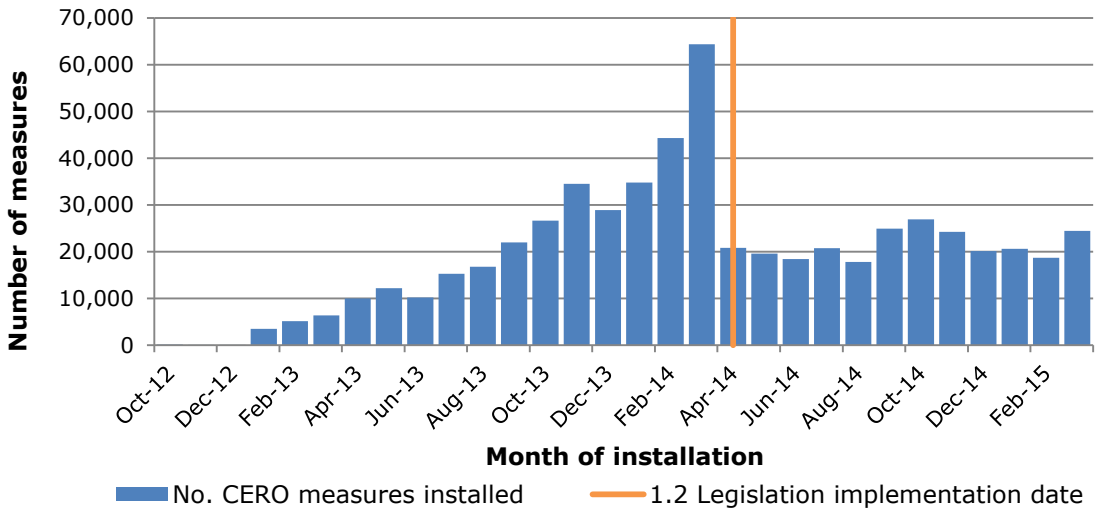
Figure 1.1: Timeline showing the key milestones in the ECO scheme



Impact of ECO1.2 legislative changes on delivery

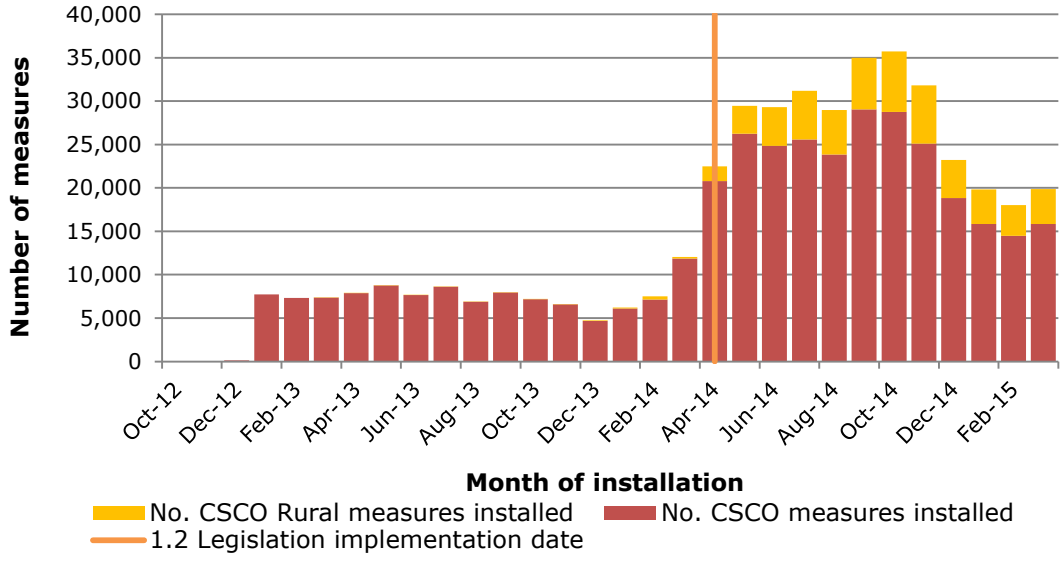
1.14. **Figures 1.2** to **1.4** below show the number of measures delivered over the ECO obligation period for CERO, CSCO (including CSCO rural) and HHCRO respectively. The figures exclude excess actions.

Figure 1.2: Monthly delivery of CERO measures in ECO



1.15. As shown in Figure 1.2 the delivery of CERO measures increased steadily until November 2013. Following a small dip in December 2013, delivery increased to a peak in March 2014. This peak coincided with the installation deadline for measures eligible for the levelisation process. Following a significant drop in installations from April 2014, delivery under CERO remained relatively steady until the end of the obligation.

Figure 1.3: Monthly delivery of CSCO measures, including CSCO rural measures

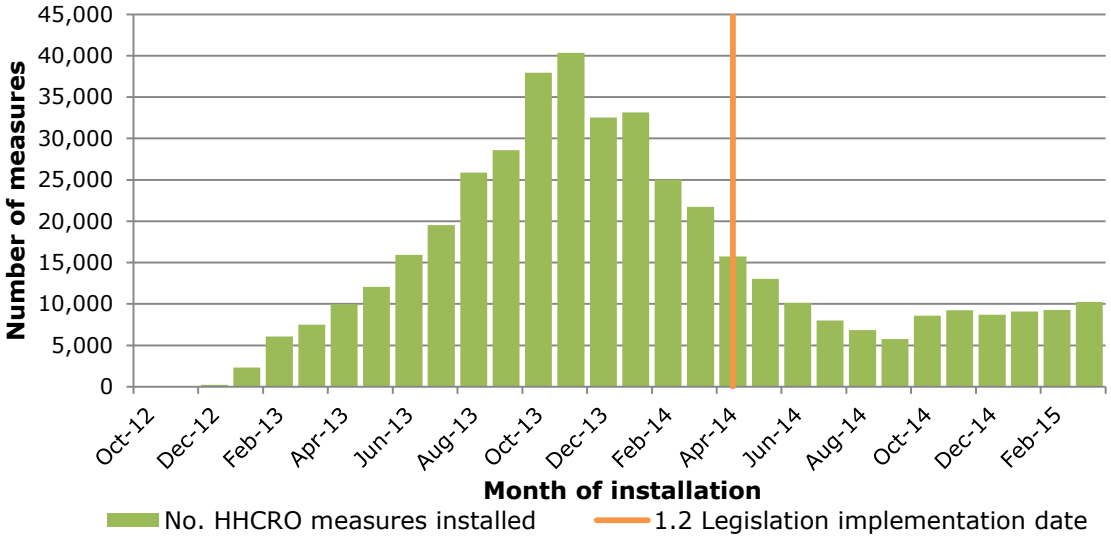


1.16. Figure 1.3 shows the delivery of CSCO and CSCO rural sub-obligation measures over the ECO obligation period. Delivery was relatively low until March 2014, with delivery of CSCO rural sub-obligation measures extremely low in this period.

1.17. The ECO1.2 legislative changes expanded the eligibility requirements for measures installed from 1 April 2014 for both CSCO and the CSCO rural sub-obligation. As shown in figure 1.3, the delivery of CSCO measures increased significantly after the number of eligible low income areas was expanded.

1.18. 98% of measures in the CSCO rural sub-obligation were delivered in accordance with the amended ECO1.2 requirements rather than the original requirements. Enough measures were collectively installed to meet the rural sub-obligation within seven months.

Figure 1.4: Monthly delivery of HHCRO measures



1.19. The ECO1.2 legislative changes did not affect any of the HHCRO requirements. As such, there appears to have been no impact on the delivery profile of HHCRO. Figure 1.4 shows that the delivery of HHCRO measures grew steadily from the beginning of the obligation period until it peaked in November 2013. Delivery then gradually dropped until September 2014 and continued steadily thereafter.

Provision for a new obligation period

1.20. In December 2014 legislation was introduced for a new obligation period starting on 1 April 2015 (referred to as ECO2). It included:

- extending the scheme to 2017

- allowing energy companies to carry forward the majority of savings that were not needed to achieve their obligations under EC'O towards their ECO2 obligations (referred to as surplus actions)

- introducing a provisional solid wall minimum requirement (PSWMR) of 4 $MtCO_2$ carbon savings to be achieved across all energy companies between January 2013 and March 2017, equivalent to approximately 100,000 solid wall insulation measures[9]

- making changes to HHCRO including:

    - introducing uplifts in the cost savings for qualifying boiler replacements and measures delivered to non-gas premises
    - repair and replacement of qualifying electric storage heaters as a new measure, and
    - minimum warranty requirements for replacement boilers and electric storage heaters.

1.21. The extension of the ECO scheme appeared to provide the energy companies with enough assurance for them to continue delivery, even after they had achieved their obligations. This can be seen in figures 1.2 to 1.4 which show relatively steady delivery from December 2014 onwards.

Key observations

- The legislation was amended in December 2014 to reduce the costs of delivering the scheme. These changes amended the eligibility requirements under CERO and CSCO and significantly affected delivery under these obligations.

- The majority of CSCO rural measures were delivered in accordance with the amended ECO1.2 requirements rather than the original requirements. Following the legislative changes, enough measures were collectively delivered to achieve the rural sub-obligation within 7 months.

- The scheme has been extended to March 2017 with amendments including a new target for solid wall insulation measures and amendments to HHCRO. This extension appeared to provide sufficient confidence for the energy companies to continue delivering measures even after their obligations had been met.

[9] Estimate of 100,000 measures from DECC's consultation response, July 2014 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/342178/The_Future_of_the_Energy_Company_Obligation_Government_Response.pdf.

2. Overall performance

Chapter overview

This chapter gives a summary of the overall performance of energy companies against the ECO targets. It also provides an overview of delivery under CERO, CSCO, the CSCO rural sub-obligation and HHCRO.

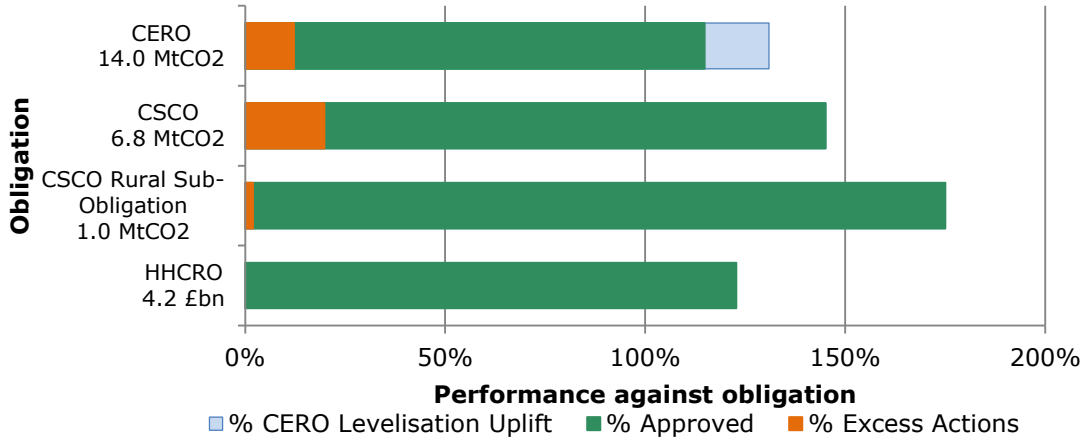
Introduction

2.1. Each ECO obligation had specific eligibility criteria for measures which could be delivered under that obligation. The carbon and cost savings attributed to the measures meeting those eligibility requirements contributed to an energy company's progress towards its obligations. Here we present the combined performance of all energy companies towards the overall ECO targets.[10]

2.2. The ECO Order also set out limits which the energy companies could not exceed. These were the proportion of boiler repairs conducted under HHCRO and the proportion of measures claimed in adjoining areas[11] in CSCO. This chapter shows where the energy companies reached either of these limits.

2.3. Please note that, unless specified, the figures in this and the following chapters do not include excess actions from CERT and CESP.

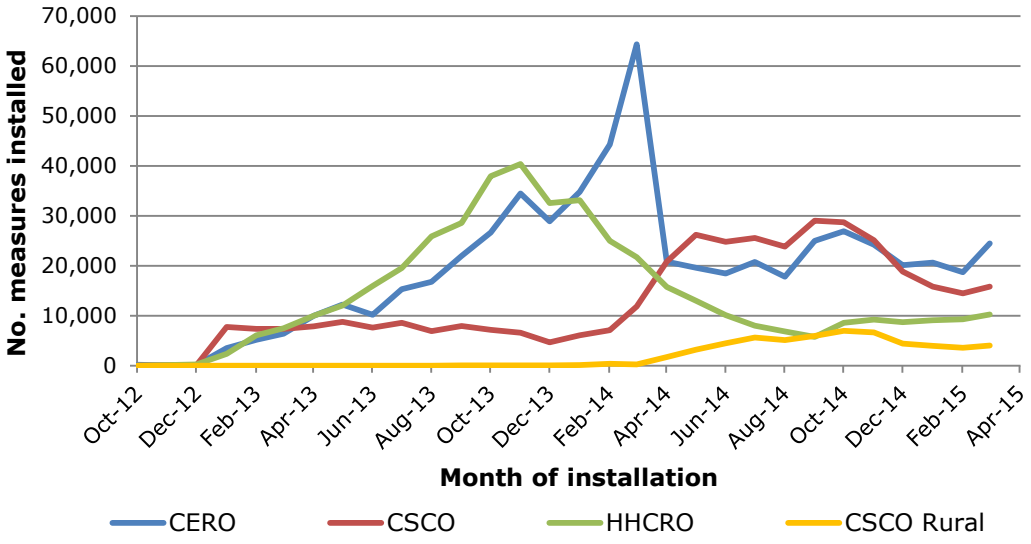
Figure 2.1: Overall achievement by energy companies of ECO targets



[10] The progress towards obligations presented here is accurate as of 4 September 2015. Any information which came to light after this time, eg from a suspected fraud investigation (please see paragraph 4.41 for more information), is not reflected here.
[11] Adjoining areas are those that share a border with an area of low income under CSCO. In England and Wales areas are described as lower super output areas (LSOA). In Scotland, areas are described as data zones.

2.4. **Figure 2.1** above shows achievement against the overall ECO targets set for all energy companies. All targets were exceeded and it is likely that many of these excess savings will be taken forward into ECO2.

Figure 2.2: ECO delivery over time



2.5. **Figure 2.2** above shows the delivery profile of measures in each obligation. It shows that overall, energy companies focused on delivering HHCRO first, followed by CERO and then CSCO and the CSCO rural sub-obligation.

Delivery mechanisms

2.6. Energy companies delivered ECO measures through a variety of mechanisms. The most widely used methods were to contract work directly with installers or to employ managing agents who represented a number of installers. A small number (1% of total ECO measures, the majority of which were HHCRO) were referred to the scheme by the Energy Savings Advice Service and the Home Energy Service.

2.7. Energy companies could also use another mechanism called 'brokerage'. Brokerage was a blind auction platform developed by DECC where installers could sell 'lots' of measures they would then be contracted to deliver to energy companies in return for funding. This system was created in response to requests from the energy efficiency industry to help smaller and newer installers access the market and to facilitate blending of finance with the Green Deal.[12] 13% of measures were delivered through this mechanism.

2.8. The supply chain was relatively long within ECO, ie there were often several companies involved in the delivery of particular measures. As a result it was

[12] The Green Deal is a government-backed scheme intended to work in conjunction with ECO to help fund energy-efficiency improvements to homes in Great Britain.

sometimes difficult to ensure that our requirements were fully understood by all parties. In addition, it was sometimes challenging for suppliers to obtain further documentation or information relating to measures from the supply chain when we requested it.

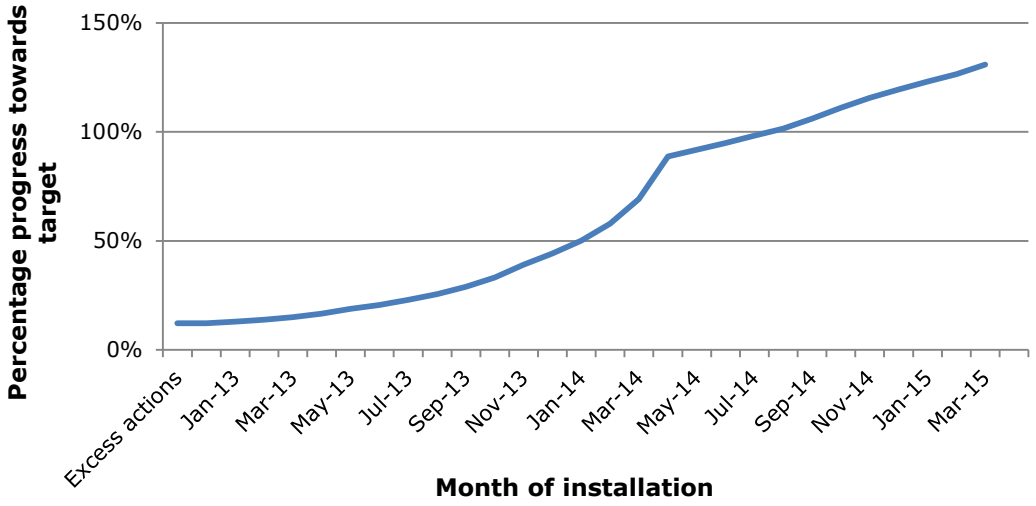
CERO

2.9. The CERO obligation initially focused on insulating hard-to-treat properties (through primary measures such as solid wall insulation and hard-to-treat cavity wall insulation). Additional measures could be installed in these properties by allowing secondary insulation measures. It enabled consumers who were able to pay for the installation of measures, aiming to blend ECO finance with Green Deal finance.

2.10. The ECO1.2 legislative changes expanded the range of permissible primary measures introducing lower cost measures such as loft insulation and standard cavity wall insulation.

2.11. A total of 593,042 measures were delivered under CERO with an additional 107,237 measures carried over from CERT and CESP. As shown in Figure 2.1, the overall carbon savings achieved under CERO met 131% of the CERO target, with 9% of this from carbon savings carried forward from CERT and CESP and 12% resulting from the levelisation process introduced as part of the ECO1.2 legislative changes. All of the energy companies met their CERO obligation.[13]

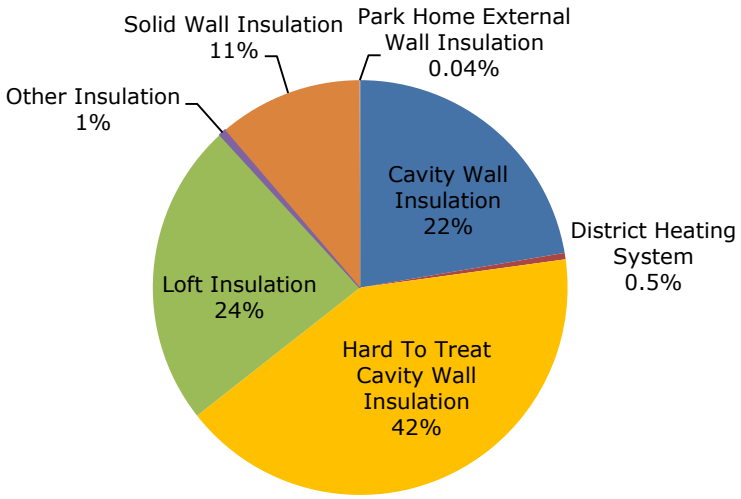
Figure 2.3: Performance against the CERO target over time



[13] The ECO2 Order gave us powers to increase an energy company's CERO obligations in ECO2 if they did not achieve their CERO obligations in ECO. We will not need to amend any ECO2 obligations.

2.12. As shown in **Figure 2.3,** taking into account excess actions from CERT and CESP and the levelisation process, enough measures were delivered to meet the reduced overall CERO target (14 $MtCO_2$) by the end of August 2014.

Figure 2.4: Measure types in CERO[14]



2.13. The overall proportion of measure types delivered under CERO is shown in **Figure 2.4**. It shows that the most frequently installed measure type in CERO overall was hard-to-treat cavity wall insulation by a considerable margin.

2.14. Delivery of hard-to-treat cavity wall insulation and solid wall insulation significantly decreased from April 2014 following a spike in March 2014. From April 2014 standard cavity wall insulation and loft insulation were the prominent measure types delivered.

2.15. There was a notable difference in the proportions of cavity wall insulation, hard-to-treat cavity wall insulation and loft insulation delivered by the different energy companies. The other measure types in CERO were delivered in relatively consistent proportions.

2.16. The main CERO measure types were generally installed in consistent proportions across the different countries. Solid wall insulation was installed more widely in Scotland and Wales (25% and 22% of CERO measures respectively) than in England where only 9% of CERO measures were solid wall insulation. No district heating measures were delivered in Wales and no park home insulation was delivered in Scotland under CERO.

2.17. Over the whole scheme 8.9% of CERO measures were secondary measures. However, there was a reduction in the delivery of secondary measures after

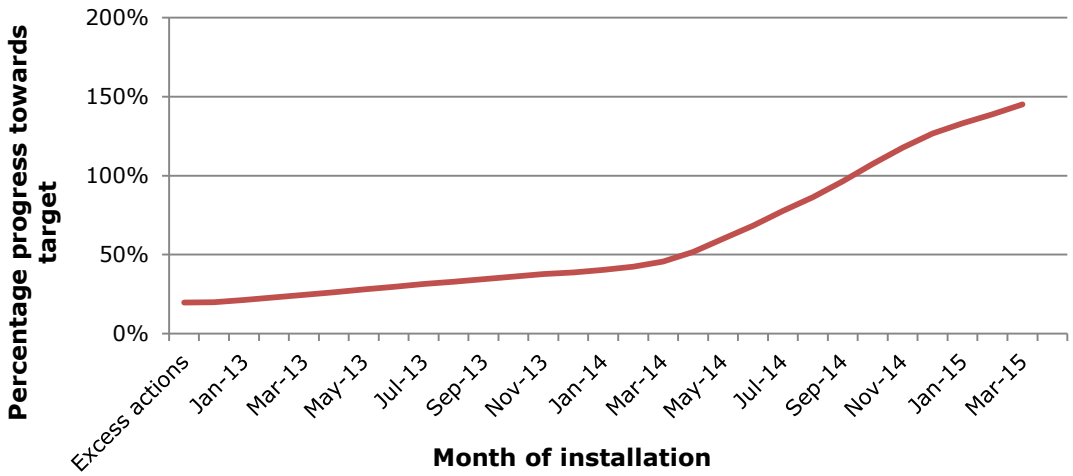
[14] Loft insulation in this figure also includes room-in-roof insulation. 'Other insulation' includes draught proofing, flat roof insulation, hot water cylinder insulation, high performance external doors, party wall insulation, passageway walkthrough doors, under-floor insulation, and window glazing. Values have been rounded.

the implementation of the ECO1.2 legislative changes. 15% of measures delivered up to March 2014 were secondary measures whereas 0.7% of measures delivered from April 2014 onwards were secondary measures.

CSCO

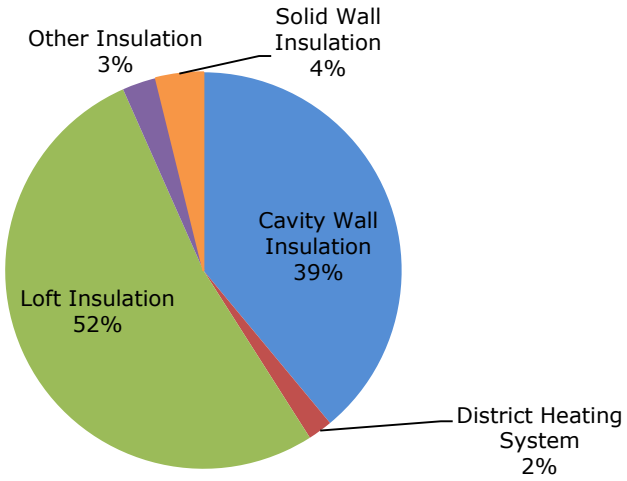
2.18. CSCO focused on the installation of insulation measures and connections to district heating systems at domestic premises within low income and rural areas. A total of 382,982 measures were delivered under CSCO with an additional 83,572 measures carried forward from CERT and CESP.

Figure 2.5: Performance against the CSCO target over time



2.19. The carbon savings under CSCO (including the rural sub-obligation) achieved 145% of the CSCO target with 14% of this from carbon savings carried forward from CERT and CESP. All the energy companies met their main CSCO obligation. As shown in **Figure 2.5,** enough measures were delivered to meet the overall CSCO target by the end of October 2014.

Figure 2.6: Measure types in CSCO



2.20. **Figure 2.6** shows that the majority of CSCO measures were loft insulation measures (52%) with a further 39% being cavity wall insulation. The remainder (9%) consisted of much smaller numbers of other insulation measure types (including draught proofing, under floor insulation and window glazing) and connections to district heating systems.

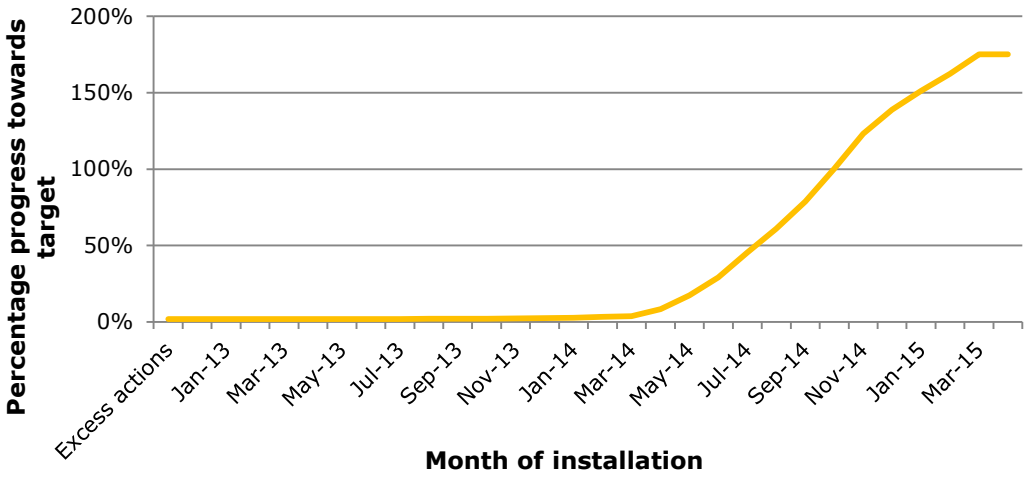
2.21. Generally, the different measure types were delivered in consistent proportions by the energy companies. The energy companies with smaller obligations (The Co-operative Energy, First Utility and Utility Warehouse) showed slightly more variance than energy companies with larger obligations.

2.22. Cavity wall insulation and solid wall insulation was generally installed in consistent proportions within each country. The proportion of loft insulation delivered varied by around 20% between countries. Under floor insulation (captured in the 'other insulation' group in Figure 2.6) comprised 12% of CSCO installations in Scotland compared with around 1% of CSCO installations in England and Wales. In addition, no connections to district heating systems were delivered in Wales under CSCO.

CSCO Rural sub-obligation

2.23. The rural sub-obligation required that at least 15% of an energy company's CSCO delivery occurred in and around rural areas. All of the energy companies met their rural sub-obligation. As shown in Figure 2.1, the CSCO rural sub-obligation had the highest level of over-achievement of all obligations. A total of 56,598 measures were delivered under the CSCO rural sub-obligation, with an additional 1,148 from CERT and CESP, and 175% of the sub-obligation was achieved.

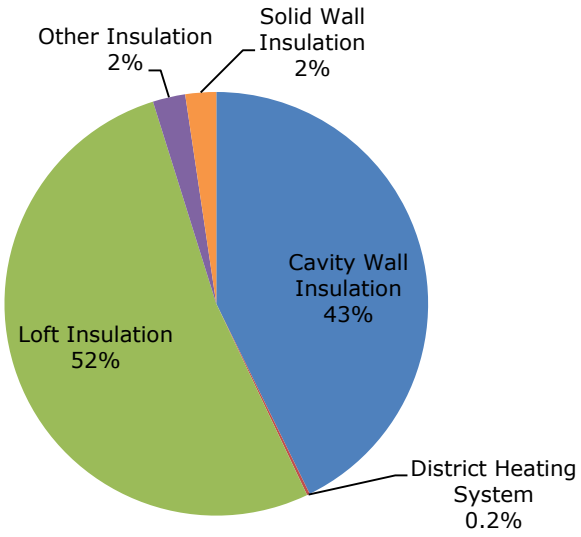
Figure 2.7: Performance against the CSCO rural target over time



2.24. As shown in **Figure 2.7** above, there were very few measures installed under the rural sub-obligation at the start of the scheme. Once the qualifying criteria for the rural sub-obligation were simplified through the ECO1.2 legislative

changes, the number of installations increased significantly. The overall rural sub-obligation was met by the end of October 2014.

Figure 2.8: Measure types in the CSCO rural sub-obligation



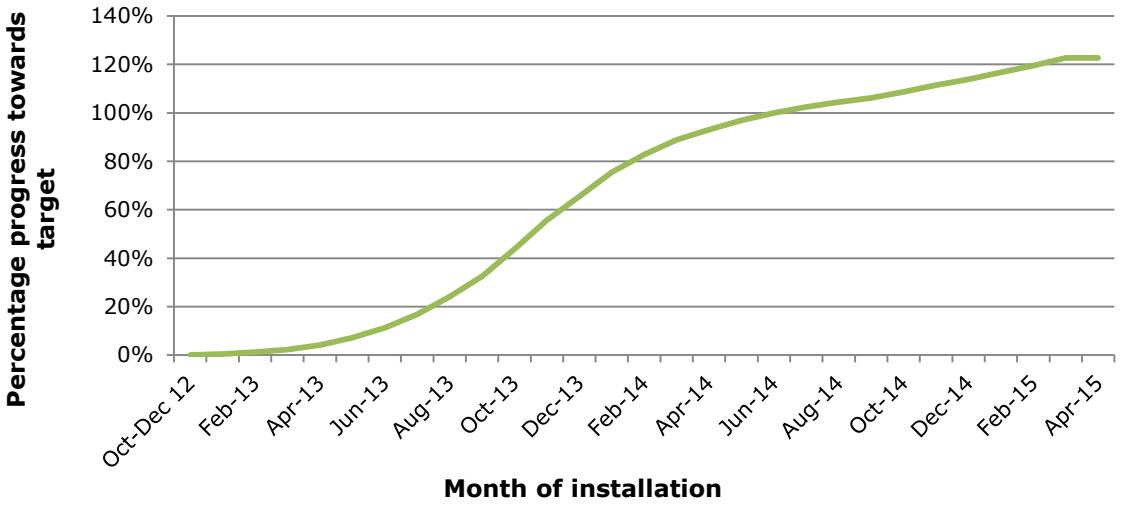
2.25. **Figure 2.8** shows that the two main measure types installed in rural areas were cavity wall insulation (43%) and loft insulation (52%). There was some variation between energy companies in the proportion of these measure types delivered. Other measure types under the CSCO rural sub-obligation were delivered in consistent proportions between the energy companies.

2.26. The patterns seen in the proportions of measure types delivered across the countries under the CSCO rural sub-obligation were similar to those for CSCO, as described in paragraph 2.22 above.

HHCRO

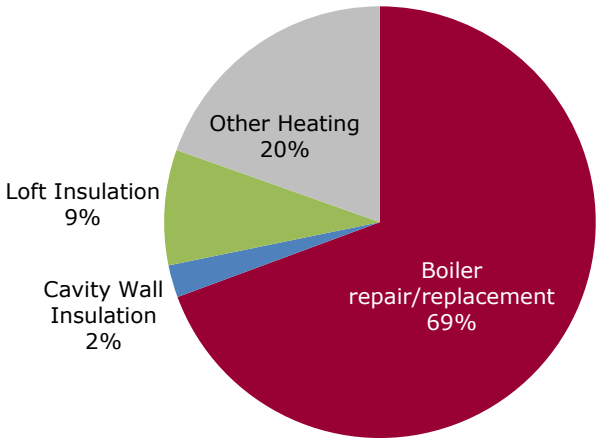
2.27. The HHCRO obligation focused on reducing heating costs for low income and vulnerable householders living in private housing. 433,657 measures were delivered under HHCRO, amounting to £5.16bn in cost savings for consumers. As seen in Figure 2.1, the overall cost savings achieved under HHCRO were 123% of the overall HHCRO target.

Figure 2.9: Performance against the HHCRO target over time



2.28. **Figure 2.9** shows that enough measures were delivered to meet the overall HHCRO target by the end of July 2014.

Figure 2.10: Measure types in HHCRO



2.29. **Figure 2.10** shows that, as expected, the majority of measures installed under HHCRO (88%) were boiler replacements and the associated heating controls (captured under the 'other heating' group). 1% of the boiler repair/replacement section above consisted of boiler repairs. A small proportion of loft insulation and cavity wall insulation measures were delivered at the start of the scheme. This proportion then decreased from August 2013.

2.30. Whilst too small to be presented in Figure 2.10, 0.02% of HHCRO measures were 'other insulation' (which included draught proofing, under floor insulation and window glazing) and 0.002% of HHCRO measures were solid wall insulation.

2.31. The proportions of measure types delivered in HHCRO varied considerably between the different energy companies. However, measure types delivered under HHCRO were generally consistent across the countries.

Boiler repairs

2.32. The Order required that no more than 5% of an energy company's HHCRO obligation could be achieved through savings from the repair of qualifying boilers. **Figure 2.11** below shows each energy company's 5% limit and the percentage they reached. None of the energy companies met or exceeded this limit.

Figure 2.11: Percentage of boiler limit reached

Energy company	5% limit (£Bn savings)	% of limit met
British Gas	0.07	1.57%
The Co-operative Energy	0.0001	0.00%
EDF Energy	0.02	0.01%
E.ON	0.03	0.18%
First Utility	0.001	0.00%
npower	0.02	0.03%
Scottish Power	0.02	0.12%
SSE	0.04	0.01%
Utility Warehouse	0.003	0.00%

Adjoining areas

2.33. Under CSCO, adjoining areas were those that shared a border with an area of low income. As set out in the Order, the total carbon savings of measures carried out in CSCO adjoining areas could not exceed 25% of the total savings achieved in the related low income area. Any savings which exceeded the 25% limit could not contribute to an energy company's CSCO obligation.

2.34. Several energy companies did not engage in the delivery of measures in adjoining areas. For those who did, we conducted indicative assessments of notified adjoining installations in November 2014, February 2015 and March 2015. These results indicated that energy companies had not fully considered the adjoining area limits from the start of the scheme. This early analysis helped energy companies to make adjustments to the number of measures in adjoining areas ahead of the final deadline.

2.35. In July 2015 we conducted the adjoining area determination. A total of 4,760 measures were subject to this determination. **Figure 2.12** below shows that many of these measures had their approval revoked in order for energy companies to not exceed the 25% limit. The figure also shows these revocations as a percentage of the savings subject to the determination. Following the revocations, 2,292 CSCO adjoining installations remained under ECO. This accounted for 0.4% of CSCO savings.

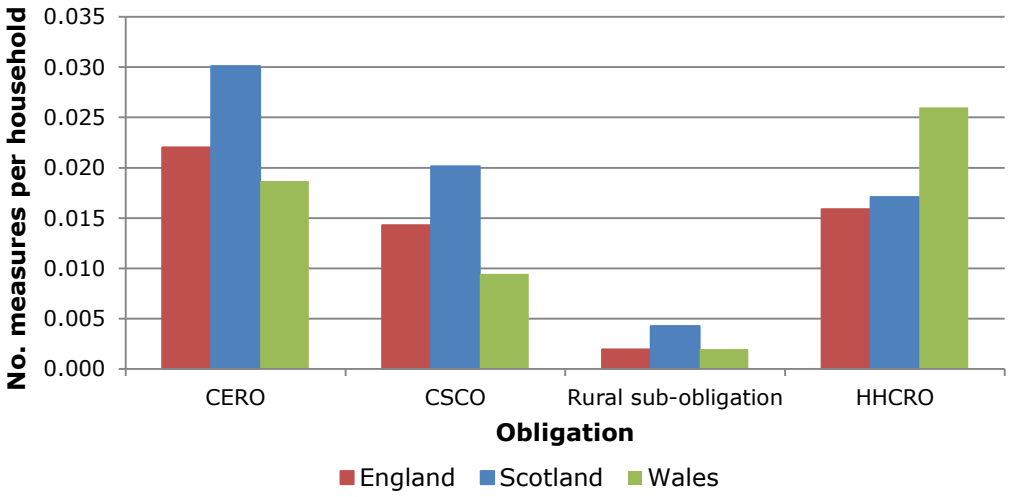
Figure 2.12: Adjoining area determination results

Energy company	No. measures revoked	% of adjoining area savings revoked
British Gas	1,434	56.6%
The Co-operative Energy	-	-
EDF Energy	67	36.0%
E.ON	-	-
First Utility	-	-
npower	856	75.7%
Scottish Power	2	100.0%
SSE	108	38.1%
Utility Warehouse	1	100.0%

Measures delivered per country

2.36. The overall split of ECO measures showed that 83% were delivered in England, 11% were delivered in Scotland and 5% were delivered in Wales. These proportions were relatively consistent across the different obligations. However, **Figure 2.13** below shows that the proportions of measures delivered in each country are different when analysed as the number of ECO measures per household.

Figure 2.13: Number of ECO measures per household[15], by country



2.37. A greater number of CERO and CSCO measures (including CSCO rural) per household were delivered in Scotland than in any other country. This may be due to the funding made available by the Scottish Government to work

[15] Source of no. households per country: https://www.gov.uk/government/statistics/green-deal-energy-company-obligation-eco-and-insulation-levels-in-great-britain-quarterly-report-to-march-2015 .

alongside ECO, such as the Energy Assistance Scheme.[16] A greater number of HHCRO measures per household were delivered in Wales which may be due to Welsh Government schemes such as Nest[17], whose funding could be claimed alongside ECO support.

Key observations

- Overall, energy companies delivered savings significantly in excess of the ECO targets. It is likely that the majority of the excess savings will be carried forward into ECO2.
- The majority of energy companies chose to deliver their obligations via managing agents or direct contracts with installers as opposed to via the brokerage mechanism.
- Overall, the most frequently installed measure type under ECO was cavity wall insulation (including hard-to-treat cavity wall insulation), followed by loft insulation and boiler replacements.
- A greater number of measures per household were delivered in Scotland for CERO and CSCO than England and Wales. A greater number of measures per household were delivered in Wales for HHCRO. These results may be due to devolved government schemes which provided funding that could be claimed alongside ECO funding.

[16] The Energy Assistance Scheme provided funding from the Scottish Government for insulation and heating measures for those at risk of fuel poverty. http://www.gov.scot/Topics/Built-Environment/Housing/warmhomes/eap

[17] Nest is a Welsh Government scheme intended to help reduce the number of households in fuel poverty by providing advice and support. http://www.nestwales.org.uk/home

3. Energy company performance

Chapter Overview

This chapter presents each energy company's achievement against their main obligations and sub-obligations in ECO. It also shows the delivery profile for each energy company.

Introduction

3.1. The size of each energy company's ECO obligations was based on its domestic customer numbers and the amount of energy supplied to its domestic customers (ie similar to market share). Whilst the obligations were set at the individual licence level, here we present progress at the group energy company level. Licence level performance can be seen in **Appendix 1**.

Figure 3.1: Energy company performance against ECO obligations

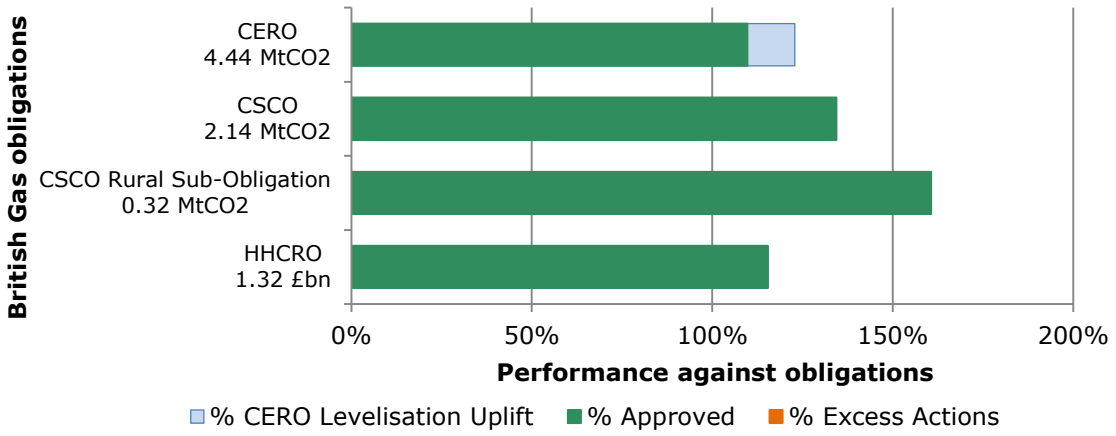
Energy company	CERO	CSCO	CSCO Rural	HHCRO
British Gas	123%	134%	161%	115%
The Co-operative Energy	109%	114%	111%	109%
EDF Energy	128%	134%	142%	141%
E.ON	155%	177%	236%	127%
First Utility	141%	113%	176%	104%
npower	130%	148%	141%	124%
Scottish Power	134%	127%	135%	127%
SSE	125%	157%	223%	118%
Utility Warehouse	109%	106%	109%	107%

3.2. As seen in **Figure 3.1** above, all energy companies met their ECO obligations. The carbon and cost savings achieved by each energy company include any savings that were carried over from CERT and CESP and from the levelisation process. It is likely that the majority of savings in excess of the ECO obligations will be carried forward into ECO2.

British Gas

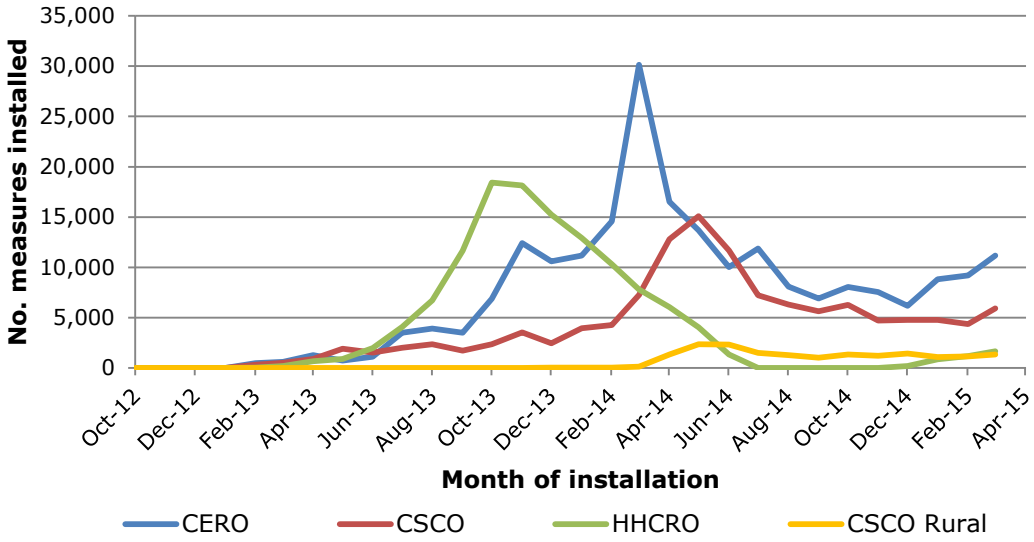
3.3. Two British Gas licences were obligated under ECO and, as shown in Appendix 1, they both met all obligations.

Figure 3.2: British Gas performance against ECO obligations



3.4. **Figure 3.2** shows that British Gas achieved 123% towards its CERO obligation, of which 0.6 $MtCO_2$ (11%) comprised levelisation uplift. It achieved 134% towards its CSCO obligation, 161% towards its CSCO rural sub-obligation and 115% towards its HHCRO obligation. British Gas did not have any carbon carried forward from CERT and CESP.

Figure 3.3: British Gas delivery over time

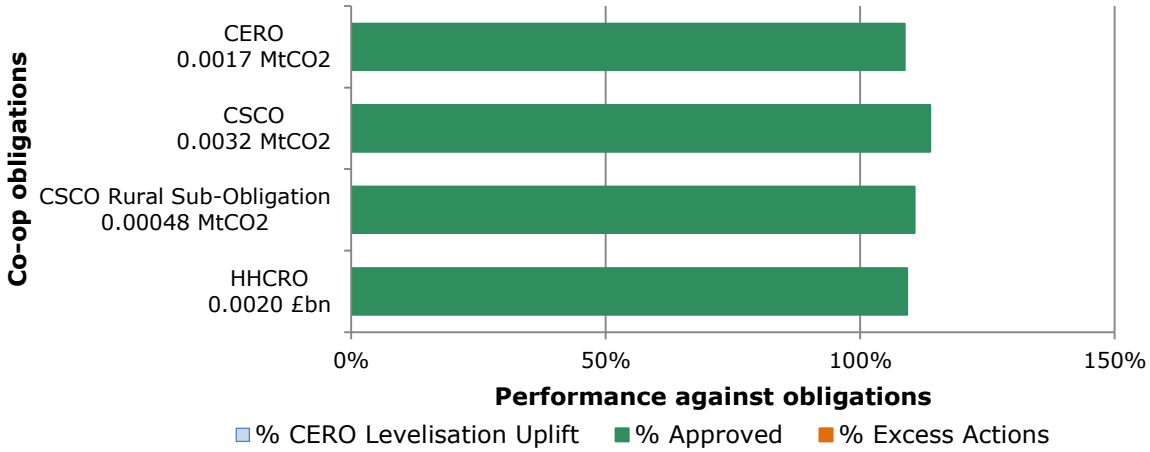


3.5. As shown in **Figure 3.3**, British Gas's delivery profile clearly shows several peaks as it focused first on HHCRO, then CERO and finally CSCO. It had delivered measures to meet all of its obligations by the end of October 2014.

The Co-operative Energy

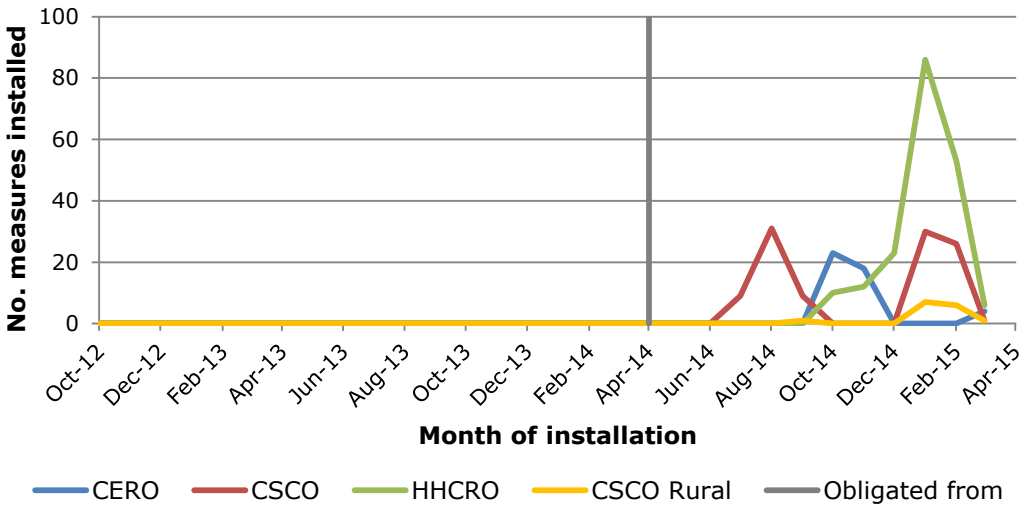
3.6. The Co-operative Energy (Co-op) was obligated from phase 3 of ECO, ie from April 2014. As shown in Appendix 1, Co-op had only one licence which was obligated under ECO, and it achieved all of its obligations.

Figure 3.4: Co-op performance against ECO obligations



3.7. **Figure 3.4** shows that Co-op achieved 109% towards its CERO obligation with 0.0019 $MtCO_2$. Co-op was not obligated until April 2014, so it did not have any savings to bring forward from CERT and CESP and was not eligible to receive levelisation uplift. It achieved 114% towards its CSCO obligation, 111% towards its CSCO rural sub-obligation and 109% towards its HHCRO obligation.

Figure 3.5: Co-op delivery over time

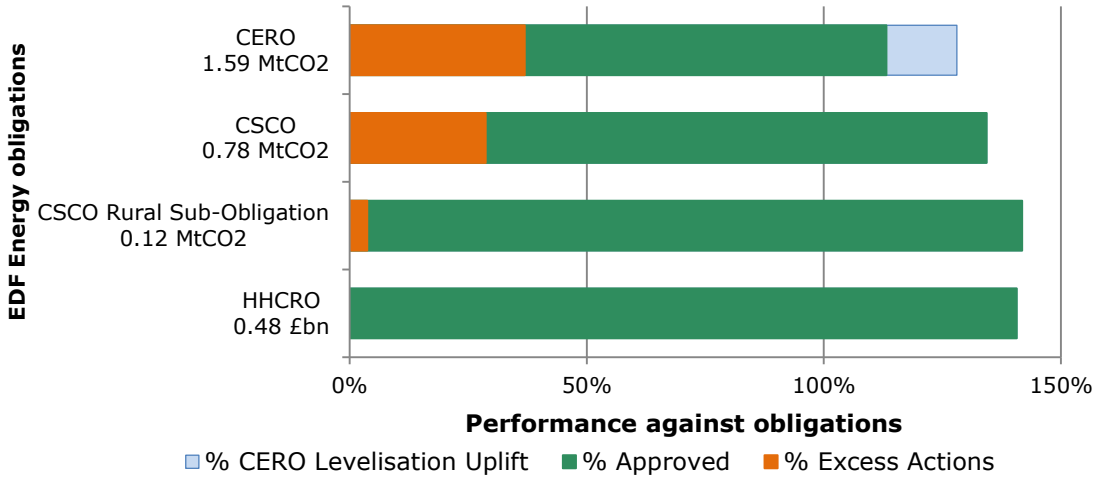


3.8. As shown in **Figure 3.5**, Co-op initially focussed delivery on CSCO and then moved to CERO. They finally focussed on HHCRO and CSCO again, including the CSCO rural sub-obligation. Co-op delivered enough measures to meet all of its obligations by the end of February 2015.

EDF Energy

3.9. Two EDF Energy licences were obligated under ECO and as shown in Appendix 1, they both met all obligations.

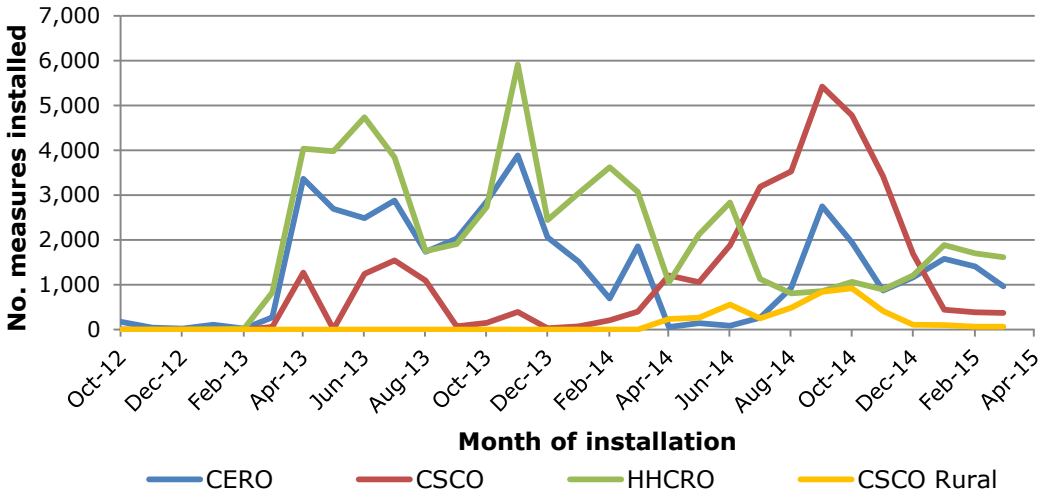
Figure 3.6: EDF Energy performance against ECO obligations



3.10. **Figure 3.6** above shows that EDF Energy achieved 128% towards its CERO obligation of which 0.24 $MtCO_2$ (12%) comprised the levelisation uplift. It achieved 134% towards its CSCO obligation, 142% towards its CSCO rural sub-obligation and 141% towards its HHCRO obligation.

3.11. EDF Energy's carbon savings in CERO, CSCO and the rural sub-obligation all include carbon from measures carried forward from CERT and CESP. The total value of savings from CERT and CESP was 0.81 $MtCO_2$.

Figure 3.7: EDF Energy delivery over time



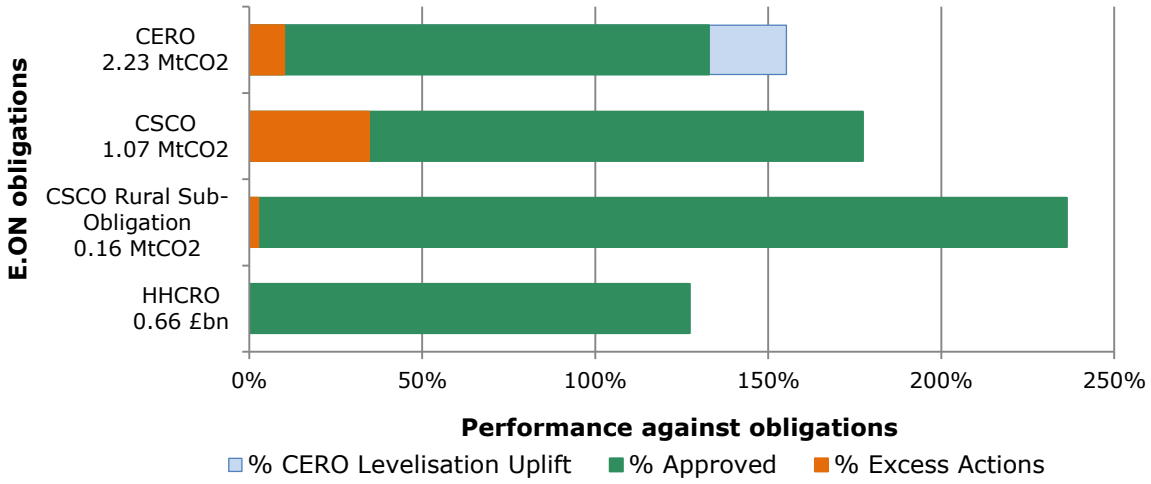
3.12. As shown in **Figure 3.7** above, at the start of the scheme EDF Energy focused on delivering CERO and HHCRO measures. During the second half of 2014,

delivery of CSCO and CSCO rural measures spiked. EDF Energy delivered enough measures to meet all of its obligations by the end of October 2014.

E.ON

3.13. Two E.ON licences were obligated under ECO and, as shown in Appendix 1, they both met all obligations.

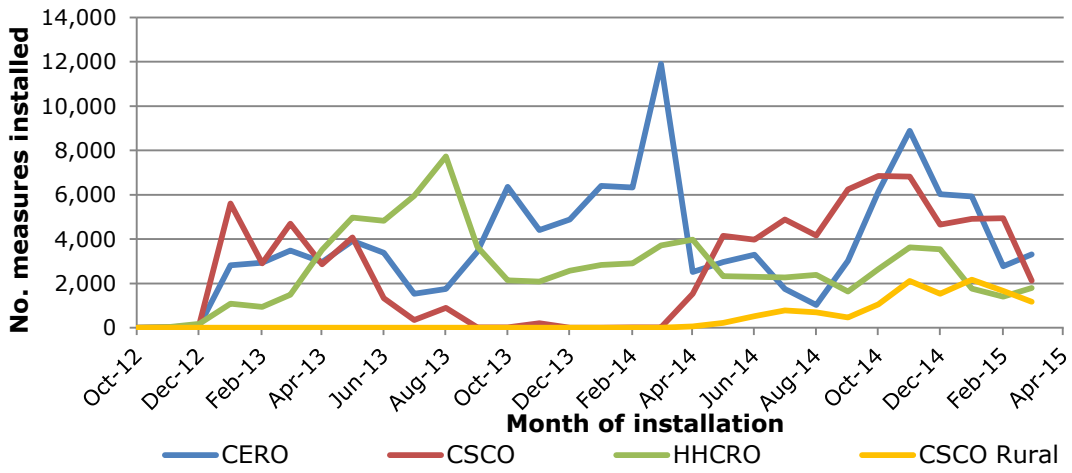
Figure 3.8: E.ON performance against ECO obligations



3.14. **Figure 3.8** shows that E.ON achieved 155% towards its CERO obligation of which 0.50 $MtCO_2$ (14%) comprised the levelisation uplift. It achieved 177% towards its CSCO obligation, 236% towards its CSCO rural sub-obligation and 127% towards its HHCRO obligation.

3.15. E.ON's carbon savings in CERO, CSCO and the rural sub-obligation all include carbon from measures carried forward from CERT and CESP. The total value of savings from CERT and CESP was 0.6 $MtCO_2$.

Figure 3.9: E.ON delivery over time

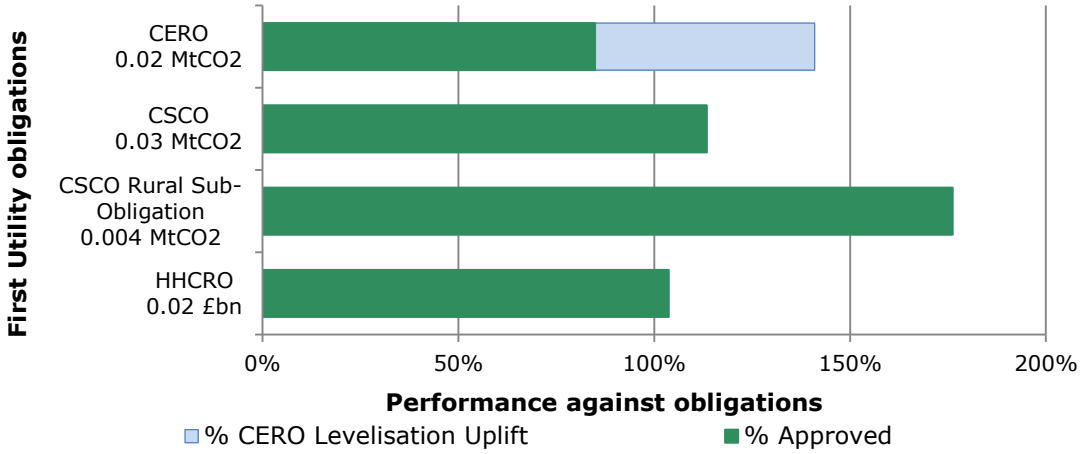


3.16. **Figure 3.9** shows that E.ON delivered its HHCRO obligation consistently following a spike in August 2013. The delivery of CSCO measures dropped significantly during the winter of 2013/14. CERO delivery spiked in March 2014 and November 2014. E.ON delivered enough measures to meet all of its obligations by the end of November 2014.

First Utility

3.17. The two First Utility licences were obligated from phase two of ECO (ie from April 2013). As shown in Appendix 1, both licences met all of their obligations.

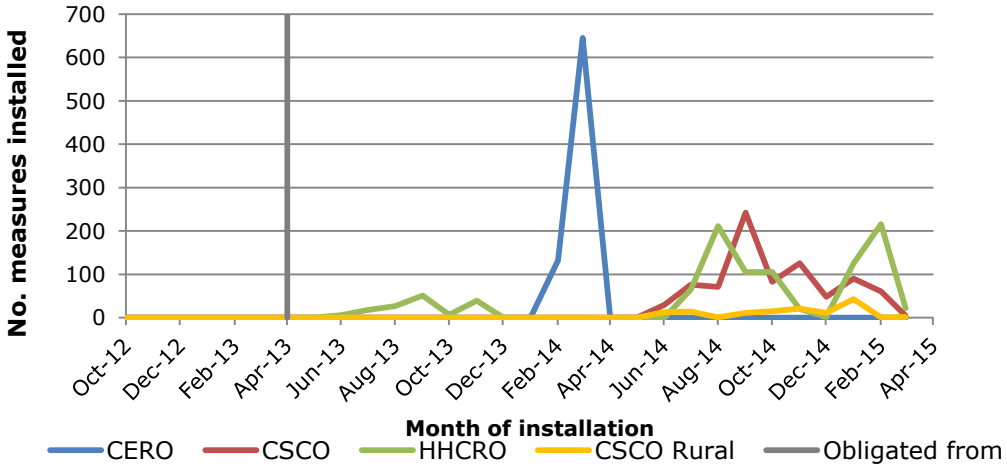
Figure 3.10: First Utility performance against ECO obligations



3.18. **Figure 3.10** shows that First Utility achieved 141% towards its CERO obligation of which 0.01 $MtCO_2$ (40%) comprised the levelisation uplift. It achieved 113% towards its CSCO obligation, 176% towards its CSCO rural sub-obligation and 104% towards its HHCRO obligation.

3.19. First Utility was not obligated under CERT or CESP so did not have any carbon savings from these schemes to carry forward.

Figure 3.11: First Utility delivery over time



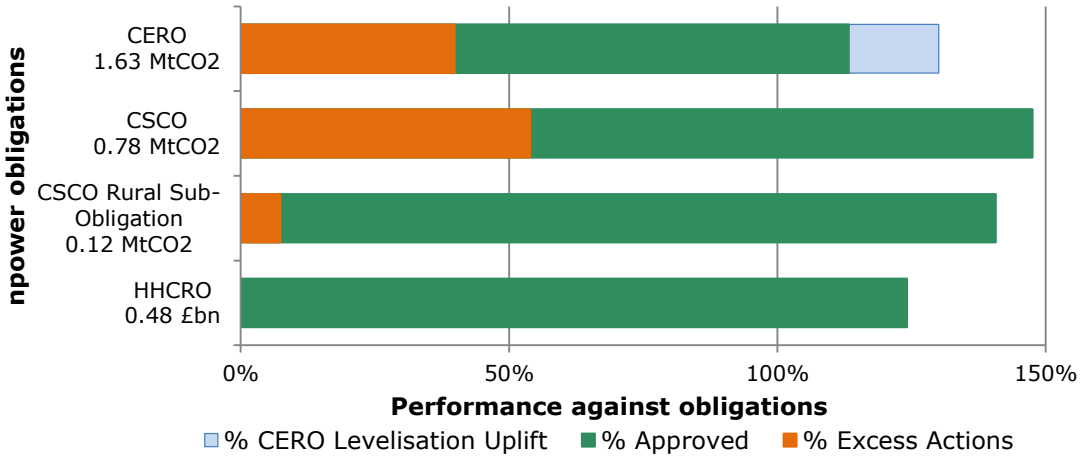
3.20. First Utility delivered enough measures to meet its CERO obligation in April 2014, delivering 71% of the CERO obligation in March 2014 alone. **Figure 3.11** above shows that it focused on delivery of CSCO, CSCO rural sub-obligation and HHCRO measures from late 2014 onwards and had delivered measures to meet all of its obligations by the end of February 2015.

npower

3.21. Ten npower licences were obligated under ECO and, as shown in Appendix 1, they met all obligations.

3.22. npower originally owned 12 licences obligated under ECO. The Electricity Plus Supply Limited and Gas Plus Supply Limited licences were sold to Utility Warehouse in December 2013 and the responsibility for meeting the obligations on these licences was also transferred to Utility Warehouse.[18] See paragraph 3.34 below for further information.

Figure 3.12: npower performance against ECO obligations

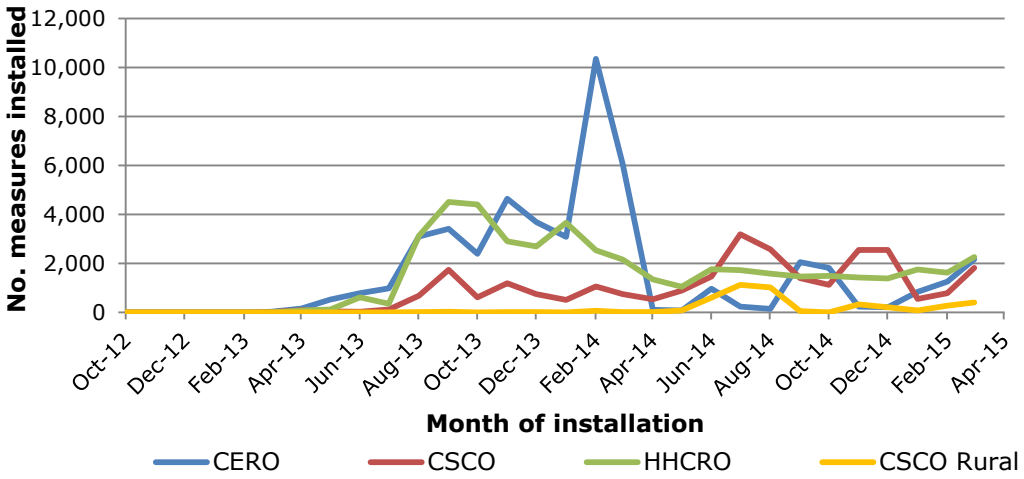


3.23. **Figure 3.12** shows that npower achieved 130% towards its CERO obligation of which 0.27 $MtCO_2$ (13%) comprised the levelisation uplift. It achieved 148% towards its CSCO obligation, 141% towards its CSCO rural sub-obligation and 124% towards its HHCRO obligation.

3.24. npower's carbon savings in CERO, CSCO and the rural sub-obligation all include carbon savings from measures carried forward from CERT and CESP. The total value of savings from CERT and CESP was 1.07 $MtCO_2$.

[18] Figures 3.12 and 3.13 exclude progress on Electricity Plus Supply Limited and Gas Plus Supply Limited licences.

Figure 3.13: npower delivery over time

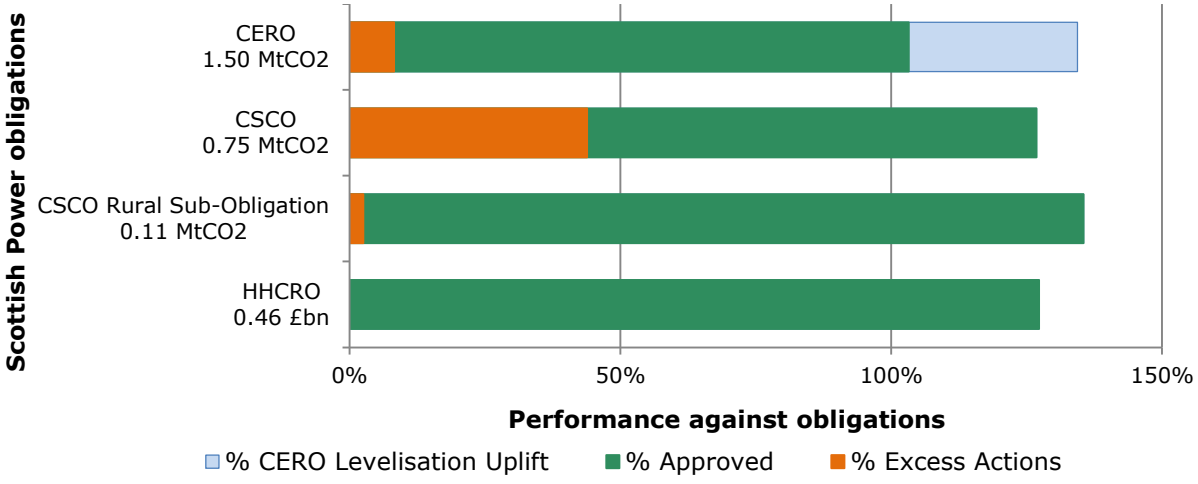


3.25. As shown in **Figure 3.13**, the most pronounced feature of the npower delivery profile was the spike in CERO measures in February 2014. HHCRO delivery peaked in September 2013 and then gradually decreased. Like other energy companies, the majority of CSCO rural activity was after April 2014. CSCO delivery was broadly consistent throughout, peaking in July 2014. npower had delivered measures to meet all of its obligations by the end of November 2014.

Scottish Power

3.26. The two Scottish Power licences were obligated under ECO and, as shown in Appendix 1, they met all of their obligations.

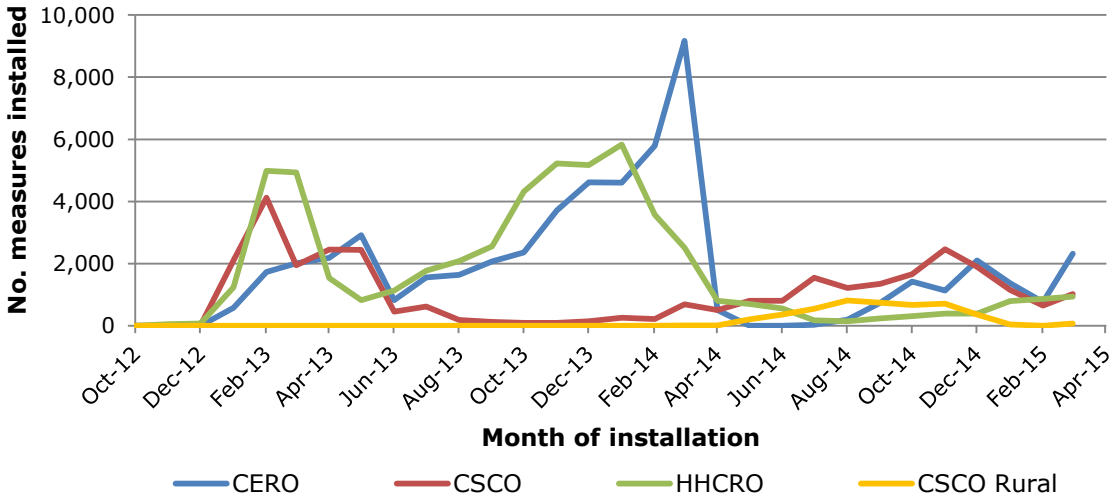
Figure 3.14: Scottish Power performance against ECO obligations



3.27. **Figure 3.14** shows that Scottish Power achieved 134% towards its CERO obligation of which 0.47 $MtCO_2$ (23%) comprised the levelisation uplift. It achieved 127% towards its CSCO obligation, 135% towards its CSCO rural sub-obligation and 127% towards its HHCRO obligation.

3.28. Scottish Power's carbon savings in CERO, CSCO and the rural sub-obligation all include carbon from measures carried forward from CERT and CESP. The total value of savings from CERT and CESP was 0.45 $MtCO_2$.

Figure 3.15: Scottish Power delivery over time

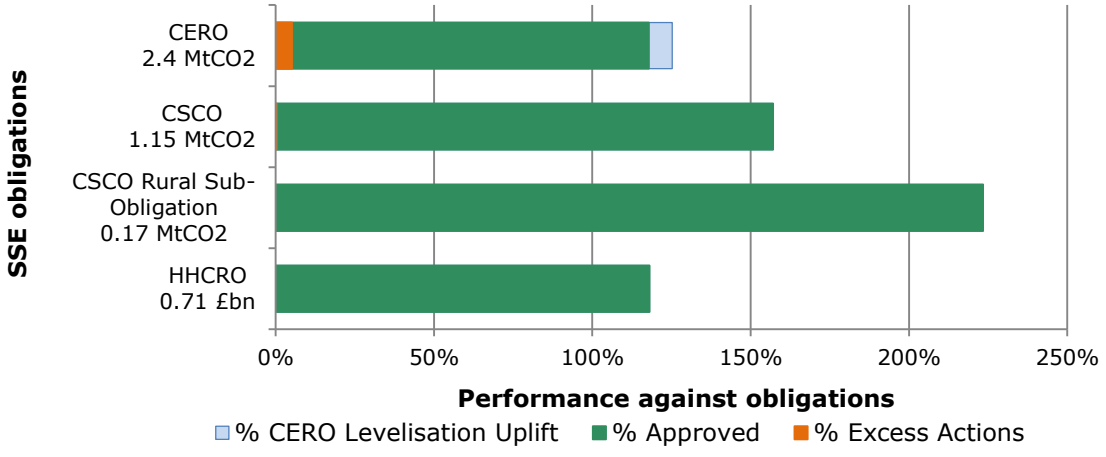


3.29. **Figure 3.15** shows that Scottish Power started the scheme by delivering towards all three main obligations. However, from July 2013 their delivery of CSCO measures dropped to a very low volume whilst CERO and HHCRO peaked at the start of 2014. Low and steady levels of delivery were seen for the last few months of ECO across all obligations. Scottish Power delivered enough measures to meet all of its obligations by the end of November 2014.

SSE

3.30. Two of the SSE licences were obligated under ECO and, as shown in Appendix 1, they met all of their ECO obligations.

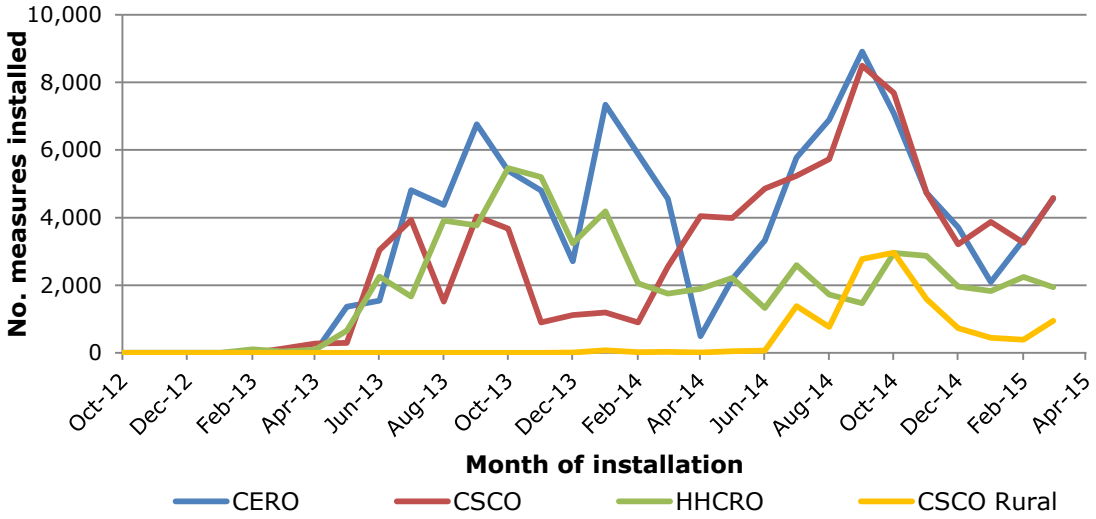
Figure 3.16: SSE performance against ECO obligations



3.31. **Figure 3.16** shows that SSE achieved 125% towards its CERO obligation of which 0.18 $MtCO_2$ (6%) comprised the levelisation uplift. It achieved 157% towards its CSCO obligation, 223% towards its CSCO rural sub-obligation and 118% towards its HHCRO obligation.

3.32. SSE's carbon savings in CERO and CSCO include carbon from measures carried forward from CERT and CESP. The total value of savings from CERT and CESP was 0.13 $MtCO_2$.

Figure 3.17: SSE delivery over time

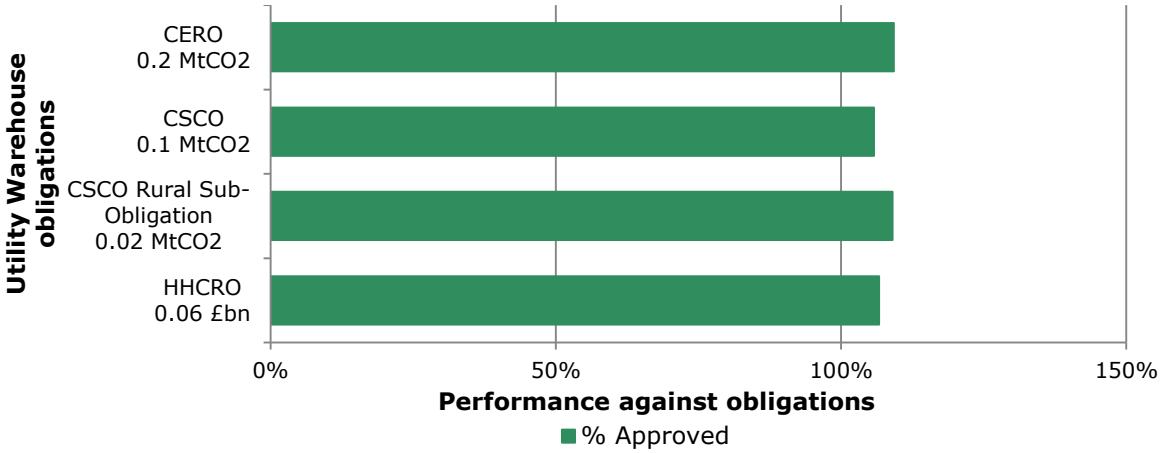


3.33. **Figure 3.17** above shows spikes in delivery activity for HHCRO in October 2013 and around September 2014 for CERO, CSCO and its CSCO rural sub-obligation. SSE delivered measures to meet all of its obligations by the end of November 2014.

Utility Warehouse

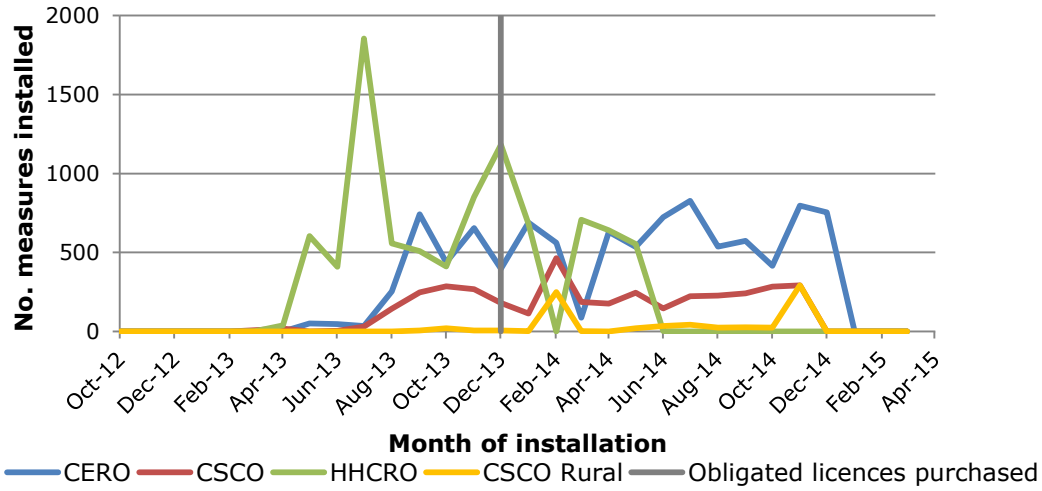
3.34. Utility Warehouse entered ECO following the purchase of two obligated licences from npower in December 2013. As the existing ECO obligations remained with the licences, Utility Warehouse became responsible for achieving these obligations. As shown in Appendix 1 they met with all of their ECO obligations on both licences. Utility Warehouse completed all their obligations via the transfer of measures from another energy company.

Figure 3.18: Utility Warehouse performance against ECO obligations



3.35. **Figure 3.18** shows that Utility Warehouse achieved 109% towards its CERO obligation with no levelisation uplift. It achieved 106% towards its CSCO obligation, 109% towards its CSCO rural sub-obligation and 107% towards its HHCRO obligation. Utility Warehouse did not have any excess actions from CERT and CESP.

Figure 3.19: Utility Warehouse delivery over time



3.36. As shown in **Figure 3.19**, delivery of CERO and CSCO measures transferred to Utility Warehouse remained relatively constant from mid-2013 until the end of the scheme. HHCRO delivery was more uneven and the CSCO rural obligation was almost completely achieved by only two months of activity. Utility Warehouse had received enough measures via transfers to meet all of its obligations by the end of December 2014.

Key observations

- All obligated licence holders met all of their obligations and sub-obligations under ECO.
- The majority of energy companies had delivered enough measures to meet their obligations several months ahead of the deadline. However, delivery continued against all obligations even after the targets were met.
- Whilst there was some variation in individual delivery profiles, the overall trends show that HHCRO was delivered early and CSCO and CSCO rural sub-obligation were delivered later.

4. Monitoring and compliance

Chapter Overview

This chapter explains the activities undertaken by us to support ECO compliance. It includes an overview of the monitoring and compliance activities we required and administered, along with the results and actions taken.

Introduction

4.1. To ensure that all measures under ECO were valid and notified accurately, we undertook a number of core compliance activities over the lifetime of the scheme. These included the review of measures to ensure they complied with the legislation and our guidance, requiring energy suppliers to conduct technical monitoring of installations, auditing of energy companies, investigating suspected fraudulent activity and verifying savings attributed to measures.

Measure processing

4.2. Each month, after measures had been notified to us, we assessed the information provided by the energy companies to check whether the measures met the requirements set out in the legislation and our guidance. Checks were conducted across all aspects of the information notified, including in relation to the eligibility requirements for each obligation, carbon and cost scores[19] and checks for duplicated measures.

4.3. Errors in notification were sent back to energy companies for correction each month. These related to either missing or incorrect information provided for a measure and were often caused by administrative oversight. Error rates[20] were around 47% at the start of the scheme. From November 2013, and following the provision of additional training for energy companies, the error rates reduced to an average of 6% for the remainder of the scheme.

4.4. Whilst energy companies were required to notify measures to us the month after they had been installed, there was a mechanism which allowed an extension of this monthly deadline. Energy companies were granted an extension if they were not able to notify a measure on time due to unforeseen circumstances (excluding administrative oversight). We received 288 extension requests covering 78,507 measures. 86% of these requests were approved.

[19] Scores here refers to the annual carbon or cost savings multiplied by the lifetime and by the in-use factor to achieve a lifetime score.
[20] The number of measures with one or more error as a percentage of the total number of measures processed per month.

4.5. Another mechanism available to energy companies to manage compliance with their obligations was transfer requests. The transfer of measures could occur between licences of the same or different energy companies. We received a total of 118 transfer requests, of which we approved 105. The majority of approved transfers (79%) occurred between licences of the same energy company in order to balance or optimise their savings. The remaining 21% was between Utility Warehouse and another company, enabling Utility Warehouse to deliver against their obligations.

Refused or revoked savings

4.6. Following all of our compliance checks, 51,203 measures (including excess actions) were deemed to be ineligible under ECO and savings were not attributed to these measures. These measures accounted for 3% of all measures notified. **Figure 4.1** below highlights the five main reasons for refusing or revoking savings.

Figure 4.1: Five main reasons for refusing or revoking savings

Reason for revoking/refusing savings	No. of measures	Percentage of notified ECO measures
Invalid HTTC insulation measure	11,991	0.7%
Duplicate measure	8,570	0.5%
Incorrect carbon/cost savings	7,624	0.5%
Ineligible secondary measure	5,488	0.3%
Measure not recommended[21]	4,878	0.3%

4.7. About 10,000 of the HTTC measures in figure 4.1 were eligible to be re-notified as standard cavity wall insulation measures. Therefore, the installations may have eventually been awarded savings.

4.8. Duplicate measures in figure 4.1 were where an ECO measure had been notified more than once or where an excess action was then also notified as an ECO measure. Energy companies resolved the duplicates between themselves in the majority of cases and then notified us of the outcome; as a result the valid measure was kept. The duplicates had their savings revoked and could not be claimed under ECO.

Appropriate methodologies

4.9. Under ECO, carbon and cost savings were required to be calculated using the Standard Assessment Procedure (SAP) or Reduced Standard Assessment Procedure (RdSAP).[22] In cases where these methodologies could not be used

[21] Under the Order, all ECO measures with the exception of district heating connections must be recommended by a Green Deal report or a chartered surveyor's report.
[22] SAP is the methodology used by Government to assess the energy and environmental

to calculate the savings then energy companies could apply for an appropriate methodology.

4.10. One appropriate methodology was submitted to us, which we approved as meeting the requirements set out in the Order. This methodology enabled the calculation of savings achieved by measures installed in multiple occupancy premises, for example, student halls or hostels, where these premises meet the ECO definition of domestic premises. These premises could not be modelled in SAP or RdSAP, as such the Simplified Building Energy Model (SBEM)[23] could be used to calculate savings.

4.11. In ECO, 1.3% of measures were scored using SAP and 98.7% were scored using RdSAP. The remainder (0.0004%) were scored using the above appropriate methodology.

Technical monitoring

4.12. Technical monitoring was a requirement placed on energy companies by us to ensure that ECO measures were installed to the required standards and scored accurately. It consisted of on-site inspections conducted by independent, suitably qualified technical monitoring agents. Energy companies were required to commission technical monitoring on a 5% sample of the measures that they had delivered. Where measures failed monitoring we required the energy companies to resolve any issues discovered.

4.13. Technical monitoring agents assessed standards of installation and ECO scoring inputs[24] against a standard questionnaire[25] provided by us. The results were reported to us by energy companies on a quarterly basis. We then analysed the information provided and published the results on our website.[26]

4.14. All energy companies achieved the required 5% monitoring rate. **Figure 4.2** below shows the total number of measures monitored by each energy company and their monitoring rate as a percentage of the total number of measures notified that were eligible for monitoring.

performance of a dwelling. RdSAP is the lower cost version of SAP and is also used for domestic Energy Performane Certificate ratings.

[23] SBEM was developed by the BRE to assess the carbon emissions of non-domestic buildings.

[24] A scoring input is a piece of information about the property which may affect the carbon or cost score of a measure, eg floor area and fuel type.

[25] https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-technical-monitoring-questions

[26] The published technical monitoring reports can be found here: https://www.ofgem.gov.uk/environmental-programmes/energy-company-obligation-eco/energy-company-obligation-eco-public-reports

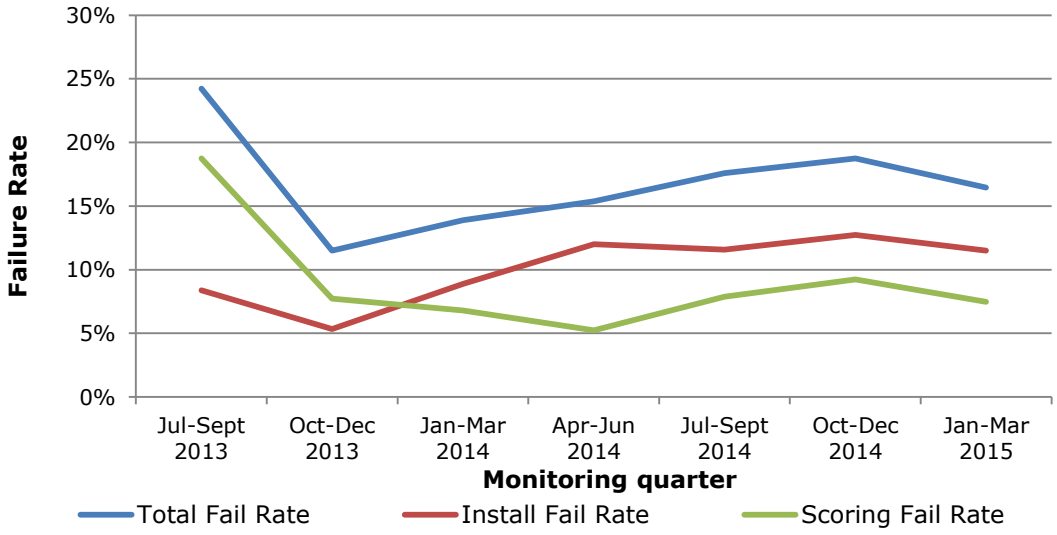
Figure 4.2: Energy company monitoring rates[27]

Energy company	Measures monitored	Monitoring rate
British Gas	28,226	6%
The Co-operative Energy	20	6%
EDF Energy	15,865	12%
EON	17,029	6%
First Utility	148	5%
npower	7,549	5%
Scottish Power	9,123	6%
SSE	22,771	9%
Overall	**100,731**	**7%**

4.15. **Figure 4.3** below shows the scoring and installation failure rates over time. The quarters shown relate to the quarter in which the monitoring was conducted. These failure rates exclude any reported fails that were subsequently overturned.

4.16. Note that measures monitored during the first two quarters of ECO (January to June 2013) were assessed against the standard questionnaire set used during CERT and CESP and, as such, the monitoring rates for this period are not directly comparable to those of later quarters. The questions were amended based on feedback from the supply chain from CERT and CESP as well as to reflect scoring of measures using SAP and RdSAP under ECO.

Figure 4.3: Technical monitoring failure rate over time



4.17. If a measure failed technical monitoring based on the standard of installation, energy companies were required to remediate (ie correct) the measure. Once this remediation had taken place, a further inspection had to be passed to

[27] As Utility Warehouse completed all obligations via transfers from other energy companies and did not deliver any measures, they were not required to carry out technical monitoring.

ensure any fault with the measure had been properly remedied. Of the 9,963 measures that failed technical monitoring based on the standard of installation, 7,446 (75%) were remediated and passed re-inspection.

4.18. If a measure failed technical monitoring because of an inaccuracy in a scoring input, the energy companies were required to review and provide a revised, accurate score for the measure. Of the total 6,498 scoring fails, 5,331 (82%) were rescored. This resulted in a net increase in scores of 850 tCO_2 for CERO, a decrease of 6,519 tCO_2 for CSCO and a decrease of £1,287,371 cost savings for HHCRO.

4.19. Where energy companies were unable to resolve an issue identified through technical monitoring (eg they were unable to gain access to a property or could not accurately score the measure) and did not meet our requirements, we did not attribute savings to the measure. This meant that the measure could not be counted towards an energy company's obligations.

4.20. Where we did not attribute savings to a measure, we still expected the energy company to seek to remedy any failures for the benefit of the consumer. For a full breakdown of the types of fails reported as part of technical monitoring, see our public technical monitoring reports on our website.

Audit

4.21. A key aspect of our administration of ECO was developing and managing an effective auditing framework. The aim of the framework was to minimise the risk and impact of non-compliance with ECO requirements on consumers. We worked with all energy companies to detect and mitigate this risk.

4.22. A number of audit activities were conducted during ECO. These included a mixture of process-based and measure-specific audits. Initial 'health checks' were conducted at the beginning of the scheme or when an energy company became obligated. These assessed energy companies' readiness for delivering ECO and notifying the measures to us. Following the initial health checks, annual process-based audits assessed energy companies' procedures and compliance checks for measures. These were complimented by measure-specific audits, which included a mix of documentation reviews and on-site monitoring activity.

Process audits

4.23. Our process audits focused on the controls energy companies had in place to ensure they notified compliant measures. The reviews were wide-ranging and benchmarked energy companies against good practice.[28] We made recommendations where relevant and worked with energy companies to ensure they were implemented.

[28] Prior to the audits we outlined to energy companies our perception of 'good practice'.

4.24. After the first process audits in 2013 we asked the energy companies to provide detailed plans as to how they intended to address the issues identified. We tracked the progress and the areas of risk were audited again the following year. The improvement in the average audit rating can be seen between the first and second process audits in **Figure 4.4** below.

Excess action audit

4.25. In addition to our energy company process audits, we also undertook two audits on nominated excess actions from CERT and CESP (one before and one after the ECO1.2 legislative changes). These confirmed that, where applicable, relevant energy companies were only choosing to include eligible measures as excess actions. They also checked that individual measure information matched the records for CERT and CESP. All energy companies passed the audit with a 'good' or 'satisfactory' rating.

HHCRO audit

4.26. The ECO team received a significant number of queries on HHCRO and AWG eligibility over the first year of the scheme. Combined with the fact that there were numerous ways of evidencing AWG/householder status, this area was identified as a potential compliance risk. In April 2014, we conducted measure-specific audits to assess the compliance of energy companies' measures with the HHCRO requirements.

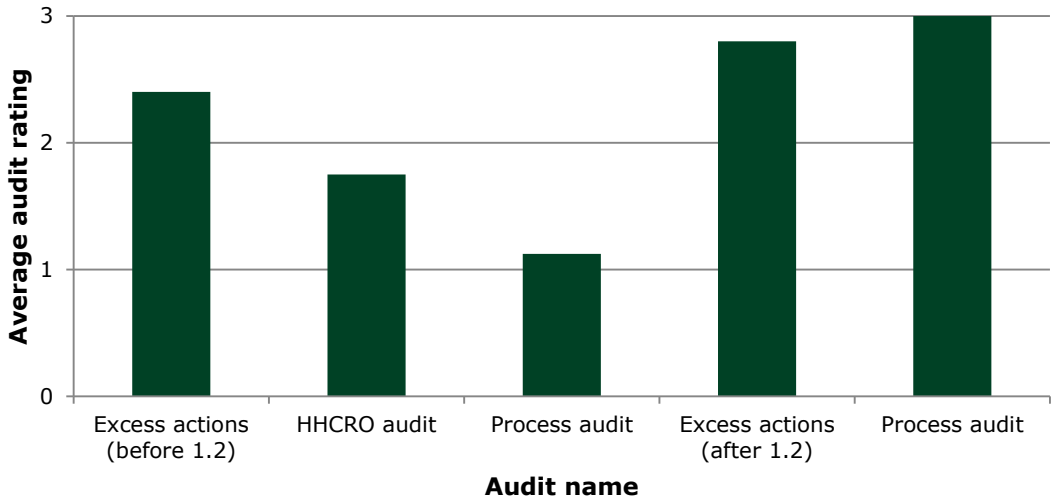
4.27. The results of the audit showed that in many cases the recommended evidence of HHCRO eligibility was not held by energy companies, particularly in relation to the boiler checklist.[29] However, alternative evidence subsequently provided did reduce the initial failure rate.

4.28. Where sufficient evidence was not provided, measures were unable to have savings attributed to them. In addition, where necessary, we sought reassurance from energy companies regarding their procedures for checking and storing evidence. Given the poor audit results, we will be conducting a further audit on boiler measures in ECO2.

4.29. Audit results were classified into four categories to reflect energy company performance. As shown in Figure 4.4 below, the average rating of energy companies improved towards the end of the scheme. The results of all of the ECO audits will inform our ECO2 audit strategy.

[29] The boiler checklist was a tool to help installers to understand whether a boiler was 'qualifying' under ECO (ie was broken down or not functioning properly and could not be economically repaired).

Figure 4.4: Audit ratings in ECO



Audit rating key: 0= Unsatisfactory
1= Weak
2= Satisfactory
3= Good

Hard to treat cavity (HTTC) wall insulation review

4.30. One of the key eligibility requirements for CERO under the original ECO legislation was that any cavity wall insulation measures intended as a primary measure must be installed to walls that meet the definition of a 'hard-to-treat' cavity wall. In early 2013 we received information which cast doubt on the eligibility of some HTTC wall insulation measures notified under ECO.

4.31. Following an internal assessment of a sample of measures, we decided it was necessary to undertake a review of three categories of HTTCs installed in 2013: narrow cavities, cavities requiring remedial work and cavities requiring the use of non-standard materials or techniques. The review assessed whether the treated walls met the eligibility criteria set in legislation for the HTTC category against which they were notified.

4.32. Approximately 63,000 HTTC measures were assessed through a document review. Of these, at least 1% of 'narrow' measures were also subject to independent site audits. The overall results are shown in **Figure 4.5** below. There is more information about the review and its results in the ECO HTTC report on our website.[30]

[30] https://www.ofgem.gov.uk/publications-and-updates/eco-httc-report

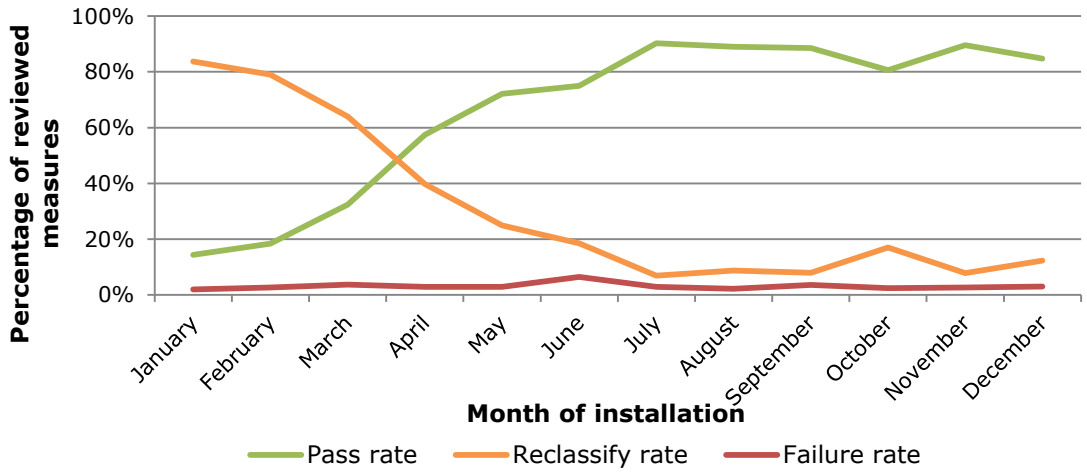
Figure 4.5: HTTC review results

Outcome	Number of measures	Percentage of total
Pass	44,852	71%
Reclassify	16,276	26%
Fail	1,909	3%

4.33. As can be seen in **Figure 4.6** below, there was a substantial variation in the pass rate between the first and second half of the year. Measures installed between January and June 2013 achieved a pass rate of just over 50%; between July and December, 87% of measures passed the review. This shows a significant improvement in the accuracy of measures notified by energy companies from July 2013 onwards.

4.34. This improvement can be explained in part by our close engagement with energy companies and industry to raise awareness of issues identified with the delivery of HTTCs. We also consulted on and introduced new evidence requirements for these measures.

Figure 4.6: Outcomes of HTTC review over time (2013)



4.35. Where the review showed that there was no evidence in support of the original HTTC category, we permitted energy companies to reclassify measures to another HTTC category (provided this was supported by documentary evidence). For example, a measure originally notified as a 'narrow' HTTC could be reclassified to a 'remedial' HTTC if there was a chartered surveyor report to support this category. This approach ensured that measures with savings of approximately 464,000 tCO_2 initially notified incorrectly under ECO were not lost and could contribute towards energy companies' obligations.

4.36. Of the 1,909 measures that failed the review, the majority of these savings were rejected. However, in a number of cases where measures were installed in accordance with all other ECO requirements, energy companies were able to

move the measures to standard cavity wall insulation measures in CSCO or HHCRO[31] or to reclassify them as standard solid wall insulation measures.

4.37. In addition to the failure rate shown above, notified savings for narrow HTTCs were reduced by approximately 61,000 tCO_2 to take into account the results of the site audits. In total, (when failed measures are included), the savings attributed to all HTTC measures were reduced by approximately 101,000 tCO_2 following the HTTC review. This is the equivalent of 0.72% of the CERO target.

4.38. The final numbers of HTTCs and their categories are shown in **Figure 4.7** below.

Figure 4.7: HTTC classification

HTTC type	Number of measures	Percentage of total HTTCs
3 storey and above	97,324	38%
Non-standard materials or techniques	71,277	28%
Remedial work required	54,456	21%
Narrow cavity	27,719	11%
Prefabricated or metal frame	670	0%
Natural stone	2,543	1%

4.39. HTTC wall insulation ceased to be an eligible measure under ECO following the 1.2 legislative changes. Therefore, this was no longer an issue towards the end of the scheme.

Fraud prevention

4.40. The ECO scheme had long and complex supply chains which were vulnerable to fraud. Our enforcement powers as administrator applied to the obligated energy companies. We therefore required that energy companies had robust controls in place for detecting and mitigating fraud within their supply chains.

4.41. We regarded fraudulent activity as covering any dishonesty or misrepresentation in the context of the ECO Order or our guidance. We also scrutinised behaviour which undermined the government's policy intent or our administration of the scheme.

4.42. Throughout the ECO scheme, we identified a number of fraud risks. We took the following steps in order to mitigate these risks:

- taking a zero tolerance approach to fraud by investigating all cases of suspected/reported fraud

[31]Wall insulation measures under CSCO or HHCRO were not required to be delivered to hard-to-treat properties.

- establishing the ECO Industry Fraud Prevention and Compliance Committee to engage with energy companies, discussing common fraud risks and driving best practice
- reviewing energy companies' fraud prevention strategies on an annual basis and offering guidance on how these strategies could be strengthened
- working with Action Fraud to improve our reporting of suspected fraud to maximise the likelihood of police action
- sharing of fraud risks and issues with DECC so that these could be considered in future policy development
- reviewing samples of supporting documentation for high risk measures to ensure compliance with the Order and our guidance, and
- developing relationships with external stakeholders including installer and assessor accreditation bodies who could assist us with investigations into suspected fraud.

Areas of concern

4.43. 26% of suspected fraud cases investigated were focused on documentation issues, for example misrepresentation of the installation date or the householders consent. We will continue to monitor this situation in ECO2 by requesting and reviewing supporting documents in line with Ofgem guidance. To support these checks we have invested in software to help us better identify altered documentation.

4.44. 21% of suspected fraud cases investigated were focused on misrepresentation of the ECO measure for example a loft top up measure being incorrectly notified as a virgin loft measure. To address this, in parallel to these investigations we issued guidance[32] to clarify approaches for calculating the savings for loft insulation and this is an area that we will continue to monitor closely in ECO2.

4.45. 20% of suspected fraud cases investigated were due to the ECO score being misrepresented, for example falsely claiming that guarantees have been applied for to gain higher lifetimes or inflating EPC inputs to gain a higher carbon score. We will continue to work with external bodies such as EPC certification bodies and guarantee agencies to reduce the risk of fraud in this area for ECO2.

4.46. As a result of our suspected fraud investigations into 10,256 measures, 7,827 measures were refused savings, 328 were amended and 2,101 remained unchanged where we found the concerns not to be verified.

[32] https://www.ofgem.gov.uk/sites/default/files/docs/2015/06/loft_insulation_understated_levels_table_only_0.pdf.

4.47. Due to the timing of concerns being identified and conducting full investigations, a number of suspected fraud investigations were ongoing at the time of our final determination. This means a total of 2,830 measures that have been approved may yet have savings amended or revoked. The carbon or costs savings, which total 78,731 tCO_2 and £4,553,070 respectively, would not cause any energy company to fail their obligations.

4.48. The outcome of these fraud investigations may be relevant when applications for surplus actions under ECO2 are considered. This would be the main reason for any changes to ECO savings following final determination.

Score verification

4.49. One of our duties as the ECO administrator was to attribute carbon or cost savings to notified measures once we were satisfied that they were correctly calculated and accurate. We achieved this in two main ways, firstly through technical monitoring, and secondly through our score verification process.

4.50. As part of the score verification process we assessed the carbon or cost savings (collectively referred to as scores) for notified measures using a dynamic scoring model which was based on RdSAP. This model allowed us to identify scores that fell outside an expected range for that measure, property and fuel type mix. We returned measures with scores that fell outside these boundaries to energy companies, providing them the opportunity to confirm the accuracy of the notified scores.

4.51. We selected a total of around 42,000 measures to be verified, of which 10,500 subsequently required an amendment to their score, fuel or measure type. This resulted in a net decrease of around 580,000 tCO_2 for CERO, a decrease of 123,510 tCO_2 for CSCO and a decrease of £30,000 for HHCRO. Where an energy company was unable to provide us with sufficient evidence to verify a score, we did not attribute savings to the measure. For this reason, we refused or revoked savings of 87,530 tCO_2 for CERO, 48,330 tCO_2 for CSCO and £4.7m for HHCRO.

Key observations

- Several issues were identified throughout ECO which raised concerns over the quality of installations. Technical monitoring failure rates were higher at the start of the scheme for both installation and scoring issues. We saw an improvement in technical monitoring failure rates throughout ECO and we have amended our processes for ECO2 taking into account lessons learnt from ECO.

- We conducted several audits of energy companies to ensure they had sufficient checks and processes in place to validate their measures. The results from these audits improved throughout the scheme due to energy companies' improved understanding of the requirements and increased controls.

- We also observed difficulties with the accurate notification of measures under ECO, for example the classification of hard-to-treat cavity wall insulation measures and scoring. We worked with energy companies to ensure that, where identified, any issues were corrected to minimise the loss of carbon/cost savings towards obligations.

- ECO had higher volumes of potential fraud when compared with other environmental schemes. The majority of cases were regarding documentation issues, misrepresentation of an ECO measure (eg top-up loft insulation claimed as virgin loft insulation) or score misrepresentation. We took a no tolerance approach and worked with a range of stakeholders to try to mitigate risks.

- Following our compliance checks, 51,203 measures had their carbon or cost savings revoked under ECO. These did not contribute to any energy company's obligations.

5. Communication and engagement

Chapter Overview

This chapter outlines our engagement with stakeholders in ECO throughout the scheme. It highlights some of the documents we published, the types of queries we received and how we helped to simplify documentation requirements.

Introduction

5.1. Throughout ECO we communicated much more with the supply chain than under previous energy efficiency schemes. Unlike the CERT and CESP schemes, measures were notified monthly under ECO which resulted in more regular interaction between us and the energy companies and by extension, the supply chain. This interaction was mostly in relation to measure validation checks and our other compliance activities.

5.2. We also sought to be proactive in our engagement with the wider supply chain over the course of the scheme. To support delivery of eligible measures and to improve data quality, we provided additional information and guidance on scheme requirements and worked with various industry groups to standardise documentation.

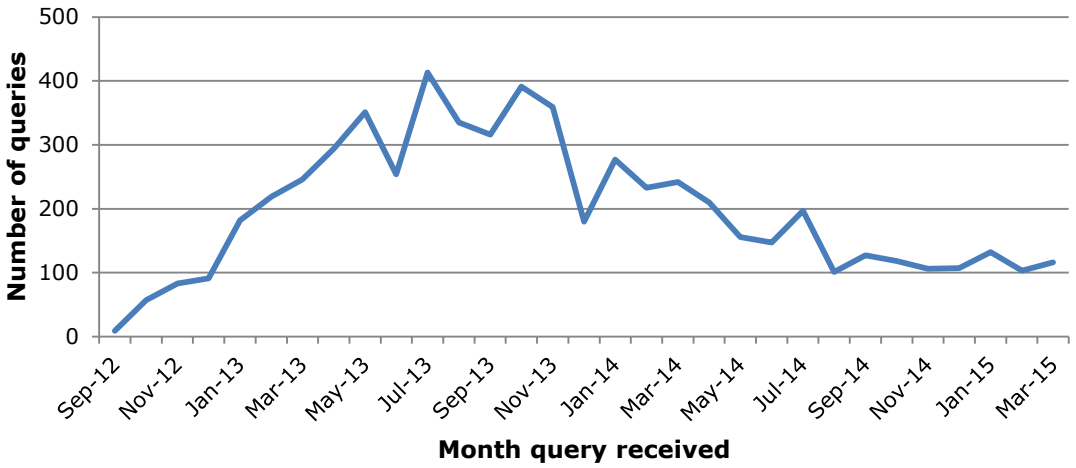
Queries

5.3. In addition to our core compliance responsibilities, one of our main administrative activities in ECO became answering queries from stakeholders. Whilst such high volumes of queries were not originally anticipated we recognised the importance of this service to consumers, the supply chain and other interested parties as well as the lack of alternative routes for some information.

5.4. We received 6,152 queries relating to the operation of ECO[33] from a diverse range of stakeholders. We aimed to respond to the majority of queries within five working days. We continued to receive queries relating to ECO after March 2015, however **Figure 5.1** below presents those received to the end of the obligation period (March 2015).

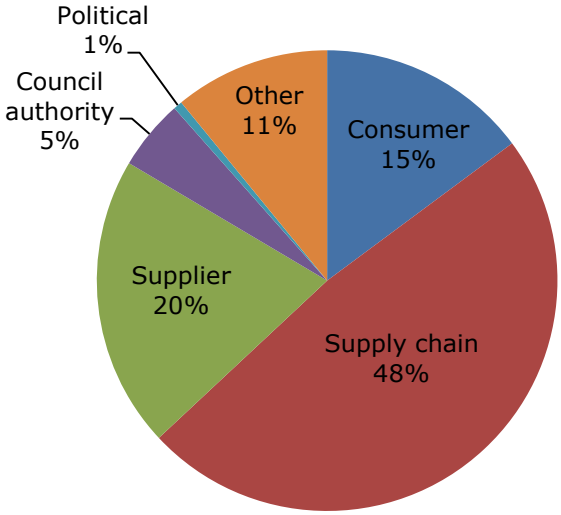
[33] From 1 September 2012 to 31 March 2015

Figure 5.1: Queries received over time



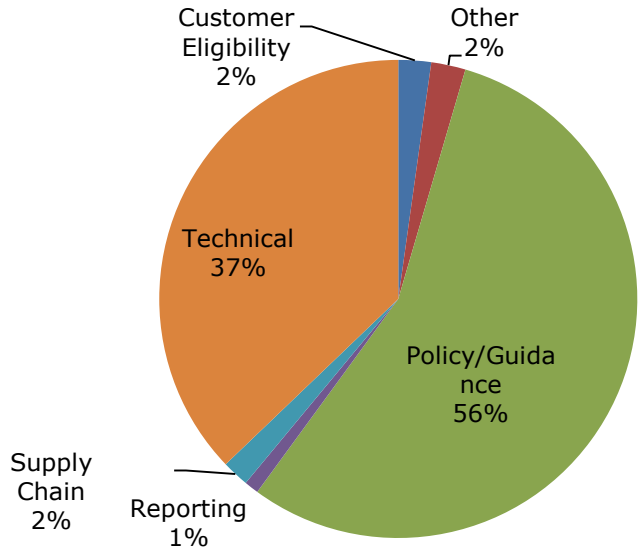
5.5. As shown in Figure 5.1 above, the number of queries we received each month increased from 9 in September 2012 to a peak of 413 in July 2013. After this date query volumes fluctuated but in general decreased. By the end of the scheme we were receiving an average of 114 queries a month.

Figure 5.2: Source of ECO queries



5.6. The types of stakeholders who submitted queries are shown in **Figure 5.2** above. The majority of our queries were from the supply chain, namely installers, green deal providers and managing agents. In response to the high volume of queries received from consumers and the supply chain we provided additional information for these stakeholders on our website over the course of the scheme (see publications and tools section below).

Figure 5.3: Types of ECO queries



5.7. The broad subject matter of the queries received is shown in **Figure 5.3** above. Most queries either related to the interpretation of our guidance and the policy for the scheme or were of a technical nature (eg related to scoring, warranties and industry standards).

Publications and tools

5.8. Throughout ECO we recognised the importance of providing information to our stakeholders including the wider supply chain and consumers.

5.9. Some of the documents and tools we produced included:

- **Information about the pathway of a measure**: in order to help installers and other third parties involved in delivering ECO measures understand how an ECO measure was processed, we published several documents on our website. This included the ECO toolkit[34] which contained frequently asked questions and links to resources and information about the scheme as well as a graphic to illustrate the pathway of an ECO measure. We also published information such as how we administered requests for extensions to the monthly notification deadlines[35], and the process for refusing or revoking of savings of a measure.[36]

- **Monthly compliance updates**: from August 2013 we published monthly reports showing energy companies' progress towards their obligations. This

[34] https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-eco-toolkit
[35] https://www.ofgem.gov.uk/publications-and-updates/eco1-notice-receipt-application-extension
[36] https://www.ofgem.gov.uk/publications-and-updates/eco1-notifying-supplier-decision-refuse-or-revoke-approval-measure

was aimed at increasing the transparency of energy company progress and was the first time this had been done for any energy efficiency scheme.

- **CSCO tool**[37]: we conducted a competitive tender process to procure a tool to support the installation of measures under CSCO, and provide certainty to energy companies and the supply chain that installations were delivered in eligible areas. It allowed:

    - consumers to establish if they lived in an eligible CSCO area
    - the ECO supply chain to identify eligible CSCO areas including adjoining areas
    - energy companies (or the supply chain) to validate CSCO measure data using fields that were part of the ECO notification template, and
    - us to determine whether measures notified under CSCO were eligible.

  The tool went live in November 2014, taking into consideration the changes in the ECO1.2 Order. To April 2015 there were 51,179 unique visits and 2,593,120 searches in the tool.

- **Affordable Warmth Group (AWG) guidance note**[38]: this guidance note aimed to assist energy companies and the supply chain in evidencing AWG eligibility. It explained the requirements for the different AWG eligibility routes, and which parts of each benefit letter could be used as evidence of eligibility. The document reflected our experience of AWG related queries from energy companies, installers, managing agents, consumers and feedback from our audit of energy companies' AWG documents.

Reporting simplification

5.10. Throughout ECO we maintained close engagement with DECC and relevant supply chain groups to help drive improvements in the scheme administration as well as quality and compliance. A key part of this work was leading the ECO Reporting Working Group which was established by DECC in 2013.

5.11. Feedback from the supply chain indicated that the documentation requirements for notifying ECO measures were too complicated and inconsistently applied by energy companies. In some cases this caused problems with notifying measures and delayed payments to installers. The ECO Reporting Working Group and its associated sub-groups were intended to improve consistency and promote the standardisation and simplification of information collected from the supply chain. We also received valuable suggestions for updates to some of our required forms.

5.12. We led regular meetings with representatives of these groups and worked with energy companies to create a matrix of their requirements which they aligned where possible. We also worked with the sub-groups to produce a series of

[37] CSCO location centre: https://csco.locationcentre.co.uk/
[38] https://www.ofgem.gov.uk/sites/default/files/docs/2014/11/guidance_note_the_affordable_warmth_group_0.pdf.

standardised reporting templates. These were designed to assist compliance and improve efficiency, and resulted in a reduction of the number of forms to be completed by the supply chain.

5.13. We established a new section on our website to host these documents and any subsequent outputs of the Working Group[39] to ensure the information was readily accessible by all parties involved in ECO delivery. The key documents reviewed by the groups are listed in **Figure 5.4** below.

Figure 5.4: Documents reviewed by the ECO reporting working group

Documents produced by the ECO Reporting Working Group	Ofgem documents (updated by the working group)
Declaration of conformity and completed installation	Boiler assessment checklist
Landlord and management company permission	Chartered surveyor recommended measure report
Landlord and management company permission multiple premises spreadsheet	Narrow HTTC Declaration
AWG and householder checklist	
File naming convention	
A matrix of energy company requirements	

5.14. In December 2014 we conducted a short survey to find out how successful these forms had been and to identify any other issues that the group should be aware of. The results indicated that this work helped the supply chain to demonstrate compliance with scheme requirements more efficiently and accurately.

5.15. We will continue to work closely with the supply chain and this Working Group throughout ECO2 to help ensure that scheme requirements are met in the most effective way.

[39] https://www.ofgem.gov.uk/environmental-programmes/energy-company-obligation-eco/eco-reporting-working-group-simplification-and-standardisation

Key observations

- Throughout ECO we had much more communication with the supply chain than we had under previous energy efficiency schemes. This was partly in relation to quality and notification issues but also working together to find ways to improve the efficiency of the administration of the scheme.

- We received a total of 6751 queries during ECO. The majority of these were related to the eligibility of measures under the Order and our guidance.

- We published many documents throughout ECO with the aim of aiding compliance and improving transparency with stakeholders.

- We worked closely with the supply chain to standardise and simplify documentation requirements relating to ECO measures.

Appendix 1: Supplier compliance positions

Licence	CERO (%)	CSCO (%)	CSCO Rural (%)	HHCRO (%)
British Gas Trading Ltd (Elec)	121.9	132.2	172.8	115.8
British Gas Trading Ltd (Gas)	123.4	135.8	153.2	115.1
The Co-operative Energy Ltd (Elec)	108.7	113.8	110.7	109.2
EDF Energy Customers plc (Elec)	127.4	138.9	142.7	149.8
EDF Energy Customers plc (Gas)	129.1	127.2	140.4	126.4
E.ON Energy Solutions Limited (Elec)	144.3	187.4	250.2	118.7
E.ON Energy Solutions Limited (Gas)	168.7	164.9	219.1	137.9
First Utility Ltd (Elec)	144.3	118.9	199.4	105.0
First Utility Ltd (Gas)	136.7	108.6	156.1	102.7
npower Northern Supply Limited (Elec)	127.6	140.8	142.9	124.6
npower Gas Limited (Gas)	149.2	152.6	142.5	111.7
npower Northern Limited (Elec)	182.4	523.0	2001.7	142.4
npower Northern Limited (Gas)	125.8	147.4	131.8	124.1
npower limited (Elec)	132.3	154.1	145.1	135.8
npower Commercial Gas Limited (Gas)	131.1	165.3	191.5	124.5
npower Direct Limited (Elec)	116.1	146.3	150.4	134.4
npower Direct Limited (Gas)	117.3	149.7	150.1	129.2
npower	117.0	148.9	146.1	137.1

Yorkshire Limited (Gas)				
npower Yorkshire Supply Limited (Elec)	118.5	152.1	157.1	110.8
ScottishPower Energy Retail Limited (Elec)	134.2	114.8	147.2	134.4
ScottishPower Energy Retail Limited (Gas)	134.6	141.1	121.5	118.8
SSE Energy Supply Limited (Elec)	116.3	156.7	223.3	119.6
Southern Electric Gas Limited (Gas)	132.5	157.4	223.5	116.8
Electricity Plus Supply Limited (Elec)	109.2	105.8	109.4	106.8
Gas Plus Supply Limited (Gas)	109.4	105.7	108.7	106.6