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Energy Company Obligation (ECO)

ECO2 Final Determination Report
01 April 2015 – 30 September 2018

www.ofgem.gov.uk/eco

10 April 2019

Foreword

Energy efficiency is a key part of government policies for reducing the United Kingdom's greenhouse gas emissions. These policies contribute to the government's wider commitment to cut greenhouse gases by at least 34% by 2020 and at least 80% by 2050[1]. The Energy Company Obligation (ECO), first introduced in 2013, is an energy efficiency scheme for Great Britain and is the main legislative driver for making British homes more energy efficient.

The Department of Business, Energy, and Industrial Strategy (BEIS) was responsible for setting the overall targets and designing the policy. We, the Office of Gas and Electricity Markets Authority ('Ofgem'[2]) administered ECO on behalf of the Gas and Electricity Markets Authority ('GEMA') in line with the Electricity and Gas (Energy Company Obligation) Order 2014 (the 'ECO2 Order').[3]

The obligation period known as 'ECO2' was split into two phases and ran from 1 April 2015 until 31 March 2017. The last phase, known as 'ECO2t', was an extension to the preceding obligation period that ran from 1 April 2017 until 30 September 2018 and provided elements for the transition to the next phase of the obligation.

Throughout the scheme, the ECO2 Order required that progress reports were sent to the Secretary of State each month by the administrator. We also published monthly compliance reports from July 2015 to March 2019 on our website[4]. The ECO2 Order also required that a final report is submitted no later than 31 March 2019 setting out whether suppliers achieved the overall carbon emissions reduction target, overall carbon saving community target[5], and overall home heating cost reduction target for the whole of ECO2[6]. This report concludes the reporting requirements placed on us and details the final position of ECO at the end of the obligation period.

David Fletcher –Deputy Director, E-Serve Policy Hub

[1] The Carbon Plan: Delivering our low carbon future, December 2011 https://www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2.
[2] The terms 'GEMA', 'the Authority' and 'Ofgem' are used interchangeably. 'GEMA' and 'the Authority' are terms to describe the Gas and Electricity Markets Authority. Ofgem is the Office of the Gas and Electricity Markets Authority
[3] As amended by The Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017, (the 'ECO2t Order'). A new Order, referred to as the 'ECO3 Order', came into force on 3 December 2018 and runs until 31 March 2022.
[4] https://www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-public-reports-and-data/scheme
[5] Energy Company Obligation (ECO2) CSCO final report https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-eco2-csco-final-report
[6] Article 31(6) of the ECO2 Order.

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Associated Documents

- The Electricity and Gas (Energy Company Obligation) Order 2014
  http://www.legislation.gov.uk/uksi/2014/3219/contents/made

- The Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017
  http://www.legislation.gov.uk/uksi/2017/490/contents/made

- Energy Company Obligation 2015-17 (ECO2) Guidance: Administration (version 1.1)
  https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-administration

- Energy Company Obligation 2015-17 (ECO2) Guidance: Delivery (version 1.1)
  https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-delivery

- Energy Company Obligation 2017-18 (ECO2t) Guidance: Administration (version 1.1)
  https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2017-18-eco2t-guidance-administration

- Energy Company Obligation 2017-18 (ECO2t) Guidance: Delivery (version 1.1)
  https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2017-18-eco2t-guidance-delivery

- Summary of amendments to the ECO2 guidance for ECO2t (April 2017 - September 2018)
  https://www.ofgem.gov.uk/publications-and-updates/summary-amendments-eco2-guidance-eco2t-april-2017-september-2018

- Energy Company Obligation (ECO2) CSCO final report
  https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-eco2-csco-final-report

- Government response to the Energy Company Obligation (ECO): Help to Heat consultation
  https://www.gov.uk/government/consultations/energy-company-obligation-eco-help-to-heat

Executive Summary

i. The Energy Company Obligation (ECO2), which started in 2015, is a government scheme for Great Britain that places legal obligations on larger energy companies to deliver energy efficiency and cost saving measures to domestic premises. It was preceded by ECO1[7] which ran from 2013 to 2015[8].

ii. The ECO2 scheme was originally developed to run from 1 April 2015 to 31 March 2017.

iii. There were three main obligations under ECO2 which energy companies were required to meet. The obligations were the Carbon Emissions Reduction Obligation (CERO), the Carbon Saving Community Obligation (CSCO)[9] and the Home Heating Cost Reduction Obligation (HHCRO).

iv. Additionally, suppliers were required to deliver a minimum amount of savings through the delivery of solid wall insulation measures, known as the Provisional Solid Wall Minimum Requirement (PSWMR) sub-obligation. Solid wall insulation measures delivered under any of the three main obligations are eligible to count against a supplier's PSWMR obligation.

v. The obligation period for ECO2 was subsequently extended to run from 1 April 2017 to 30 September 2018 (referred to as 'ECO2t'). Both CERO and HHCRO obligations were extended for ECO2t. The CSCO and CSCO rural sub-obligation were not extended and ended on 31 March 2017.

vi. Additionally, as part of the ECO2t extension period, new sub-obligations were introduced under the CERO and HHCRO obligations respectively;

- Under CERO, the CERO Rural sub-obligation, this required suppliers to deliver at least 15% of their CERO obligation through measures installed in rural areas.
- Under HHCRO, the Home Heating Minimum Requirement (HHMR), this required suppliers to deliver a minimum amount of their HHCRO obligation through measures other than the replacement of mains gas fuelled boilers.

vii. Suppliers' obligations were determined based on their domestic customer numbers and the amount of gas and electricity supplied to domestic customers. These were required to be notified to Ofgem ('we', 'our' and 'us' in this document) during the relevant notification period for each phase. The obligations are set, and needed to be achieved, against each individual supply licence although suppliers with multiple licences are grouped together in this report for ease of understanding.

viii. Suppliers had to achieve their total obligations by the end of the overall obligation period, the obligations set for each phase were cumulative and were not required to be met individually.

Overall Supplier Performance

ix. The final position of the ECO2 scheme is summarised below:

- All but two suppliers, met their obligations and sub obligations under ECO2.

[7] The Energy Companies Obligation (ECO1) Final Report. See: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco1-final-report.
[8] For an overview of previous schemes see: https://www.ofgem.gov.uk/environmental-programmes/eco/overview-previous-schemes.
[9] CSCO also had a sub-obligation focused on rural areas (the CSCO rural sub-obligation).

- Utilita failed to deliver their CERO, CERO Rural and PSWMR obligations. They were also non-compliant on one licence for HHCRO and HHMR. Although they delivered enough savings overall, these were not properly proportioned across their licences.
- Extra Energy, who ceased trading in November 2018, failed to achieve their CERO, CERO Rural, HHCRO, HHMR and PSWMR obligations.
- Npower were non-compliant on one licence for their CSCO obligation. This means that while they delivered enough savings overall, these were not properly proportioned across their licences. We have termed this an administrative non-compliance[10].

x. Despite this, the total delivery across all suppliers meant that the total obligation and sub-obligation targets set by Government for ECO2 were achieved as follows:

- The total lifetime carbon savings[11] achieved under CERO were 21.37 $MtCO_2$ including 2.02 $MtCO_2$ under the rural sub-obligation. These constitute 108% of the CERO target and 185% of the rural sub-obligation target.
- The total lifetime carbon savings achieved under CSCO were 6.03 $MtCO_2$ including 1.29 $MtCO_2$ under the rural sub-obligation. These constitute 100% of the CSCO target and 143% of the rural sub-obligation target. These achievements have decreased since the CSCO final determination due to suppliers re-electing measures into other obligations; before re-elections suppliers achieved 121% of the CSCO target and 174% of the rural sub-obligation.
- The total lifetime cost savings[12] achieved under HHCRO were £6.89 Billion including £2.54 Billion under the HHMR sub-obligation. These constitute 107% of the HHCRO target and 121% of the HHMR target.
- The PSWMR obligation delivered 5.76 $MtCO_2$ of carbon savings which constitutes 107% of the target. PSMWR measures could be delivered under any of the ECO obligations. They are not additional savings, but included in the overall obligation totals.

xi. Although CSCO closed at the end of phase 2 of ECO2, suppliers were able to re-elect any excess qualifying actions to other obligations.[13]

xii. It is possible that the majority of any excess savings delivered under ECO2 will be carried over into ECO3, provided they meet the relevant criteria, reducing the cost of delivering this new phase of the scheme.

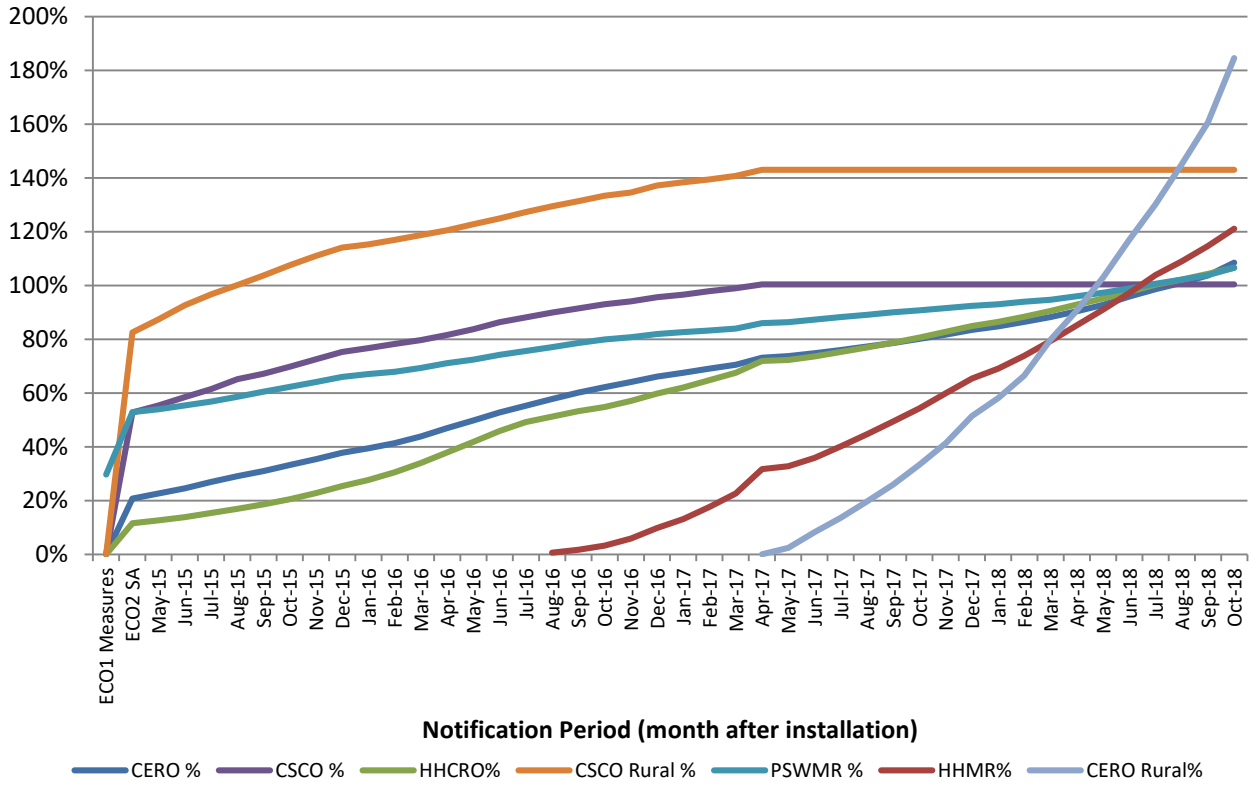
[10] For the purposes of the supplier scorecard, recognising that whilst the requirements of legislation were not met they overachieved on other licences meaning overall their delivery across the group was above their combined licence level obligations .
[11] CERO and CSCO obligations are measured in the amount of carbon dioxide emissions that the measures will reduce over their lifetime (i.e. carbon savings).
[12] HHCRO obligations are measured in the amount of energy bill savings that the measures will provide to consumers over the measures' lifetime (i.e. cost savings).
[13] See Chapter 9 of the ECO2t Guidance: Administration, for more information on re-election of obligations.

Table 1: Energy supplier performance against ECO2 obligations

	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
British Gas	110%	191%	100%	140%	104%	111%	110%
Co-op Energy	108%	107%	106%	106%	110%	124%	100%
EDF	107%	213%	100%	174%	109%	131%	106%
EON	107%	218%	101%	114%	108%	125%	105%
Extra Energy	64%	51%	105%	281%	84%	73%	41%
First Utility	107%	197%	103%	113%	105%	120%	104%
Npower	113%	192%	100%	162%	113%	143%	109%
Ovo Energy	119%	288%	100%	101%	106%	118%	113%
Scottish Power	106%	110%	100%	103%	107%	118%	101%
SSE	108%	169%	100%	182%	107%	122%	110%
Utilita	98%	80%	102%	107%	106%	131%	97%
Utility Warehouse	106%	175%	100%	143%	106%	119%	103%

*figures in red indicate non-compliance against obligation

Figure 1: Cumulative ECO2 delivery over time



Key Observations

xiii. The most frequently installed measure type under both CERO and CSCO obligations was cavity wall insulation, followed by loft insulation and solid wall insulation.

xiv. The most frequent measure type installed under HHCRO was the replacement of a qualifying gas boiler with a new gas boiler, followed by the installation of heating controls.

xv. As expected the majority of measures installed under ECO2 were installed in England, accounting for 77% of CERO, 83% of HHCRO and 79% of CSCO measures.

xvi. Scotland received a disproportionate number of measures delivered under CERO, accounting for 19% of measures delivered, more than double the population share (approx. 9%). This can be largely attributed to the high number of solid wall measure delivered in Scotland under CERO.

xvii. Under HHCRO, Wales received a disproportionate number of measures, accounting for 9% of the total number of measures delivered despite a smaller population share (approx. 5%). This can be attributed to high number of boiler replacements delivered in Wales.

xviii. A greater number of measures per household were delivered in England under CERO than in Scotland or Wales. A greater number of measures per household were delivered in Wales for both CSCO and HHCRO obligations than were delivered in England or Scotland.

xix. A significant proportion of the suppliers' CSCO and CSCO Rural obligations was delivered via measures carried forward from ECO1 as surplus actions (as seen in **Figure 1**).

xx. A large proportion of measures attributed to the PSWR obligation were delivered under ECO1 (29.73%).

xxi. Throughout ECO2 we had more communication with energy companies and the supply chain than we had in previous energy efficiency schemes. We worked together to find ways to improve the efficiency of the administration of the scheme and introduced an enhanced technical and score monitoring process to drive improvements in the industry. By beginning to collect information on the installer of measures we were better able to target poor compliance with the requirements of the ECO order. The 'Pathway to Compliance' framework required energy companies to concentrate provide greater assurance with specific delivery partners to demonstrate measures were installed to the correct technical standards and were scored accurately.

1. Legislative Context

Chapter Overview

This chapter describes the background to the ECO2 legislation.[14] It also summarises the legislative changes that occurred during the obligation period and how they affected delivery of measures.

Introduction

1.1. ECO2 placed a legal obligation on larger energy companies to deliver energy efficiency measures to domestic premises.[15] 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 ECO2.[16] The obligation period for ECO2 began on 1 April 2015 and ended on 30 September 2018.

1.2. The ECO2 scheme was originally established under the 'ECO2 Order', and developed to run from 1 April 2015 to 31 March 2017. The obligation period for ECO2 was subsequently extended to run from 1 April 2017 to 30 September 2018 (referred to as 'ECO2t').[17]

1.3. The overall obligation period for ECO2 ran from 1 April 2015 to 30 September 2018 and was split into three phases. We were required to determine a supplier's obligations for each of these phases:

- phase 1: 1 April 2015 to 31 March 2016,
- phase 2: 1 April 2016 to 31 March 2017, and
- phase 3 (ECO2t): 1 April 2017 to 30 September 2018.

1.4. The overall cost and carbon savings that suppliers had to achieve per obligation were:

- 19.7 $MtCO_2$[18] under CERO, focused primarily on the installation of wall and roof insulation measures and connections to district heating systems,
- 6 $MtCO_2$ under CSCO, focused primarily on properties in low income areas, 15% of which was to be in rural areas and to consumers on certain benefits, and
- £6.46 billion under HHCRO, focused primarily on reducing heating costs for consumer on certain benefits as a way of targeting vulnerable households.

1.5. Two additional sub-obligations were introduced for ECO2t:

- CERO Rural, 15% of an eligible supplier's phase 3 CERO measures should be delivered in rural areas, and

[14]The Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017 http://www.legislation.gov.uk/uksi/2017/490/contents/made

[15] Under the ECO2 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 a group level (referred to as an 'energy company').

[16] See Chapter 2 of our ECO2t Guidance: Administration for information on when a gas or electricity licence-holder will meet the definition of a 'supplier'.

[17] By the ECO2 Order as amended by the Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017.

[18] A minimum carbon saving of 5.4 $MtCO_2$ must be achieved through the delivery of solid wall insulation measures (SWI), known as the provisional solid wall minimum requirement (PSWMR).

- Home Heating Minimum Requirement (HHMR), 76% of an eligible supplier's phase 3 HHCRO obligation should be delivered through measures which are not the replacement of qualifying gas boilers fuelled by main gas.

1.6. Under phase 1 of ECO2, 11 energy companies were obligated, including the nine obligated suppliers from ECO1; British Gas, The Co-operative Energy, EDF Energy, E.ON, First Utility, Npower, Scottish Power, SSE and Utility Warehouse. Two suppliers, OVO Energy and Utilita, became obligated for the first time. Extra Energy were obligated for phase 2 from 1 April 2016. Economy Energy, Spark Energy Supply Ltd. and Flow Energy were obligated from 1 April 2017 for phase 3 (ECO2t).

1.7. Suppliers had to achieve their total obligations by the end of the overall obligation period, the obligations set for each phase were cumulative and were not required to be met individually.

Amendments introduced under ECO2t

1.8. This section summarises some of the main changes introduced for phase three of ECO2.

Obligation trading

1.9. One of the changes introduced under ECO2t was to allow suppliers to trade obligations between one another or between their own licences. Only obligations under CERO, CERO Rural, HHCRO, HHMR and PSWMR[19] could be traded; CSCO obligations could not.

1.10. Suppliers were permitted to trade all or part of their obligations (phases 1 to 3 inclusive). The trading of obligations could occur between licences held by the same or different companies. We received a total of 100 trading requests of which we approved 78. The remaining 22 were withdrawn by the supplier. The majority of approved trades (74%) occurred between licences held by the same energy company in order to consolidate their licences. The remaining trades (26%) were between different energy companies to assist in meeting obligations.

1.11. All three newly obligated suppliers under ECO2t, Economy Energy, Flow Energy and Spark Energy Supply Ltd., traded their obligations to another obligated supplier.

Scoring

1.12. One of the main changes under ECO2t was the introduction of deemed scores[20] as the method of determining savings. Before this carbon and cost savings were calculated using the Standard Assessment Procedure (SAP)[21] which required a whole house survey in order to collect numerous data inputs relating to the property where a measure would be installed. This approach resulted in a cost or carbon savings score which were bespoke to each property. Deemed scores determine the contribution certain measures make towards a supplier's CERO or HHCRO target. Deemed scores are fixed scores for each measure type that are determined using three or four variables.

[19] See paragraphs 2.29-2.37 for more information on PSWMR
[20] See Chapter 7 of the ECO2t Guidance: Delivery for more information on deemed scores.
[21] http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf

1.13. For insulation measures the variables are,

a) the type of property,
b) the number of bedrooms in the property, and
c) the main heating source of the property.

1.14. For heating measures, the main wall type of the property is also considered.

1.15. The legislation set out that Ofgem would set out these deemed scores in accordance with principles of RdSAP, for more information on this work please see the guidance and consultations on deemed scores (link)

Flexible eligibility

1.16. The introduction of local authority flexible eligibility measures (LA Flex) under HHCRO was introduced during phase 3 of ECO2. Measures delivered to private domestic premises were eligible where they were included on a Local Authority (LA) declaration stating that the households were either:

a) Living in fuel poverty (FP),
b) Living on a low income and vulnerable to the effects of living in a cold home (LIVC), or
c) Non-fuel poor but located in an immediately adjacent building to, in the same building as, or in the same terrace as households identified by an LA as FP or LIVC (solid wall insulation (SWI) in-fill)

1.17. A supplier could deliver up to 10% of its phase 3 HHCRO through this route, including any SWI in-fill. There was no minimum requirement for suppliers to deliver flexible eligibility measures, it was an alternative means of delivery that was capped.

1.18. HHCRO measures could also be delivered to social housing with an energy performance certificate (EPC) energy efficiency rating of E, F or G (or unrated), where the premises were let below market rate. Only insulation measures and first time central heating systems were eligible under this route.

1.19. There are other more detailed changes explained in our guidance documents[22], such as the revision to PAS2030 installation standards, please refer to the guidance documents for further details.

[22] ECO2t Guidance: Administration & ECO2t Guidance: Delivery

2. Overall Performance

Chapter Overview

This chapter gives a summary of the overall performance of energy companies against their ECO2 CSCO, CERO and HHCRO obligations and CSCO Rural, CERO Rural, HHMR and PSWMR sub-obligations.

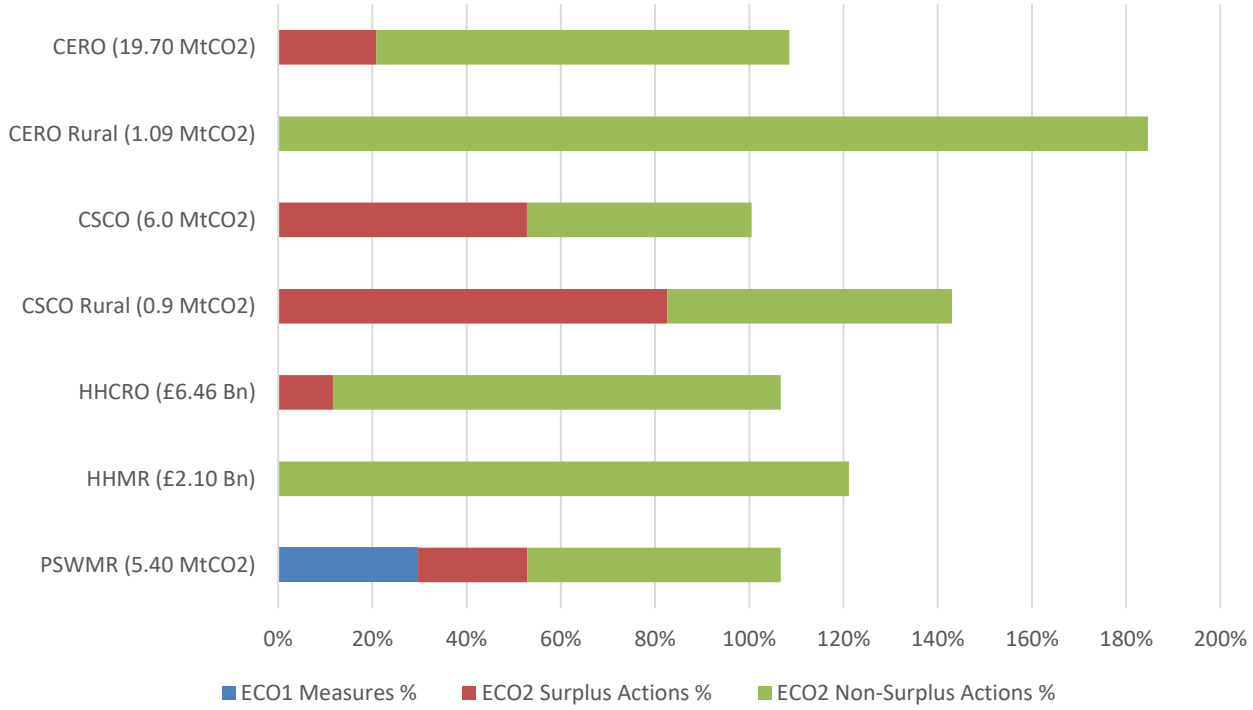
A final determination of CSCO was made at the end of phase 2 of ECO2, however as suppliers were able to re-elect any eligible excess measures we have included CSCO data in this report to highlight any changes.

Introduction

2.1. Each obligation had specific eligibility requirements for measures delivered against the obligation. Measures meeting those requirements, had their carbon and cost savings attributed towards suppliers' obligations. Here we present the combined performance of all energy companies towards all ECO2 obligations.

2.2. The ECO2 Order also set out limits which the energy companies could not exceed. These were the proportion of boiler repairs and electric storage heater repairs conducted under HHCRO and the amount of local authority flexible measures also under HHCRO. Under CSCO there was a limit on the amount of measures that could be installed in adjoining areas[23].

Figure 2.1: Overall achievement by energy companies of ECO2 obligation and sub-obligation targets

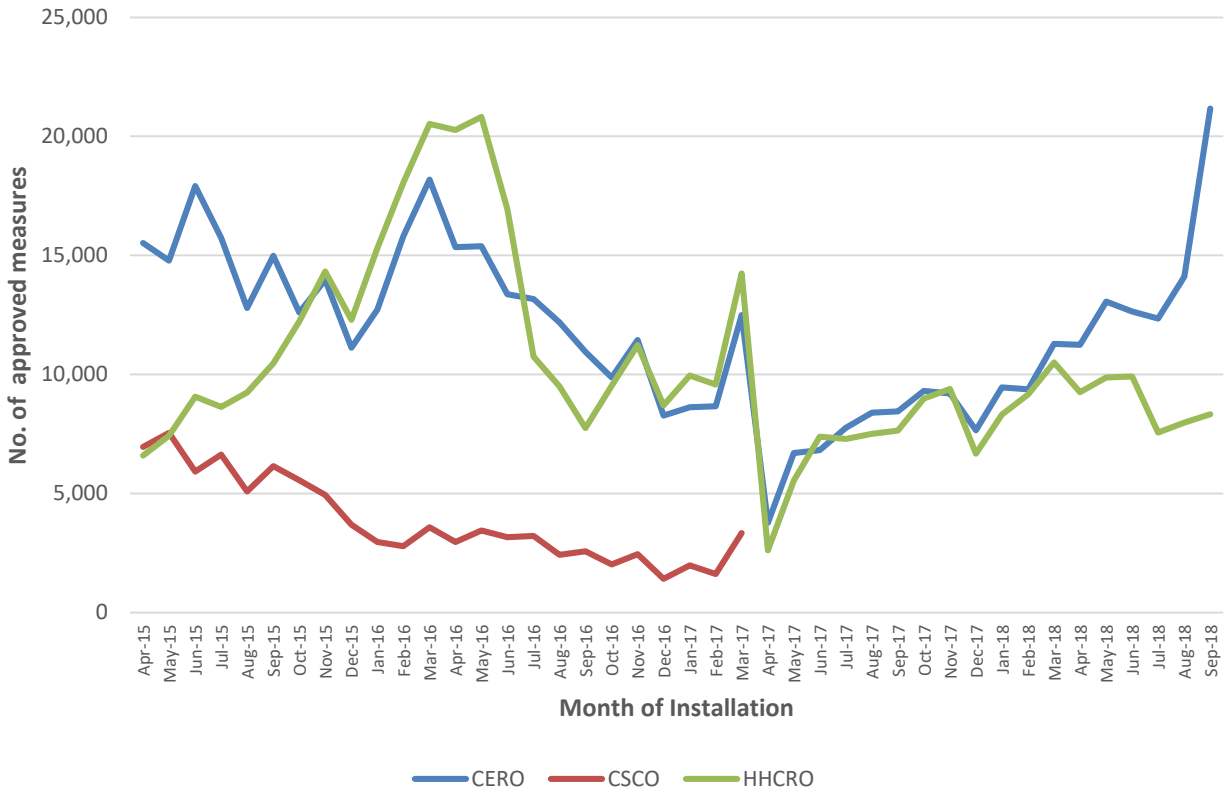


[23] Adjoining areas are those that share a border with an area of low income. In England and Wales areas are described as lower super output areas (LSOA). In Scotland, areas are described as data zones. Suppliers could use the ECO tool, or an equivalent system, to identify adjoining areas.

2.3. **Figure 2.1** above shows achievement against the ECO2 obligation and sub-obligation targets set for all energy suppliers. All targets were exceeded and it's possible that any excess savings will be carried over into ECO3 as surplus actions.

2.4. As previously mentioned, the final CSCO position has changed from the CSCO closedown report.[24] This is due to suppliers moving eligible measures not needed to comply with their CSCO into other obligations. Additionally, there were some post CSCO closedown rejections, however the majority of the of the reduction was due to re-elections.

Figure 2.2: ECO2 delivery over time



2.5. **Figure 2.2** shows the delivery profile of measures in each of the main obligations. It shows that overall the delivery of CERO and HHCRO measures were evenly split month to month, with CERO being energy suppliers' main focus at the beginning and end of the overall obligation period. Delivery of CSCO measures gradually decreased until closedown in April 2017. The sharp increase of measures attributed to September 2018 relates to the use of extensions to deal with missing information or revised contractual arrangements with the suppliers.

Delivery Mechanisms

2.6. Whilst Energy suppliers were obligated to promote measures, they used a variety of mechanisms to do this. Whilst there was some delivery directly by suppliers, the most widely used methods were to contract work directly with installers or to employ managing agents who represented a number of different installers.

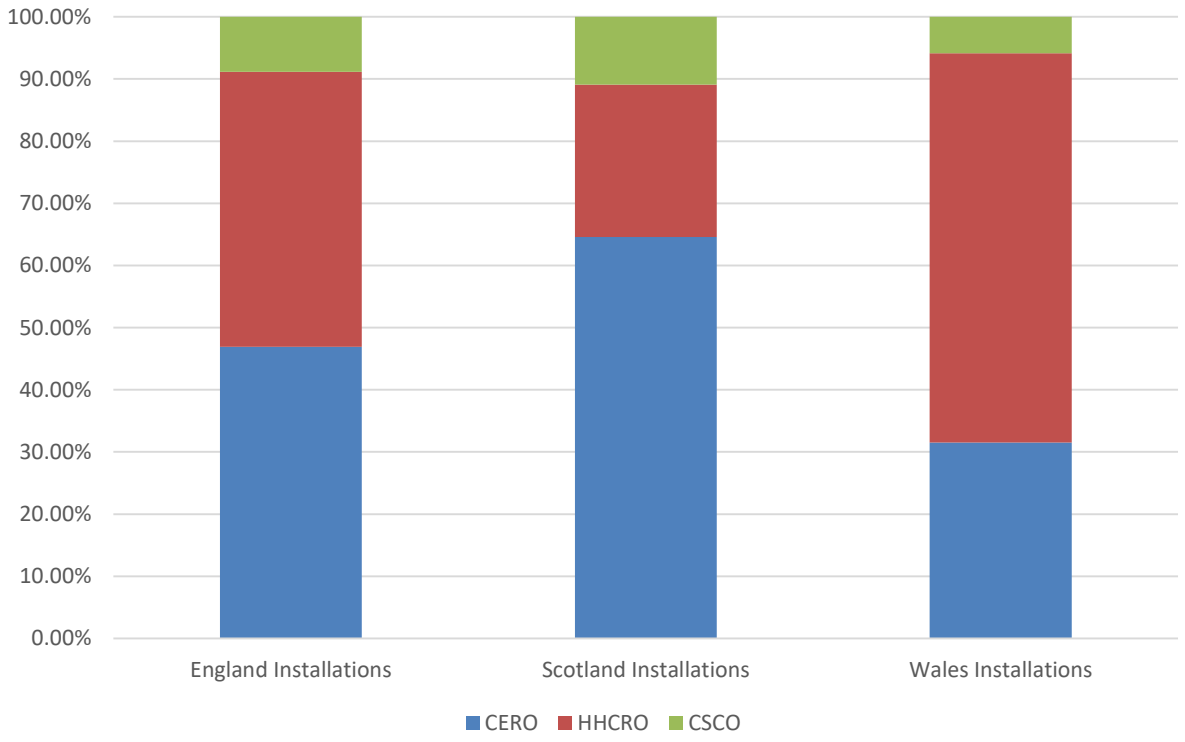
[24]Energy Company Obligation (ECO2) CSCO final report: https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-eco2-csco-final-report

2.7. Energy suppliers could also use another mechanism called 'ECO brokerage'. Brokerage was a blind auction platform developed by the Department for Business, Energy and Industrial Strategy (BEIS), where suppliers could buy forward contracts for the delivery of carbon or cost savings by participating sellers. Installers could sell 'lots' of savings which they would then have to deliver for the obligated supplier who successfully bid for the lot. This system was created in response to requests from the energy efficiency industry to help smaller and newer installers access the market. 24,866 (2.42%) of ECO2 measures were delivered through this mechanism.

2.8. Energy suppliers could identify low income, adjoining and rural areas that may have been eligible for energy efficiency measures under CSCO by referring to the 2014 low income and rural document[25]. We updated and made our ECO tool[26] software available so this could be used to identify areas that may be eligible under CSCO and the rural elements of CSCO and CERO.

Measures delivered per country

Figure 2.3: Approved ECO2 measures by obligation and country of installation



2.9. **Figure 2.3** shows that in England the proportion of measures delivered was split fairly evenly across CERO and HHCRO obligations.

2.10. In Scotland, measures delivered under CERO were more popular than under HHCRO and CSCO. This is reflected by the large proportion of solid wall insulation measures delivered in Scotland.

[25] Low income and rural document: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48405/5536-carbon-saving-community-obligation-rural-and-low-.pdf
[26] Ofgem ECO tool: https://eco.locationcentre.co.uk/

2.11. In Wales, measures delivered under HHCRO were more popular that under CERO and CSCO. This is reflected by the large proportion of boiler measures delivered in Wales.

CERO

2.12. The Carbon Emissions Reduction Obligation (CERO) focused on the installation of wall and roof insulation measures and connections to district heating systems. For CERO, these measures are referred to as 'primary measures'. Other insulation measures such as glazing and draught proofing are also eligible as 'secondary measures' provided relevant requirements are met.

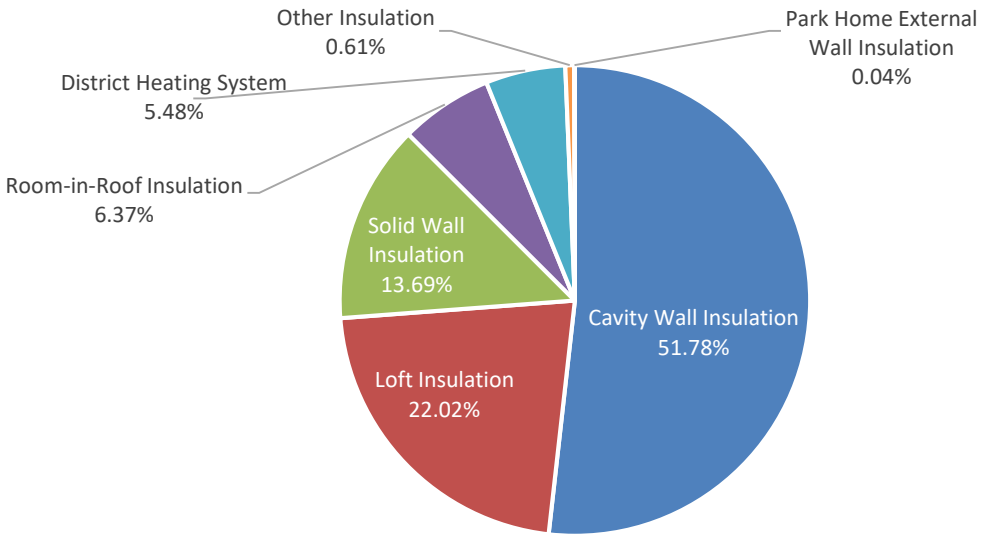
2.13. Some of a supplier's overall CERO must be achieved by promoting solid wall insulation measures. This is known as a supplier's solid wall minimum requirement (PSWMR).

2.14. A total of 498,609 measures were delivered under CERO in ECO2 with an additional 170,598 carried over from ECO1.

2.15. Of the twelve obligated suppliers two failed to achieve their CERO obligation, Utilita and Extra Energy, however as shown in **Figure 2.1**, the overall CERO target was achieved 108.49%

2.16. There were concerns around Extra Energy's compliance. As Extra Energy ceased trading during the obligation period, no further action was taken.

Figure 2.4 Measure types in CERO



2.17. **Figure 2.4** shows that the main measure type installed under CERO was cavity wall insulation, accounting for just over half (51.78%) of the total CERO obligation.

2.18. The delivery of cavity wall insulation measures in England (57%) was much higher in proportion to Scotland and Wales (36% and 28%) respectively. The proportion of solid wall insulation measures delivered in Scotland and Wales (32% and 35%) was significantly higher than in England (8%).

2.19. Cavity wall insulation (57%) was the most popular measure type delivered in England, followed by Loft insulation (27%).

2.20. Cavity wall insulation (36%) was also the most popular measure type delivered in Scotland, followed by solid wall insulation (32%).

2.21. In Wales, solid wall insulation (35%) was the most popular measure type delivered, followed by loft insulation (30%).

2.22. The remaining measures installed under CERO were generally consistent across the different countries. There were no park home insulation measures installed in Wales.

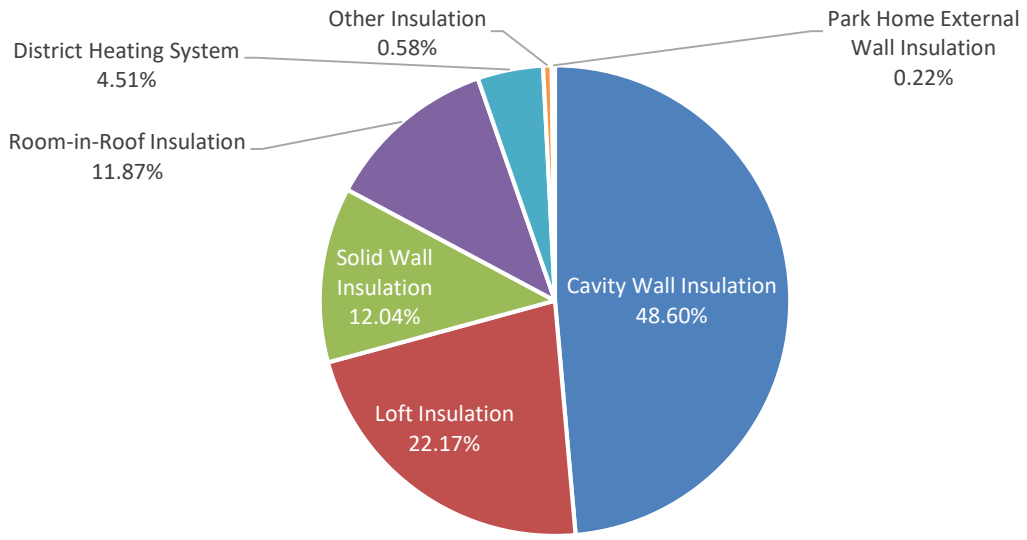
CERO rural sub-obligation

2.23. The rural sub-obligation introduced under ECO2t required that at least 15% of a supplier's CERO delivery was promoted to members of the affordable warmth group (AWG) living in a rural area.

2.24. As with CERO, two of the obligated suppliers failed to deliver their CERO rural obligation, Utilita and Extra Energy. However, as shown in **Figure 2.1**, the overall CERO rural target was achieved and almost doubled with suppliers achieving 184.59% of the target.

2.25. A total of 37,477 measures were delivered to rural areas under CERO.

Figure 2.5 Measure types in CERO rural sub-obligation



2.26. **Figure 2.5** shows that, similar to the overall CERO obligation, the main measure type installed under CERO Rural was cavity wall insulation (48.60%).

2.27. The proportion of measures installed in rural areas is consistent with the overall CERO obligation. There was a higher number of Room-in-roof measures installed in rural areas under CERO.

2.28. The proportion of room-in-roof insulation measures delivered in rural Scotland (28%) was significantly higher than in England and Wales (4% and 8%)

PSWMR sub-obligation

2.29. The Provisional Solid Wall Minimum Requirement (PSWMR) states that energy suppliers must achieve a percentage of their ECO2 obligations through the installation of Solid Wall Insulation (SWI) measures.

2.30. The PSWMR target was not in addition to the carbon savings to be achieved under CERO, CSCO and HHCRO, but rather is a requirement on how some of ECO2 is

delivered – i.e. at least 5.4 $MtCO_2$ savings had to be achieved through the installation of SWI measures under any or all of the three obligations (CERO, CSCO and HHCRO).

2.31. A supplier's PSWMR was used to determine supplier's solid wall minimum requirement (SWMR). The SWMR was a proportion of the PSWMR that related specifically to CERO and represented the amount of carbon savings which a supplier must achieve through the delivery of CERO SWI surplus actions[27] and ECO2 CERO SWI measures. For a supplier to achieve its CERO, it must meet its SWMR.

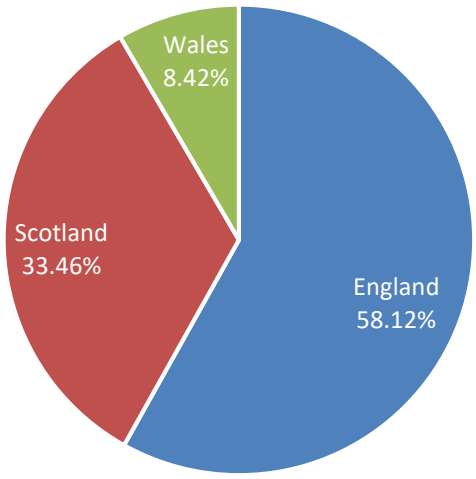
2.32. The PSWMR is a minimum carbon savings target, therefore, suppliers were able to deliver above their requirement. Suppliers had to achieve their PSWMR by the end of the obligation period (before 1 October 2018).

2.33. Although PSWMR was an ECO2 requirement, carbon savings achieved by SWI measures delivered in both ECO1 and ECO2 could contribute towards a supplier's PSWMR.

2.34. A total of 85,910 solid wall insulation measures were delivered during ECO2, with 35,031 carried over from ECO1 as surplus actions. Additionally, 46,627 measures that were delivered in ECO1 were eligible to count towards suppliers ECO2 PSWMR obligation.

2.35. Two of the twelve obligated suppliers, Utilita and Extra Energy, failed to achieve their PSWMR, however as shown in **Figure 2.1**, the overall PSWMR target was achieved 106.69%

Figure 2.6 PSWMR measures by country



2.36. **Figure 2.6** above, shows that England received the highest proportion of PSWMR measures (58.12%).

2.37. The 33.46% proportion of solid wall measures delivered in Scotland is significant given that Scotland accounts for approx. 9% of the population. This is in part due to

[27] A surplus action is where a supplier has achieved savings that exceed its ECO1 obligations, and applies to credit the excess measure or 'surplus action' towards its ECO2 obligations. For more information on surplus actions see our ECO2 Guidance: Administration (v1.1).

the higher prevalence of solid-walled properties in Scotland, and also because ECO was used alongside the Scottish Government's own domestic insulation programme.

HHCRO

2.38. The Home Heating Cost Reduction Obligation (HHCRO) focused on reducing heating costs for low income and vulnerable householders living in private housing and who receive specific benefits (the 'affordable warmth group').

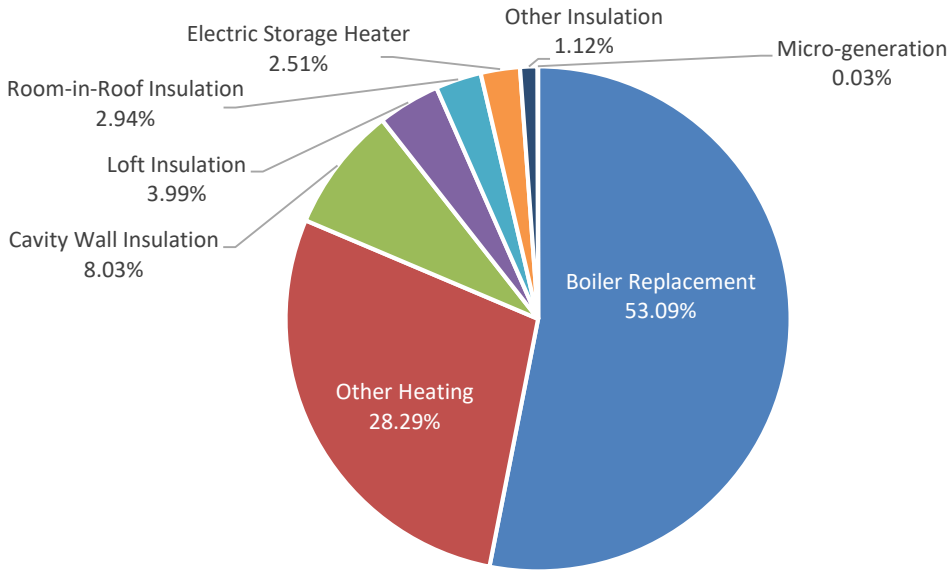
2.39. HHCRO focused on the repair and replacement of boilers and electric storage heaters, however additional measures such as heating controls and insulation were eligible.

2.40. Suppliers could choose to deliver measures at private domestic premises which are non-gas fuelled, and would receive an increased cost score for certain measures installed at these premises.

2.41. A total of 437,358 measures were delivered under HHCRO in ECO2, with a further 109,051 measures carried over from ECO1.

2.42. One of the obligated suppliers, Extra Energy, failed to achieve their HHCRO obligation, and Utilita failed on one of their licences. However as shown in **Figure 2.1**, the overall HHCRO target was exceeded.

Figure 2.7 Measure types in HHCRO



2.43. **Figure 2.7** above shows that replacement boilers was the main measure type delivered under HHCRO, accounting for just over half (53.09%) of the total HHCRO obligation.

2.44. The second highest proportion of measures delivered under HHCRO, other heating, is the delivery of heating controls, these are normally delivered as a secondary measure alongside boiler replacements.

2.45. There was a 5% limit to the proportion of a supplier's HHCRO that could be achieved through the repair of qualifying boilers and qualifying electric storage heaters. However, no boiler repairs or electric storage heating repair measures were delivered.

HHMR sub-obligation

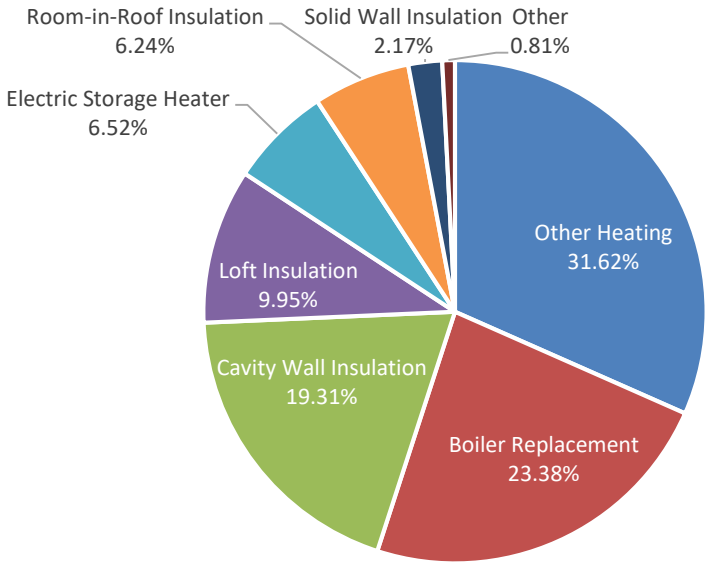
2.46. The Home Heating Minimum Requirement (HHMR) was introduced as part of phase 3 of ECO2 as a sub-obligation of HHCRO. This requires a supplier to deliver a minimum amount of its HHCRO target through measures other than the replacement of a qualifying boiler fuelled by mains gas.

2.47. A total of 166,052 measures delivered under HHCRO were eligible to count against the HHMR sub-obligation.

2.48. As with the overall HHCRO obligation, Extra Energy failed to achieve its HHMR obligation, and Utilita failed on one of their licences, however as shown in **Figure 2.1**, the overall HHMR obligation was achieved 121.17%.

2.49. HHMR measures accounted for 92.09% of the phase 3 HHCRO obligation, which was above the 76% minimum target.

Figure 2.8 Measure types in HHMR



2.50. **Figure 2.8** above shows that the installation of heating controls (other heating) was the most popular measure delivered under HHMR.

2.51. Under HHMR, Wales accounted for the largest proportion of boiler replacements with 52.03% of measures delivered being boiler replacements compared to 18.46% in England and 26.09% in Scotland. A significant number of these were the replacement of oil boilers. This potentially explains the lower volumes in England, where larger numbers of properties are connected to mains gas.

2.52. Although the proportion of Boiler replacements in Wales accounted for such a large proportion of its HHMR obligation, this amounted to 26.74% of total boiler replacements under HHMR. England accounted for 60.38% and Scotland 12.88%.

2.53. Conversely, insulation measures such as cavity wall and loft insulation were more prominent in England and Scotland under HHMR than they were in Wales. In England they accounted for a combined 35.05% of all measures delivered and in Scotland for 28.46%. In Wales cavity wall and loft insulation accounted for a combined 7.59% of all measures delivered under HHCRO.

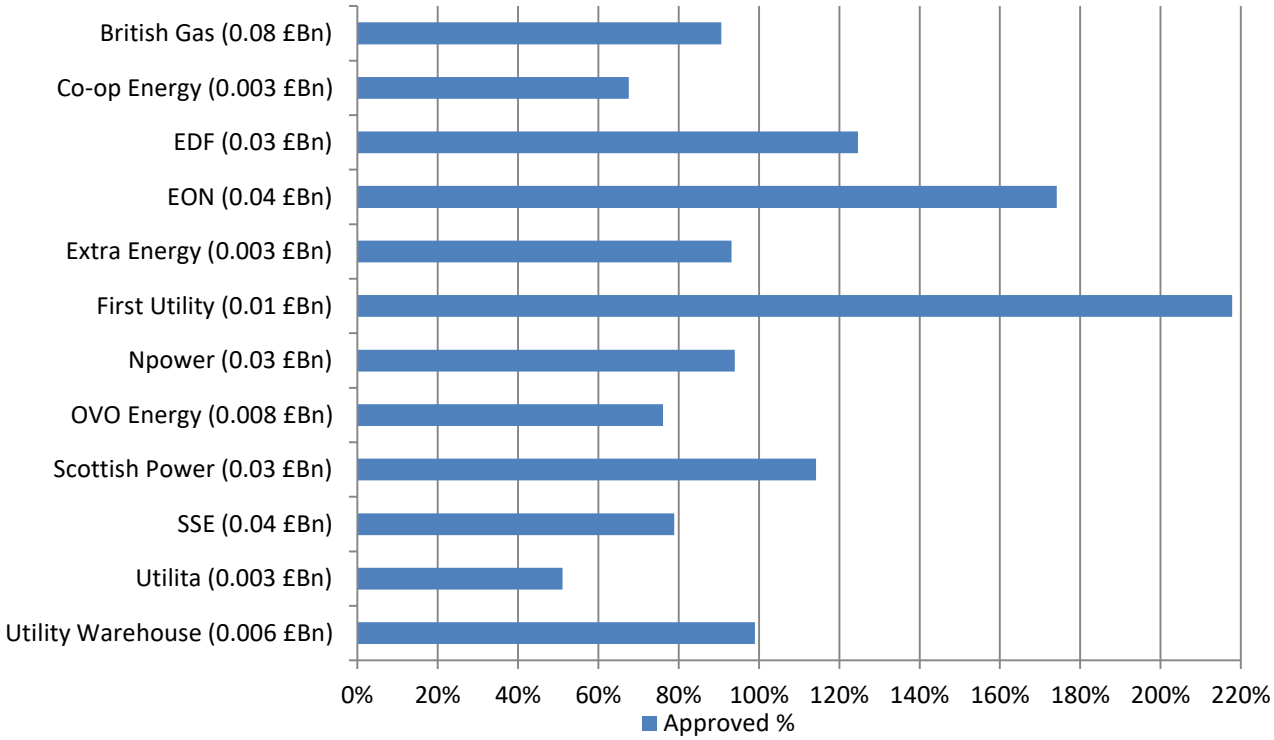
Local Authority Flexible Eligibility

2.54. During phase 3 of ECO2, under HHCRO, suppliers were able to deliver measures to private domestic premises where they were included on a Local Authority (LA) declaration stating householder were either:

a) Living in fuel poverty (FP),
b) Living on a low income and vulnerable to the effects of living in a cold home (LIVC), or
c) Non-fuel poor but located in an immediately adjacent building to, in the same building as, or in the same terrace as households identified by an LA as FP or LIVC (solid wall insulation (SWI) in-fill).

2.55. Delivery of measures using this method was capped at 10% of a supplier's phase 3 HHCRO obligation. There was no minimum requirement to deliver measures via this method, it was another means of delivery.

Figure 2.9: LA Flex delivery by supplier



2.56. **Figure 2.9** above shows that EDF, E.ON, First Utility and Scottish Power all exceeded their 10% LA Flex Limit.

2.57. The excess measures that were delivered in phase 3 of ECO2 will not be eligible to count towards each suppliers HHCRO obligation, however suppliers will be able to carry over eligible excess measures to ECO3.

2.58. Also for ECO3, the LA Flex limit has been increased, allowing suppliers to deliver 25% of their HHCRO obligation via this method.

CSCO

2.59. The Carbon Savings Community Obligation (CSCO) focused on the installation of insulation measures and connections to district heating systems at domestic premises

in low income, adjoining[28] or rural areas. A total of 92,334 measures were delivered under CSCO in ECO2, with an additional 130,443 measures carried over from ECO1.

2.60. CSCO was not extended into phase 3 of ECO2 (ECO2t) and therefore closed on 31 March 2017. A final report[29] which detailed our determinations on energy companies' achievement against their CSCO and CSCO rural obligations was published on 28 September 2017.

2.61. As suppliers were able to re-elect measures from CSCO to other ECO2 obligations and we rejected measures initially used in CSCO the figures in this report differ from those published in the CSCO final report.

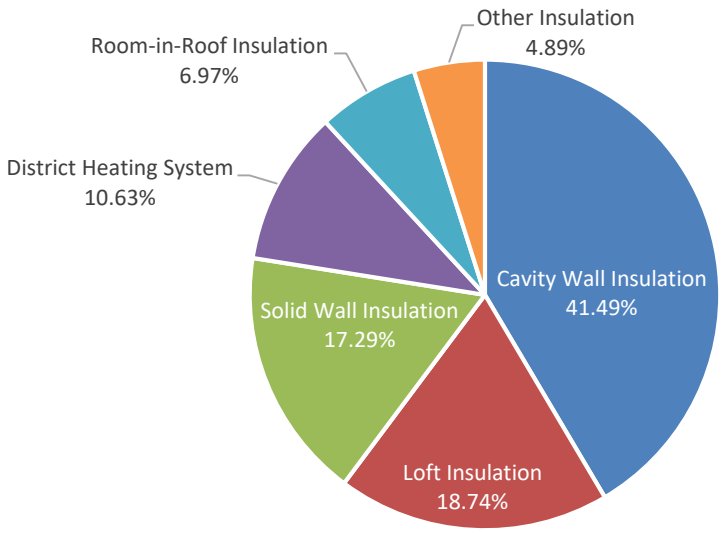
2.62. All obligated suppliers achieved their overall CSCO obligations.

2.63. However, Npower were administratively non-compliant on one of their CSCO licences. This means that while they delivered enough savings overall to meet their aggregated CSCO obligation, these were not balanced across their licences.

2.64. The underachievement on this licence was a very small amount (13 tonnes) and counterbalanced by over delivery on their other licences in terms of meeting their overall CSCO obligation.

2.65. The overall target from CSCO was originally exceeded with suppliers achieving 121% of the original target, however after re-elections to other ECO2 obligations and post CSCO closedown rejections, the final overall achievement of CSCO is 100.48%, as can be seen in **Figure 2.1**.

Figure 2.10 Measure types in CSCO



2.66. The overall proportion of measure types delivered under CSCO is shown in **Figure 2.10**. The most frequently installed measure type in CSCO was cavity wall insulation (41.49%) followed by loft insulation (18.74%) and solid wall insulation (17.29%). The remainder (22.49%) consisted of connections to district heating systems as well

[28] See page 23 for more information on adjoining areas.
[29] Energy Company Obligation (ECO2) CSCO final report:
https://www.ofgem.gov.uk/system/files/docs/2017/09/eco2_csco_final_compliance_report_280917.pdf

as much smaller numbers of other insulation measure types (including draught proofing, under floor insulation and window glazing).

2.67. These figures differ from the CSCO closedown report as suppliers chose to re-elect eligible excess savings from CSCO into the other ECO2 obligations. At CSCO closedown cavity wall insulation accounted for 45% of the measures notified under CSCO. Generally, the proportion of measure types has remained the same.

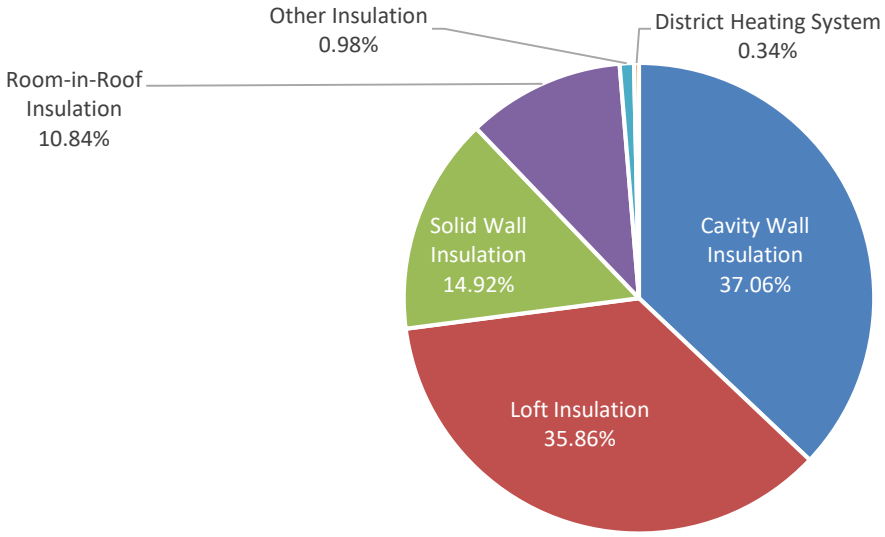
CSCO Rural sub-obligation

2.68. The rural sub-obligation required that at least 15% of a supplier's CSCO delivery was promoted to members of the affordable warmth group (AWG) living in a rural area. All obligated suppliers met their rural sub-obligation.

2.69. A total of 14,580 measures were delivered under CSCO Rural in ECO2, with an additional 26,004 measures carried over from ECO1.

2.70. Similar to the main CSCO obligation, the overall achievement of CSCO Rural reduced after post CSCO closedown rejections and re-elections of measures to other ECO2 obligations. At CSCO closedown the rural obligation achievement was 174%, as shown in **Figure 2.1**, this figure is now 143.02%

Figure 2.11 Measure types in CSCO rural sub-obligation



2.71. **Figure 2.11** shows that, as with the main CSCO obligation, cavity wall insulation was the main measure installed under CSCO rural (37.06%), however this was only slightly ahead of loft insulation (35.86%).

2.72. Under CSCO rural, district heating systems saw a significant decrease from the main obligation and only accounted for 0.34% of measures delivered in rural areas.

Adjoining Areas

2.73. Under CSCO, adjoining areas were those that shared a border with an area of low income. As set out in the ECO2 Order[30], the total carbon savings of measures carried out in CSCO adjoining areas could not exceed 25% of the total savings achieved in

[30] Article 15 of the ECO2 Order.

the related low income area. Any savings which exceeded the 25% limit could not contribute to a supplier's CSCO obligation.

2.74. Several energy suppliers did not engage in the delivery of measures in adjoining areas. For those that did, we conducted indicative assessments of notified adjoining installations in November 2016, March 2017, and June 2017. This early analysis helped energy suppliers to identify if the 25% limit had been exceeded. Suppliers could then make adjustments to the number of measures in adjoining areas or related low income areas to mitigate the amount of carbon savings at risk of rejection ahead of the final deadline.

2.75. In September 2017, we conducted our final assessment of those suppliers that participated in the delivery of measures in adjoining areas. A total of 109 measures were installed as adjoining installations and as such were subject to this assessment. No suppliers who notified measures in adjoining areas exceeded the 25% limit. Measures in adjoining areas accounted for 0.1% of CSCO savings.

3. Energy Supplier Performance

Chapter Overview

This chapter presents each energy supplier's achievement against their obligations and sub-obligations in ECO2.

Introduction

3.1. Each of the energy supplier's ECO2 obligations was calculated using the amount of energy they supplied to their domestic customers (i.e. market share) in the year preceding each phase. As supplier obligations were set at individual licence level, here we present licence level performance alongside delivery at the group energy company level.

Table 3.1: Energy company performance index reference

Energy Company	Index
British Gas	Table 3.2 and Figure 3.1
Co-op Energy	Table 3.3 and Figure 3.2
EDF	Table 3.4 and Figure 3.3
EON	Table 3.5 and Figure 3.4
Extra Energy	Table 3.6 and Figure 3.5
First Utility	Table 3.7 and Figure 3.6
Npower	Table 3.8 and Figure 3.7
Ovo Energy	Table 3.9 and Figure 3.8
Scottish Power	Table 3.10 and Figure 3.9
SSE	Table 3.11 and Figure 3.10
Utilita	Table 3.12 and Figure 3.11
Utility Warehouse	Table 3.13 and Figure 3.12

3.2. The carbon savings achieved by each energy company include any savings that were carried over from ECO1 as surplus actions, and in the case of PSWMR this also includes solid wall measures delivered during ECO1.

3.3. The majority of suppliers re-elected excess CSCO savings and credited them against different obligations during phase 3 (ECO2t).

3.4. Throughout ECO2 we sought to provide information to stakeholders by engaging with suppliers and the wider supply chain to clarify scheme requirements and resolve issues. We provided additional information and guidance through stakeholder events and working level bilateral meetings to support delivery of eligible measures and to improve data quality. We also worked with various industry groups to standardise documentation and made available our ECO Tool to help suppliers identify eligible rural areas, and to assist in the verification of ECO2 measures.

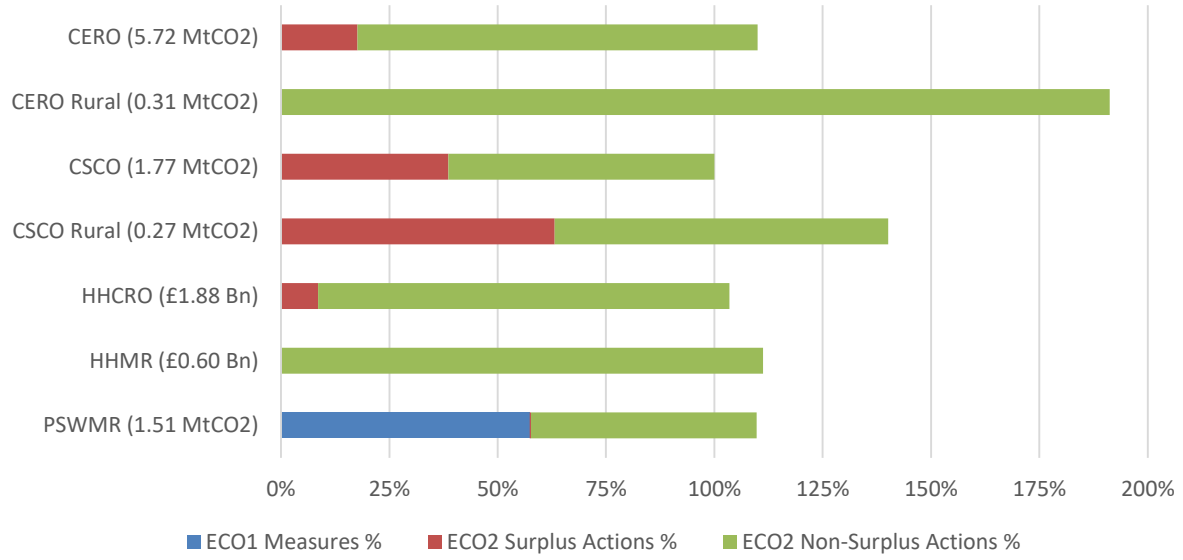
British Gas

3.5. Two British Gas licences were obligated under ECO2, and as shown in **Table 3.2**, they both met all obligations.

Table 3.2: British Gas performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
BGT03078711E	100%	n/a	100%	148%	n/a	n/a	100%
BGT03078711G	111%	191%	100%	135%	104%	111%	113%
Overall Achievement	**110%**	**191%**	**100%**	**140%**	**104%**	**111%**	**110%**

Figure 3.1: British Gas performance against ECO2 obligations



3.6. **Table 3.2** shows that British Gas achieved 110% towards its CERO obligation, 100% towards its CSCO obligation and 104% toward its HHCRO obligation.

3.7. British Gas also achieved all of its sub-obligations with 191% towards CERO Rural, 140% towards CSCO Rural, 111% towards HHMR and 110% towards its PSWMR obligations respectively.

3.8. British Gas's carbon savings achieved in ECO2 were 6.29MtCO_2 under CERO and 1.77 MtCO_2 under CSCO. They also delivered cost savings of £1.95 Bn under HHCRO.

3.9. **Figure 3.1** shows that a large part of British Gas's CSCO Rural obligation was achieved through measures carried over from ECO1 (63.13%)

3.10. The majority of British Gas's PSWMR obligation was achieved through measures delivered during ECO1, 57.35%.

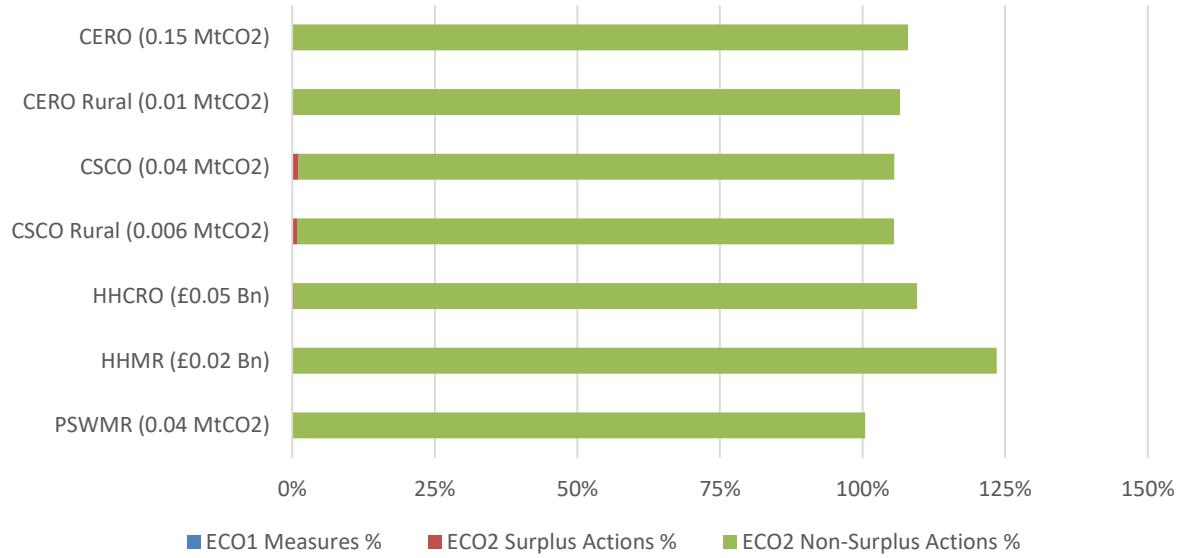
The Co-operative Energy

3.11. Two Co-op Energy licences were obligated under ECO2, and as shown in **Table 3.3**, they both met all obligations.

Table 3.3: Co-op Energy performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
COP06993470E	103%	107%	106%	105%	111%	121%	100%
COP06993470G	127%	n/a	105%	106%	104%	n/a	101%
Overall Achievement	**108%**	**107%**	**106%**	**106%**	**110%**	**124%**[31]	**100%**

Figure 3.2: Co-op Energy performance against ECO2 obligations



3.12. **Table 3.3** shows that Co-op Energy achieved 108% towards its CERO obligation, 106% towards its CSCO obligation and 110% toward its HHCRO obligation.

3.13. Co-op Energy also achieved all of its sub-obligations with 107% towards CERO Rural, 106% towards CSCO Rural, 124% towards HHMR and 100% towards its PSWMR obligations respectively.

3.14. Co-op's carbon savings achieved in ECO2 were 0.16 $MtCO_2$ under CERO and 0.04 $MtCO_2$ under CSCO. They also delivered cost savings of £0.06 Bn under HHCRO.

3.15. **Figure 3.2** shows that almost all of Co-op's savings were delivered under ECO2, with only minimal amounts carried forward from ECO1, much less than the other suppliers. This is likely because Co-op was not obligated under ECO1 until April 2014.[32]

[31] Overall achievement of HHMR is greater than the individual licence achievement as some savings were approved against the non-obligated licence.
[32] See: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco1-final-report

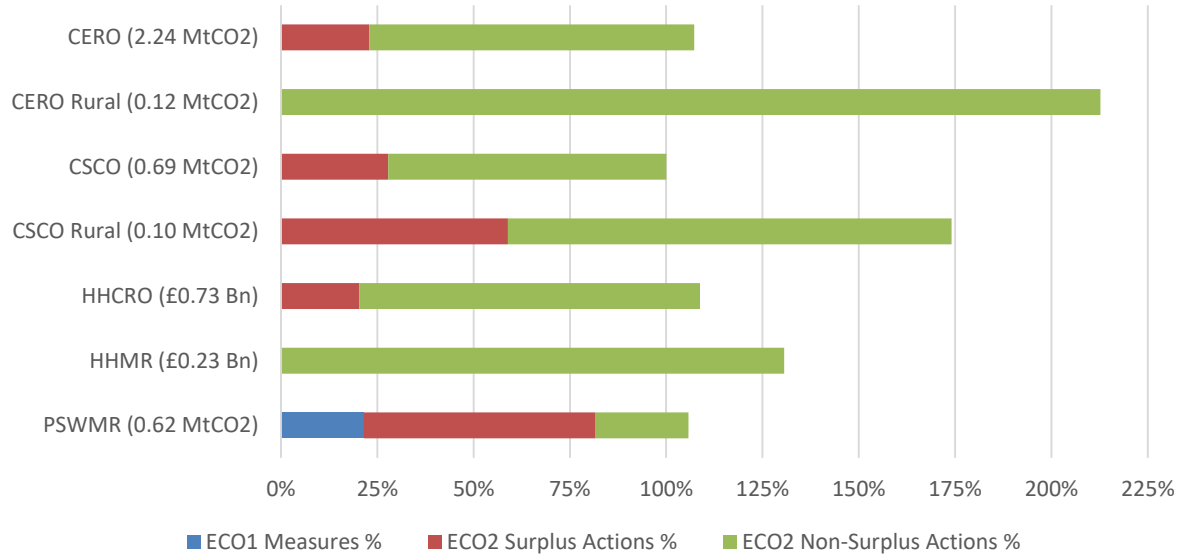
EDF Energy

3.16. Two EDF licences were obligated under ECO2, and as shown in **Table 3.4**, they both met all obligations.

Table 3.4: EDF Energy performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
EDF02228297E	107%	237%	100%	181%	108%	127%	104%
EDF02228297G	108%	180%	100%	164%	110%	136%	109%
Overall Achievement	**107%**	**213%**	**100%**	**174%**	**109%**	**131%**	**106%**

Figure 3.3: EDF performance against ECO2 obligations



3.17. **Table 3.4** shows that EDF achieved 107% towards its CERO obligation, 100% towards its CSCO obligation and 109% toward its HHCRO obligation.

3.18. EDF also achieved all of its sub-obligations with 213% towards CERO Rural, 174% towards CSCO Rural, 131% towards HHMR and 106% towards its PSWMR obligations respectively.

3.19. EDF's carbon savings achieved in ECO2 were 2.41 $MtCO_2$ under CERO and 0.69 $MtCO_2$ under CSCO. They also delivered cost savings of £0.80 Bn under HHCRO.

3.20. **Figure 3.3** shows that a large proportion of EDF's CSCO Rural obligation was achieved through measures carried over from ECO1 (58.91%).

3.21. Also, the majority of EDF's PSWMR obligation was achieved from the combination of measures carried forward as surplus actions from ECO1 to ECO2 (59.97%) and measures that were delivered during ECO1 (21.51%).

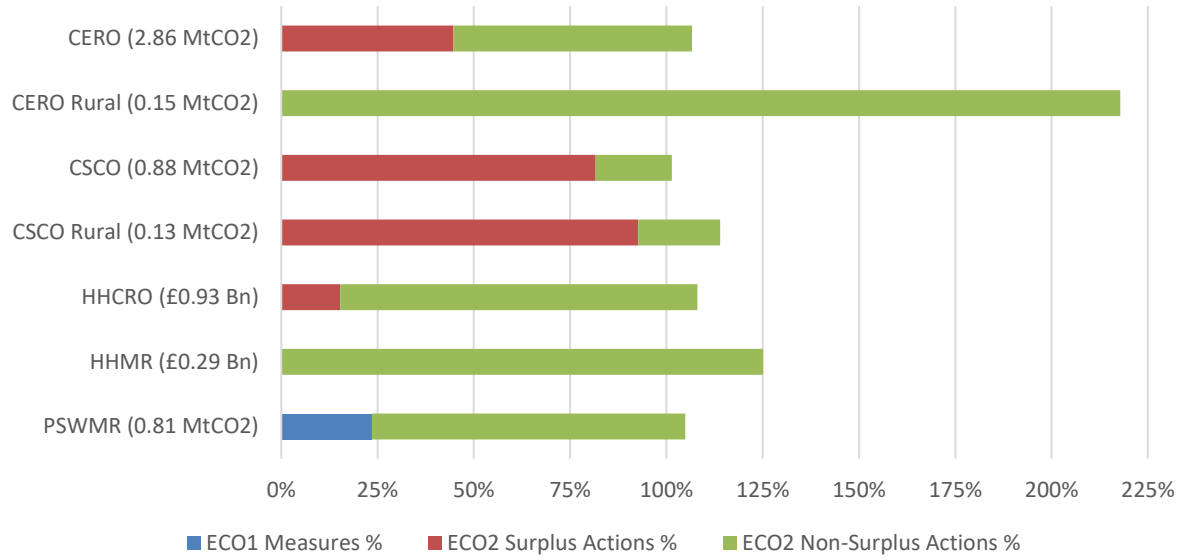
E.ON

3.22. Two EON licences were obligated under ECO2, and as shown in **Table 3.5,** they both met all obligations.

Table 3.5: E.ON Energy performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
EON03407430E	107%	195%	102%	101%	108%	125%	100%
EON03407430G	100%	n/a	101%	131%	n/a	n/a	143%
Overall Achievement	**107%**	**218%[33]**	**101%**	**114%**	**108%**	**125%**	**105%**

Figure 3.4: E.ON performance against ECO2 obligations



3.23. **Table 3.5** shows that E.ON achieved 107% towards its CERO obligation, 101% towards its CSCO obligation and 108% toward its HHCRO obligation.

3.24. E.ON also achieved all of its sub-obligations with 218% towards CERO Rural, 114% towards CSCO Rural, 125% towards HHMR and 105% towards its PSWMR obligations respectively.

3.25. E.ON's carbon savings achieved in ECO2 were 3.05 $MtCO_2$ under CERO and 0.89 $MtCO_2$ under CSCO. They also delivered cost savings of £1.00 Bn under HHCRO.

3.26. **Figure 3.4** shows that the majority of E.ON's CSCO and CSCO Rural obligations were achieved through measures carried over as surplus action from ECO1 (81.66% and 92.66%).

[33] Overall achievement of CERO Rural is greater than the individual licence achievement as some savings were approved against the non-obligated licence.

Extra Energy

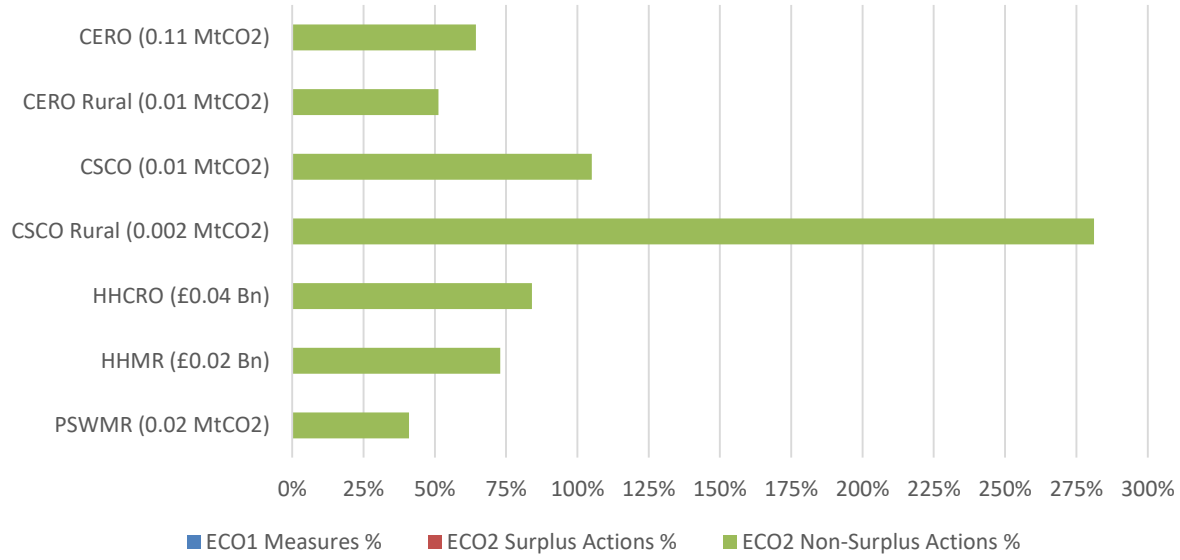
3.27. Two Extra Energy licences were obligated under ECO2, and as shown in **Table 3.6**, they failed to meet all but their CSCO and CSCO Rural obligations. In November 2018, Extra Energy ceased trading.

3.28. Both of Extra Energy's licences were revoked after they announced they would cease trading.

Table 3.6: Extra Energy performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
XEN08053154E	74%	54%	100%	295%	90%	83%	51%
XEN08053154G	44%	48%	135%	197%	73%	58%	19%
Overall Achievement	**64%**	**51%**	**105%**	**281%**	**84%**	**73%**	**41%**

Figure 3.5: Extra Energy performance against ECO2 obligations



3.29. **Figure 3.6** shows that Extra Energy achieved only their CSCO (105%) and CSCO Rural (281%) obligations.

3.30. They failed to achieve all other ECO2 obligations, but did deliver some measures in each obligation. This contributed to the overall ECO2 targets being delivered.

3.31. Extra Energy's carbon savings achieved in ECO2 were 0.07 $MtCO_2$ under CERO and 0.01 $MtCO_2$ under CSCO. They also delivered cost savings of £0.03 Bn under HHCRO.

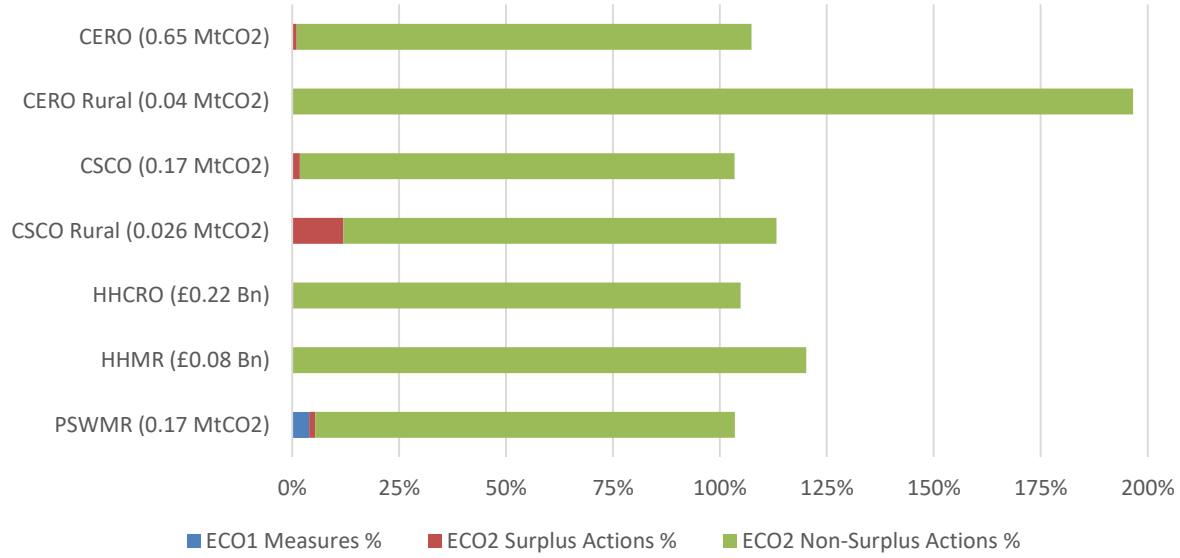
First Utility

3.32. Two First Utility licences were obligated under ECO2, and as shown in **Table 3.7**, they both met all obligations.

Table 3.7: First Utility performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
FUL05070887E	149%	n/a	103%	119%	n/a	n/a	102%
FUL05070887G	104%	179%	103%	109%	105%	120%	104%
Overall Achievement	**107%**	**197%**	**103%**	**113%**	**105%**	**120%**	**104%**

Figure 3.6: First Utility performance against ECO2 obligations



3.33. **Table 3.7** shows that First Utility achieved 107% towards its CERO obligation, 103% towards its CSCO obligation and 105% toward its HHCRO obligation.

3.34. First Utility also achieved all of its sub-obligations with 197% towards CERO Rural, 113% towards CSCO Rural, 120% towards HHMR and 104% towards its PSWMR obligations respectively.

3.35. First Utility's carbon savings achieved in ECO2 were 0.69 $MtCO_2$ under CERO and 0.18 $MtCO_2$ under CSCO. They also delivered cost savings of £0.23 Bn under HHCRO.

3.36. **Figure 3.6** shows that First Utility only carried forward a small amount of measures from ECO1, with 11.95% of its CSCO Rural delivered by this method.

3.37. Also for their PSWMR, 1.36% was delivered by measured carried forward as surplus actions from ECO1 and an additional 3.98% was achieved by measures delivered under ECO1.

Npower

3.38. Npower delivered enough savings to meet all of their overall obligations and sub-obligations.

3.39. Nine Npower licences were obligated under ECO2. Obligations were met on eight of these, as shown in **Table 3.8**.

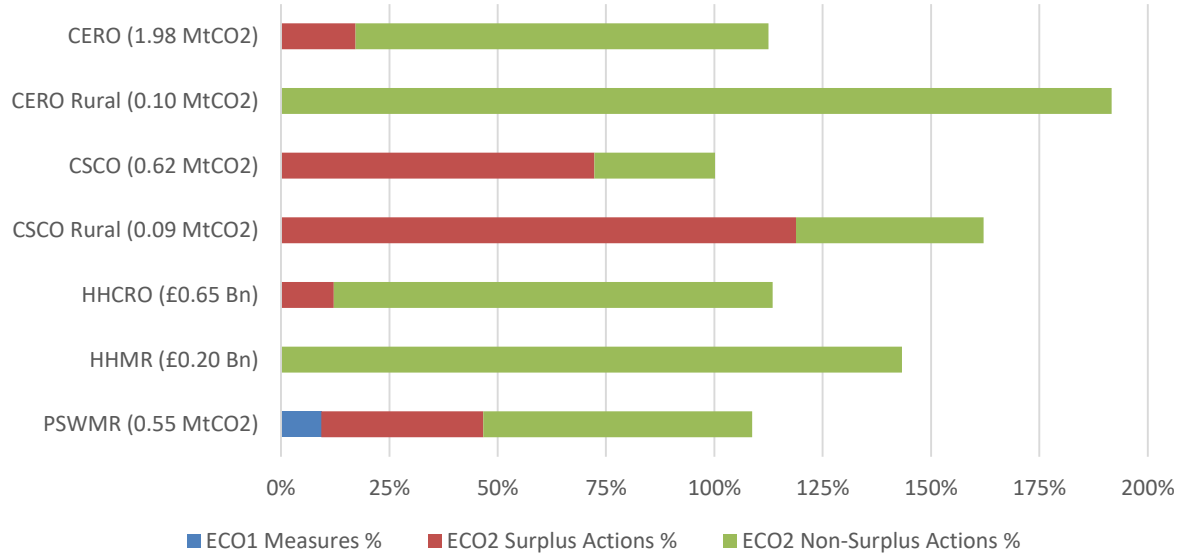
3.40. Npower under-delivered on one licence under CSCO (NPW03653277E). This was a very small amount of 13 tonnes, resulting in licence-level achievement of 99.986%. This is counterbalanced by over-delivery on their other CSCO licences.

3.41. We consider this administrative non-compliance as it represents a failure to balance delivery across licences, as opposed to under-achievement of their overall obligation.

Table 3.8: Npower performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
NPW02845740E	111%	161%	100%	118%	110%	131%	114%
NPW02999919G	108%	185%	100%	316%	110%	135%	104%
NPW03432100G	116%	232%	100%	156%	120%	161%	107%
NPW03653277E	108%	168%	99.986%	156%	110%	133%	107%
NPW03768856G	516%	396%	142%	660%	129%	158%	205%
NPW03782443E	115%	171%	100%	131%	112%	139%	107%
NPW03782443G	364%	203%	111%	742%	113%	133%	1743%
NPW03937808G	113%	169%	100%	145%	113%	143%	107%
NPW04212116E	114%	189%	100%	154%	112%	139%	107%
Overall Achievement	**113%**	**192%**	**100%**	**162%**	**113%**	**143%**	**109%**

Figure 3.7: Npower performance against ECO2 obligations



3.42. **Table 3.8** shows that Npower achieved 113% towards its CERO obligation, 100% towards its CSCO obligation and 113% toward its HHCRO obligation.

3.43. Npower also achieved all of its sub-obligations with 192% towards CERO Rural, 162% towards CSCO Rural, 143% towards HHMR and 109% towards its PSWMR obligations respectively.

3.44. Npower's carbon savings achieved in ECO2 were 2.23 $MtCO_2$ under CERO and 0.62 $MtCO_2$ under CSCO. They also delivered cost savings of £0.73 Bn under HHCRO.

3.45. **Figure 3.7** shows that Npower achieved all of their CSCO Rural obligation with measures carried forward from ECO1, accounting for 118.83% of their total achievement. They also delivered 72.29% of their main CSCO obligation in the same manner.

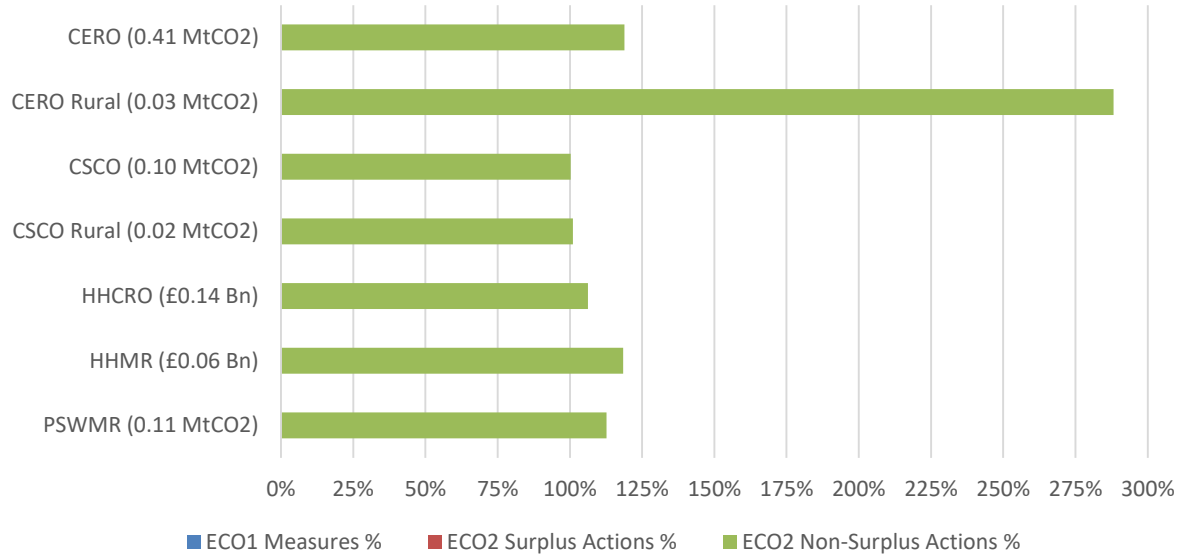
OVO Energy

3.46. Two Ovo Energy licences were obligated under ECO2, and as shown in **Table 3.9**, they both met all obligations.

Table 3.9: Ovo Energy performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
OVO06752915G	119%	271%	100%	100%	106%	110%	114%
OVO06858121E	119%	n/a	100%	102%	107%	n/a	109%
Overall Achievement	**119%**	**288%[34]**	**100%**	**101%**	**106%**	**118%[35]**	**113%**

Figure 3.8: Ovo Energy performance against ECO2 obligations



3.47. **Table 3.9** shows that Ovo Energy achieved 119% towards its CERO obligation, 100% towards its CSCO obligation and 106% toward its HHCRO obligation.

3.48. Ovo Energy also achieved all of its sub-obligations with 288% towards CERO Rural, 101% towards CSCO Rural, 118% towards HHMR and 113% towards its PSWMR obligations respectively.

3.49. Ovo Energy's carbon savings achieved in ECO2 were 0.49 $MtCO_2$ under CERO and 0.10 $MtCO_2$ under CSCO. They also delivered cost savings of £0.15 Bn under HHCRO.

3.50. **Figure 3.8** shows that all of the measures delivered by Ovo Energy were under ECO2, this is because Ovo Energy was not obligated under ECO1 and therefore did not have any carbon savings to carry forward.

[34] Overall achievement of CERO Rural is greater than the individual licence achievement as some savings were approved against the non-obligated licence.
[35] Overall achievement of HHMR is greater than the individual licence achievement as some savings were approved against the non-obligated licence.

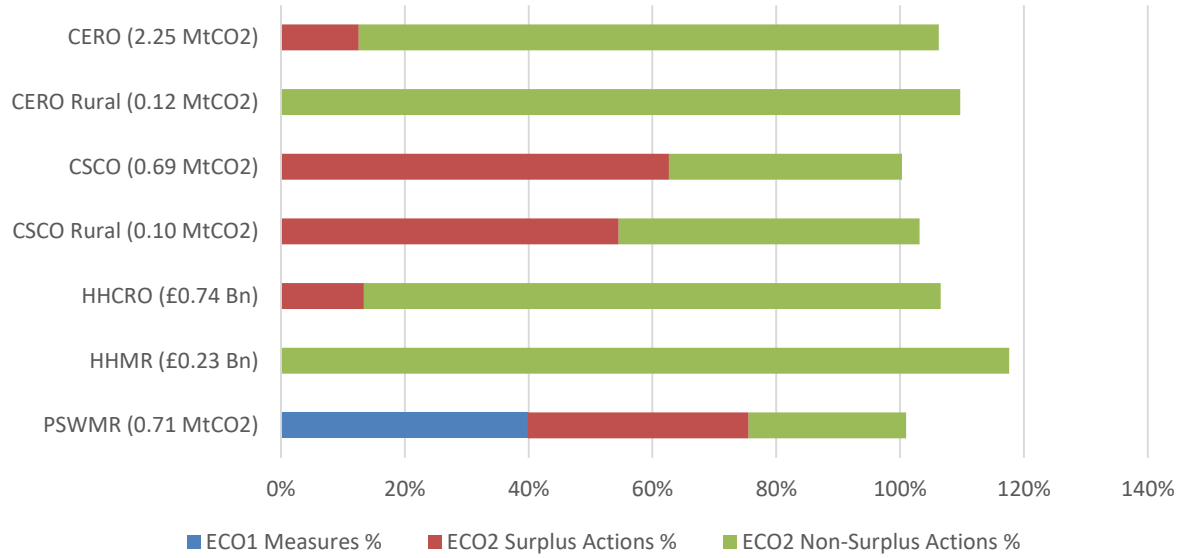
Scottish Power

3.51. Two Scottish Power licences were obligated under ECO2, and as shown in **Table 3.10**, they both met all obligations.

Table 3.10: Scottish Power performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
SPWSC190287E	105%	114%	100%	103%	106%	124%	101%
SPWSC190287G	108%	105%	100%	103%	107%	110%	101%
Overall Achievement	**106%**	**110%**	**100%**	**103%**	**107%**	**118%**	**101%**

Figure 3.9: Scottish Power performance against ECO2 obligations



3.52. **Table 3.10** shows that Scottish Power achieved 106% towards its CERO obligation, 100% towards its CSCO obligation and 107% toward its HHCRO obligation.

3.53. Scottish Power also achieved all of its sub-obligations with 110% towards CERO Rural, 103% towards CSCO Rural, 118% towards HHMR and 101% towards its PSWMR obligations respectively.

3.54. Scottish Power's carbon savings achieved in ECO2 were 2.39 $MtCO_2$ under CERO and 0.70 $MtCO_2$ under CSCO. They also delivered cost savings of £0.78 Bn under HHCRO.

3.55. **Figure 3.9** shows that the majority of Scottish Power's CSCO and CSCO Rural obligations were achieved through measures carried over from ECO1 (62.66% and 54.54%).

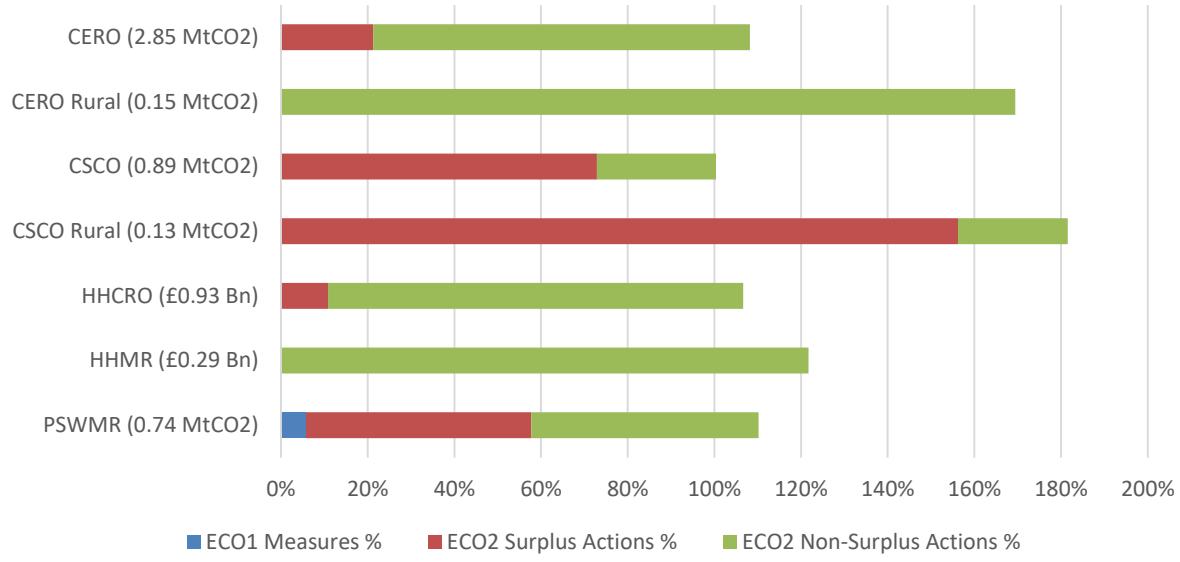
SSE

3.56. Two SSE licences were obligated under ECO2, and as shown in **Table 3.11**, they both met all obligations.

Table 3.11: SSE performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
SSE02716495G	108%	169%	100%	200%	107%	122%	109%
SSE03757502E	121%	n/a	100%	167%	n/a	n/a	120%
Overall Achievement	**108%**	**169%**	**100%**	**182%**	**107%**	**122%**	**110%**

Figure 3.10: SSE performance against ECO2 obligations



3.57. **Table 3.11** shows that SSE achieved 108% towards its CERO obligation, 100% towards its CSCO obligation and 107% toward its HHCRO obligation.

3.58. SSE also achieved all of its sub-obligations with 169% towards CERO Rural, 182% towards CSCO Rural, 122% towards HHMR and 110% towards its PSWMR obligations respectively.

3.59. SSE's carbon savings achieved in ECO2 were 3.08 $MtCO_2$ under CERO and 0.89 $MtCO_2$ under CSCO. They also delivered cost savings of £0.99 Bn under HHCRO.

3.60. **Figure 3.10** shows that SSE's achieved more than 100% of their CSCO Rural obligation through measures carried over from ECO1, these account for 156.22% of the total CSCO Rural achievement.

3.61. In addition, the majority of measures delivered by SSE under CSCO and PSWMR were also carried forward as surplus actions from ECO1, accounting for 72.87% and

52.01% of the respective obligations. A further 5.78% of their PSWMR was achieved from measures delivered under ECO1.

Utilita

3.62. Two Utilita licences were obligated under ECO2, and as shown in **Table 3.12**, they failed to meet their CERO, CERO Rural and PSWMR obligations.

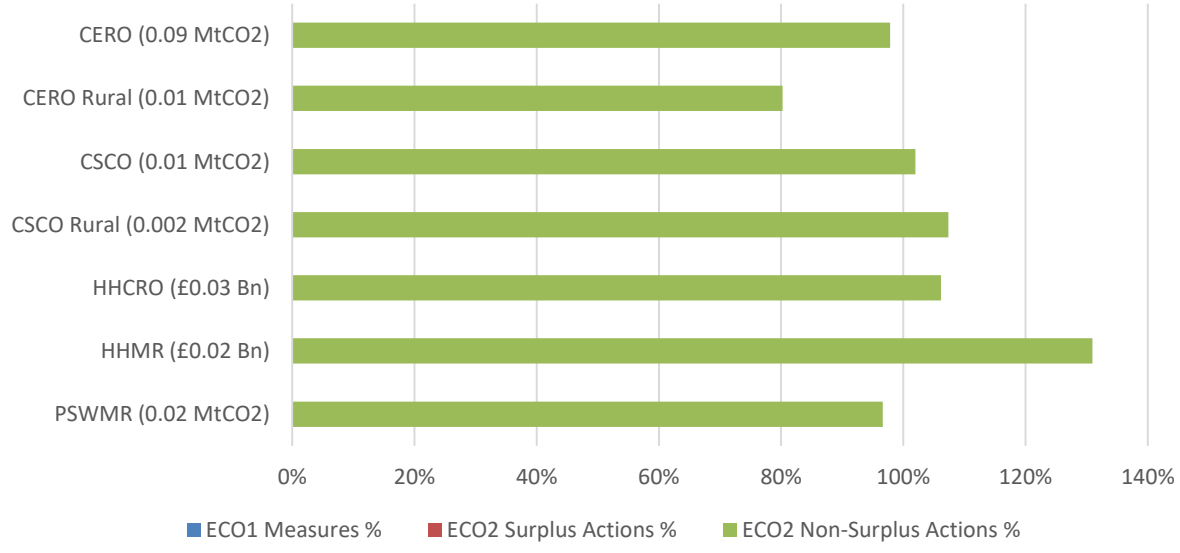
3.63. Utilita also under-delivered on one licence under HHCRO and HHMR (UTA04849181G), however this was counterbalanced by over-delivery on their other HHCRO and HHMR licence.

3.64. We consider this administrative non-compliance as it represents a failure to balance delivery across licences, as opposed to under-achievement of their overall HHCRO and HHMR obligations.

Table 3.12: Utilita performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
UTA04849181E	102%	99%	102%	107%	110%	146%	100%
UTA04849181G	82%	33%	n/a	n/a	92%	94%	80%
Overall Achievement	**98%**	**80%**	**102%**	**107%**	**106%**	**131%**	**97%**

Figure 3.11: Utilita performance against ECO2 obligations



3.65. **Table 3.12** shows that Utilita achieved 98% towards its CERO obligation, 102% towards its CSCO obligation and 106% toward its HHCRO obligation.

3.66. Utilita achieved its CSCO Rural and HHMR sub-obligations with 107% towards CSCO Rural and 131% towards HHMR.

3.67. Utilita fell short of its CERO rural target by 20%, and also fell slightly short of its PSMWR by delivering 97% of its savings target.

3.68. Utilita's carbon savings achieved in ECO2 were 0.09 $MtCO_2$ under CERO and 0.01 $MtCO_2$ under CSCO. They also delivered cost savings of £0.04 Bn under HHCRO.

3.69. **Figure 3.11** shows that all of the measures delivered by Utilita were under ECO2, this is because Utilita was not obligated under ECO1 and therefore did not have any carbon savings to carry forward.

3.70. We will consider what action might be necessary to address this non-compliance.

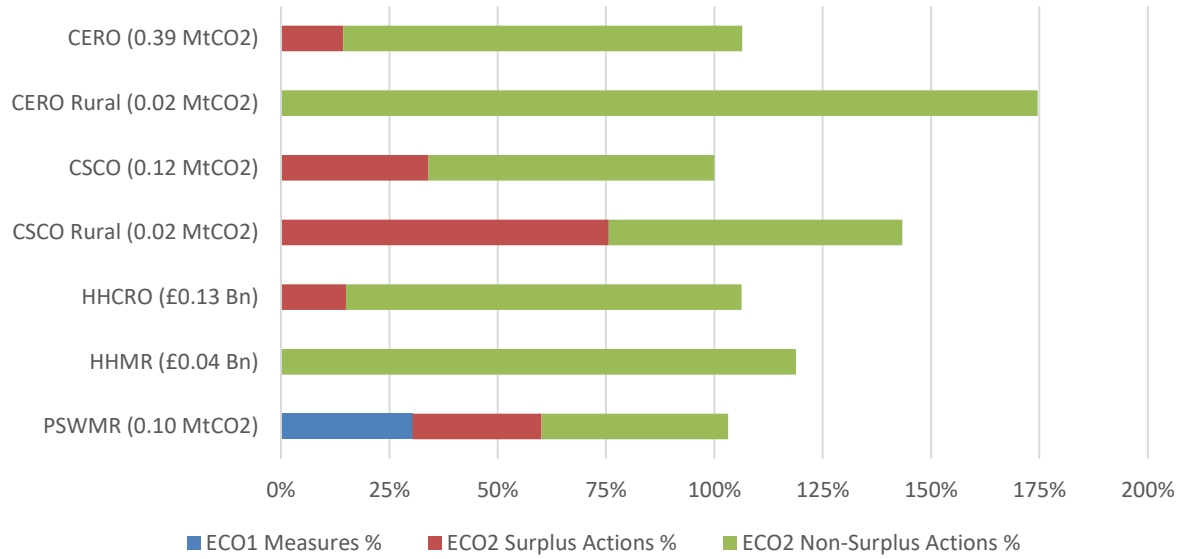
Utility Warehouse

3.71. Two Utility Warehouse licences were obligated under ECO2, and as shown in **Table 3.13**, they both met all obligations.

Table 3.13: Utility Warehouse performance against ECO2 obligations

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
UTW05199935G	108%	185%	100%	142%	106%	118%	103%
UTW05199936E	105%	163%	100%	145%	107%	120%	103%
Overall Achievement	**106%**	**175%**	**100%**	**143%**	**106%**	**119%**	**103%**

Figure 3.12: Utility Warehouse performance against ECO2 obligations



3.72. **Table 3.13** shows that Utility Warehouse achieved 106% towards its CERO obligation, 100% towards its CSCO obligation and 106% toward its HHCRO obligation.

3.73. Utility Warehouse also achieved all of its sub-obligations with 175% towards CERO Rural, 143% towards CSCO Rural, 119% towards HHMR and 103% towards its PSWMR obligations respectively.

3.74. Utility Warehouse's carbon savings achieved in ECO2 were 0.41 $MtCO_2$ under CERO and 0.12 $MtCO_2$ under CSCO. They also delivered cost savings of £0.13 Bn under HHCRO.

3.75. **Figure 3.12** shows that the majority of Utility Warehouses' CSCO Rural obligation was achieved through measures carried over from ECO1 (75.64%).

3.76. Also, the majority of Utility Warehouse's PSWMR obligation was achieved from the combination of measures carried forward as surplus actions from ECO1 to ECO2 (29.79%) and measures that were delivered during ECO1 (30.33%).

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 ECO2 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 as well as our guidance. Checks were conducted across all aspects of the information notified, including in relation to the eligibility requirements for each obligation, notified carbon and costs scores, and technical requirements.

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 were initially high, as was expected for the start of a new scheme period, but settled to an average of 3.83%.

4.4. **Figure 4.1** highlights the 5 fields or categories with the highest volumes of errors in notification.

Figure 4.1: Notification error categories with the highest volumes under ECO2

Field/Category	Total number of errors	Percentage of total errors
Name and Version of Scoring Tool Used	15,923	32.65%
Wall Guarantee	6,722	13.79%
DWP Reference Number	4,375	8.97%
Carbon Score TCO_2	3,654	7.49%
Post Main Heating Source For the Property	2,908	5.96%

4.5. 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).

4.6. In ECO2t automatic extensions were introduced where up to 5% of the number of measures installed in a particular calendar month, and notified on time, could be given an automatic extension of three months to the notification deadline (the automatic 5%). The first 5% of late measures notified to us for a particular calendar month without an extension request were given this automatic extension.

4.7. We received 132 extension requests covering 6,015 measures. 87% of these requests were approved. In ECO2t 5,479 measures were notified as automatic extensions.

4.8. Another mechanism available to energy companies to manage compliance with their obligations was transfer requests. The transfer of measures could occur between licences held by the same or different companies. We received a total of 260 transfer requests, of which we approved 249. The remaining 11 transfer requests were withdrawn by suppliers. The majority of approved transfers (77%) occurred between licences held by the same energy company in order to balance or optimise their savings. Some were between energy companies to meet obligations (23%). Out of the 249 approved, 52 of these transfer requests involved Utility Warehouse and another company, enabling Utility Warehouse to meet their obligations.

Refused or Revoked Savings

4.9. Measures could only count towards a supplier's ECO2 obligation if they met all the relevant requirements under the ECO2 Order.

4.10. Following all of our compliance checks, when we determined that measures had not met all the relevant requirements of the ECO2 Order, we refused or revoked savings attributed to these measures. Suppliers also identified non-compliant measures through their own internal processes.

4.11. We refused or revoked savings for 11,742 measures (including surplus actions), this accounted for 0.81% of total measures notified. These measures accounted for 0.69% or all CERO measures notified; 1.07% of all HHCRO measures notified; and 0.53% of all CSCO measures notified. Since CSCO final determination we have rejected an additional 245 CSCO measures. This was a result of various non-compliance issues being identified after CSCO final determination, such as duplicate measures and measures not being installed. **Figure 4.2** below highlights the five main reasons for refusing or revoking savings.

Figure 4.2: Five main reasons for refusing or revoking savings

Reason for revoking/refusing savings	No. of measures	Percentage of notified measures
Duplicate	3086	0.21%
Measure not installed	1296	0.09%
No evidence demonstrating date of completed installation	1047	0.07%
Supplier did not promote the measure	942	0.06%
Technical Monitoring fail rate exceeded	725	0.05%

4.12. "*Duplicate measures*" in **Figure 4.2** were where an ECO2 measure had been notified more than once or where an ECO2 measure was also notified at the same property as another ECO1 or ECO2 measure. Energy companies resolved the duplicates between themselves and then notified us of the outcome; as a result, the valid measure was kept. The duplicate measure had their savings refused/revoked and could not be claimed under ECO.

4.13. *"Measures not installed"* were where an ECO2 measure had been notified but then identified by the supplier or by internal Ofgem processes that the measure had not been installed. The measures had their savings refused/revoked and could not be claimed under ECO.

4.14. Measures where there was "*no evidence demonstrating date of completed installation*" the supplier had not provided sufficient evidence to demonstrate the completion date for the measure. We were therefore unable to assess whether the measure was notified within the notification period. These measures had their savings refused/revoked and could not be claimed under ECO.

4.15. A supplier promotes the installation of a measure if it is the cause of that measure being installed. Where the supplier did not promote the measure they did not provide sufficient evidence that it funded all or part of the installation of the measure. These measures had their savings refused/revoked and could not be claimed under ECO.

4.16. Measures where the technical monitoring fail rate had been exceeded was where a supplier's technical monitoring failure rate for a particular installer or a measure type installed by a particular installer was higher than 10%. The supplier did not complete the required actions with respect to this installer within the required timeframe and these measures had their savings refused/revoked and could not be claimed under ECO.

Appropriate Methodologies

4.17. Under ECO2, carbon and cost savings were required to be calculated using the Standard Assessment Procedure (SAP) or Reduced Standard Assessment Procedure (RdSAP). For ECO2t, in accordance with the requirements of the amended ECO2 Order, we developed a simplified scoring methodology known as "deemed scores". Most measures in ECO2t were scored using this methodology.

4.18. In cases where SAP, RdSAP or deemed scores could not be used to calculate the savings, then energy companies could apply to use an alternative methodology.

4.19. One alternative methodology was submitted to us, which we approved as meeting the requirements set out in the Order. This methodology enabled the calculation of carbon savings achieved by measures installed in multiple occupancy premises, for example, student halls or hostels, where these premises meet the ECO2 definition of domestic premises. These premises could not be modelled in SAP, RdSAP or deemed scores, therefore we approved the Simplified Building Energy Model (SBEM) to be used to calculate savings in these types of properties.

4.20. Under ECO2 4.5% of measures were scored using SAP, 73.8% were scored using RdSAP and 21.4% were scored using deemed scores. The remaining 0.3% were scored using SBEM.

4.21. After the introduction of deemed scores during phase 3, this became the most common scoring method for measures with 94.46% of ECO2t measures being scored this way.

Score Verification

4.22. As part of our checks to ensure the savings notified were accurate, we conducted score verification during ECO2, which assessed the carbon savings calculated using SAP and RdSAP and focused on identifying abnormally high/low carbon scores and abnormally high/low floor areas. This allowed us to identify scores that fell outside an expected range for a measure, property and fuel type mix. We required suppliers to verify the scores for these measures and re-notify the corrected inputs if errors were identified.

4.23. On 1 April 2017, deemed scores were introduced, replacing the approach of calculating bespoke carbon savings for all measure types. As a result, score verification had ceased in this form.

4.24. In total, 20,041 ECO2 measures were identified for score verification, this was split between 12,271 in CERO, 3,172 in CSCO and 4,598 in HHCRO. 34.5% of these measures were rejected as part of the score verification checks. The remaining 65.5% of the measures required the suppliers or third parties to investigate further. This resulted in measures requiring amendments to measure notifications after investigations found measures were incorrectly notified or in some cases the supplier found no issues with the measures and therefore required no further investigation.

4.25. A range of measure types were part of score verification, including solid wall insulation, cavity wall insulation, loft insulation, room in roof insulation, under floor insulation, window glazing, flat roof insulation and district heating systems.

Technical and Score Monitoring

4.26. Technical and Score monitoring was a requirement placed on energy companies by Ofgem 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.

4.27. Energy companies were required to commission monitoring on a 5% sample of the measures that they had delivered. Additionally, to ensure that the monitoring conducted by a supplier is representative of both the installers used by that supplier, and the measure types notified by the supplier, there are two further requirements. A supplier was required to:

- Monitor 5% of measures of each measure type notified in a quarter, and;
- Monitor at least 3% of measures notified as being installed by a single installer in a quarter
- Monitor at least 1 measure of installers who have notified fewer than 100 measures in the quarter ('small installers').

4.28. Where measures failed monitoring we required the energy companies to resolve any issues discovered.

4.29. Monitoring agents, independent of any parties involved in the installation of the measure, assessed the standard of installation and ECO scoring inputs against a standard questionnaire provided by us. The results were reported to us by energy companies on a quarterly basis.

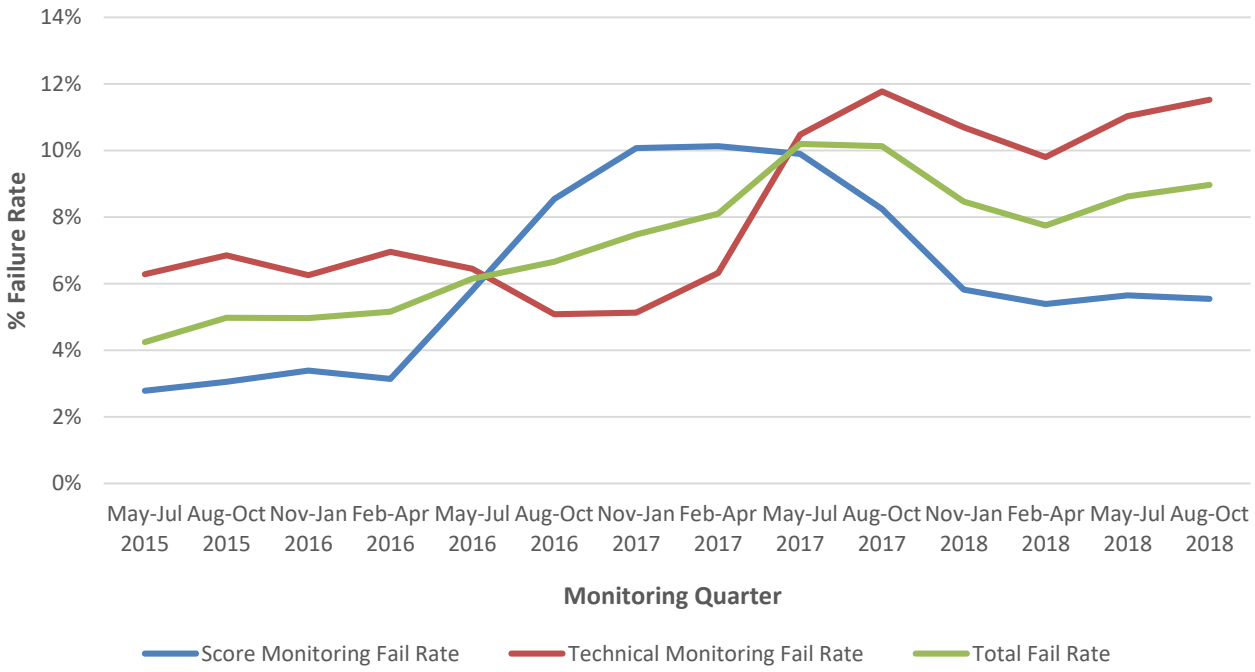
4.30. All energy companies achieved at least the 5% required monitoring rate. **Figure 4.3** below shows the total technical and score monitoring fail rate by each energy company.

Figure 4.3: Technical and Score Monitoring fail rate by energy company

Energy Company	Technical Monitoring Fail Rate (%)	Score Monitoring Fail Rate (%)
British Gas	5.87	4.85
The Co-operative Energy	6.22	6.25
EDF Energy	7.07	8.14
E.ON	12.48	9.41
Extra Energy	12.93	1.02
First Utility	2.87	3.20
Npower	6.85	3.59
OVO	5.78	3.41
Scottish Power	6.34	7.21
SSE	9.40	5.26
Utilita	13.77	7.69
Overall	5.87	5.92

4.31. **Figure 4.4** below shows the technical and scoring 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. The technical monitoring fail rate is higher in ECO2t than ECO2. The technical monitoring fail rate for small installers in ECO2t was 12.21% compared to a fail rate of 9.81% for large installers.

Figure 4.4: Monitoring failure rates over time.



4.32. If a measure failed monitoring based on the standard of installation, energy companies were required to remediate (i.e. correct) the measure. Once this remediation had taken place, a further inspection had to be passed to ensure any fault with the measure had been properly remediated. Of the 7440 measures that failed technical monitoring based on the standard of installation 7426 (94.54%) were remediated and passed re-inspection.

4.33. If a measure failed 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 5133 scoring fails, 4985 (97.12%) were rescored.

4.34. Where energy companies were unable to resolve an issue identified through technical monitoring (e.g. they were unable to gain access to a property or could not accurately re-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 attributed towards an energy company's obligation.

4.35. 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.

Pathways to compliance

4.36. Where an installer did not inspect the minimum required number of measures, or breached set failure rate tolerances (20% for score monitoring and 10% for technical monitoring in ECO2, 10% for score and technical monitoring in ECO2t) it was placed on a "Pathway to Compliance". This meant that an installer's measures, notified by a particular supplier and within a set quarter, were placed at risk of rejection until appropriate action was undertaken to satisfy us that the installer could meet the relevant requirements. In the first instance this meant performing additional inspections to either meet the required monitoring rate or to confirm or refute the original reported failure rate.

4.37. Where the failure rate remained above the tolerance, suppliers were required to submit additional assurances (including actions such as root cause analyses and

improvement plans) to provide Ofgem with assurance that installation and scoring issues were addressed. This was intended to give Ofgem increased confidence in the quality of that installer's measures moving forward.

4.38. In ECO2 we opened 1,104 pathways to compliance. In ECO2t we opened 2,514 pathways to compliance. The increase is mainly due to a high amount of small installers being placed on a pathway to compliance for insufficient monitoring. This reflects a change in the ECO2t supply chain with suppliers choosing to partner with more small installers.

4.39. Pathways were only closed once we had received the results of additional monitoring and assurance that gave us sufficient confidence over the quality and accuracy of an installer's installations. Where there was insufficient evidence to support the eligibility of any measure, approval was refused or revoked. Insufficient monitoring or assurance resulted in measures on 91 pathways to compliance being refused or revoked.

Audit

4.40. A key aspect of our ECO2 administration was developing and managing an effective auditing framework. The aim of the framework was to minimise the risk and impact of non-compliance with scheme requirements on consumers. We worked with all energy companies to detect and mitigate this risk.

4.41. A number of audit activities were conducted during ECO2. 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 the readiness of energy companies for delivering ECO and notifying measures to us. Following these, annual process-based audits assessed the procedures and compliance checks for measures in place by energy companies. These were complimented by measure-specific audits, which included a mix of documentation reviews and on-site monitoring activity.

Process Audits

4.42. Our process audits focussed on the controls energy companies had in place to ensure they notified compliant measures. For some audits, an independent external auditing company was commissioned. For others, specific suppliers were permitted to self-audit provided they met relevant criteria and conducted checks according to the Terms of Reference (ToR) provided by Ofgem. The reviews were consistent and benchmarked energy companies against good practice. We made recommendations where relevant and worked with energy companies to ensure they were implemented.

Discretionary Audits

Wall Guarantees

4.43. In October 2017 we instigated an audit into ECO Appropriate Guarantees claimed for solid wall insulation (SWI), cavity wall insulation (CWI) and park home insulation (PHI) measures notified under ECO. Concern was triggered when discrepancies were identified between the number of ECO guarantees issued by ECO guarantee providers, and the number of SWI, CWI and PHI measures being notified under ECO2 by suppliers.

4.44. Four out of the then six ECO2 guarantee providers agreed to participate in the audit. The audit checked whether relevant measures being claimed under ECO2 had ECO2 appropriate guarantees in place. Guarantee providers were issued with a sample of

measures notified under ECO2 as having their appropriate guarantee in place and we requested they identify any inaccuracies.

4.45. The audit produced an overall fail rate of 19%, i.e. 19% of measures claimed with a particular guarantee did not have that guarantee in place.

4.46. EWI high rise measures stood out as having a particularly high fail rate (69%). Therefore, all EWI high rise measures were investigated by suppliers. Most of those that failed did so as a result of the wrong guarantee code being notified to Ofgem. These were re-notified correctly.

4.47. A number of those without guarantees managed to obtain suitable protection via alternative assurances as afforded by the WING policy[36]. The remainder were rejected if they were HHCRO measures and rescored to zero if they were CERO measures, in accordance with our WING policy.

4.48. The average failure rates for CWI measures (5%) and non-high rise EWI measures (11%) were notably high however varied considerably between suppliers. We decided a blanket approach as an outcome would not be appropriate given this variance. Instead, we provided each supplier with their own results, giving them the opportunity to investigate further.

4.49. The suppliers were able to demonstrate that the wrong guarantee code had been notified for the majority of measures. These were re-notified correctly. Where guarantees hadn't been issued the suppliers investigated the relevant installers further in order to provide appropriate assurance on the remaining measures.

4.50. Where no assurance could be provided that a guarantee was in place, the relevant measures were rejected if they were HHCRO measures and rescored to zero if they were CERO measures, in accordance with our WING policy.

4.51. Suppliers with notification errors were also required to conduct an internal review of their guarantee notification process and provide us with assurance that this issue would not persist.

Room-in-roof Insulation (RIRI)

4.52. Over the course of 2016, concerns were raised in relation to the standards of installation on some room-in-roof insulation (RIRI) measures. As a result, we published a clarification on 29th July 2016[37] confirming that, where feasible, 100% of a RIRI measure must be insulated.

4.53. We conducted an investigation of RIRI measures installed before this clarification was published. We asked obligated suppliers to commission site inspections on a sample of relevant measures. The purpose of this was to determine whether the measures were installed to the level claimed in the notification to us; and if not, to establish the level of difference between the insulation actually installed and that notified to us.

4.54. As a result of this activity, we found that 52% of ECO2 RIRI measures installed before our clarification was published had not been installed to the level notified to us. On average, the percentage of measure actually installed was 17% less than claimed on

[36] https://www.ofgem.gov.uk/system/files/docs/2016/02/technicalrequirementsconsultationresponse_2.pdf
[37] https://www.ofgem.gov.uk/publications-and-updates/room-roof-insulation-riri-measures-under-energy-company-obligation-eco

the notification to us. This figure was arrived at excluding the party wall (i.e. by assuming that none of the RIRI measures had a party wall element to them).

4.55. Based on the concerning findings, we took action to ensure the notified scores for all RIRI measures were an accurate reflection of the actual installations. With agreement from suppliers, a correction to the percentage of measure installed was applied to all RIRI measures installed before 29th July 2016. The scale of the correction was 17%, or the observed difference for each supplier (whichever was the lesser). We also encouraged suppliers to discuss this activity with their delivery partners to ensure measures were compliant going forward. Further information about this investigation can be found in the RIRI Investigation Update on our website.[38]

Qualifying Boilers

4.56. Under ECO2, in order for a boiler measure installed under HHCRO to be a qualifying boiler replacement, the pre-existing boiler at the premises had to meet specific criteria of a *qualifying boiler*: 1) not functioning efficiently or has broken down; or 2) has a seasonal efficiency of below 86%, or above 86% and unable to be economically repaired. To determine whether or not the pre-existing boiler is a qualifying boiler, Ofgem requires suppliers to complete a Boiler Assessment Checklist (BACL), or equivalent document, for the pre-existing boiler. This should record whether the pre-existing boiler meets the criteria for a qualifying boiler and whether it is suitable to be replaced.

4.57. This area was identified as a potential compliance risk following poor audit results in ECO1. We commissioned independent audits between October and December 2015 on qualifying boiler measures submitted by obligated energy suppliers. This focused on the eligibility of pre-existing boilers at premises where qualifying boiler replacement measures were to be installed. They were based on both blind audits and a comparative review of the BACL.

4.58. The results of the audit were generally good, with an overall failure rate of 9%. Where boilers were found to not be qualifying, the installations went ahead so the consumer was not disadvantaged. We then discussed further action in terms of ECO notification with suppliers on an individual basis.

U-Values

4.59. In June 2016, Ofgem introduced a new policy for cavity wall insulation (CWI) measures with overwritten U-values in order to provide additional assurance over the savings attributed to these measures. This was based on the compliance risk that some U-values were overstated to increase the savings scores for measures.

4.60. In order to provide assurance over the savings attributed to these measures, we commissioned independent desk-based audits to specifically target CWI measures that were scored with a bespoke calculated U-value that was different from the SAP default value. There were two elements to the audit activity:

1) retrospective audit of ECO2 CWI measures with overwritten U-values which were installed between April 2015 and May 2016 (from the start of ECO2 until when the new policy was implemented). The purpose of this was to identify measures with incorrectly calculated U-values and establish how frequently this occurred.

[38] https://www.ofgem.gov.uk/publications-and-updates/room-roof-insulation-investigation-update

2) CWI measures installed after the new policy was implemented. The purpose of this was to determine whether these measures complied with the updated requirements.

4.61. Overall, limited evidence of U-value manipulation was found. A small number of measures were identified as having implausible inputs to the U-value calculation which suppliers were required to rescore correctly. There is more information about this audit and its results in U-value report on our website.[39]

Fraud Prevention

4.62. The supply chain for ECO delivery can consist of a number of different elements. Over our administration of ECO we have identified aspects of this supply chain which may be vulnerable to fraudulent activity. We require that energy companies have robust controls in place for detecting and mitigating fraud within their supply chains.

4.63. We regard fraudulent activity as covering any dishonesty or intentional misrepresentation in the context of the ECO2 Order or our guidance. We also scrutinised behaviour which may have undermined the government's policy intent or our administration of the scheme.

4.64. Throughout ECO2 we took the following steps in order to mitigate the risk of fraud:

- Taking a zero tolerance approach to fraud by investigating all cases of suspected fraud, reporting matters to Action Fraud and any relevant accreditation bodies when suspected fraudulent activity is found. As a result, we have developed relationships with external stakeholders who can assist us with investigations into suspected fraud.
- Chairing the quarterly forum of the ECO Industry Fraud Prevention and Compliance Committee to engage with suppliers and discuss fraud risks and drive best practice.
- Reviewing the energy company's fraud strategies, alongside Ofgem's ECO Fraud prevention strategy, to ensure they are effective and robust and offering guidance on where they could be strengthened.

Primary Areas of Concern

4.65. Forty-five percent of suspected fraud cases with ECO2 measures looked at documentation issues, for example misrepresentation of installation date and the provision of appropriate signatures. These two examples make up the vast majority of the measures investigated with falsified signature concerns coming to light on both householder documentation and landlord or management company permission forms. This will continue to be monitored by requesting and reviewing supporting documents in line with Ofgem guidance.

4.66. Thirty-seven percent of suspected fraud measures investigated were focused on manipulation of property information to inflate scores for measures. EPCs were a target for manipulation in particular with ECO2 measures; 81% of measures investigated for potential score inflation are in that group. The move to deemed scoring in ECO2t saw score inflation investigations reduce and the 19% of measures in this group looked at concerns around misrepresentation of bedroom numbers, main heating type and 'Percentage of Property Treated' (POPT).

4.67. Sixteen percent of measures investigated were looking into the concern of non-installation. Falsified documentation would also be an issue with non-installed measures uncovered as considerable documentary evidence will have been fabricated including the likelihood of stock photography use. We have provided advice to suppliers on using online tools to help these investigations and documentation checks

[39] https://www.ofgem.gov.uk/publications-and-updates/retrospective-u-value-audit

including the encouragement of increased customer contact exercises after installation. Such activity is beneficial as it provides the opportunity to expose a potential concern of non-install early.

Investigations

4.68. As a result of our suspected fraud investigations into 17,403 measures, 12,796 (73%) measures were retained as unchanged as the concerns were proven not to be suspicious through investigation or could not be verified, 1,865 (11%) were amended and 2,733 (16%) were refused savings.

4.69. At the time of our final determination, a total of 1,212 ECO2 measures remained under investigation relating to suspected fraud which could not be resolved before 31 March 2019. The associated savings would not currently cause any energy company to fail in achieving their obligations.

Room-in-roof Insulation (RIRI) Investigation

4.70. In September 2017 we conducted an investigation into Room-in-roof insulation (RIRI) measures after concerns were raised about;

1) the installation methods used for sloping ceiling elements, and

2) increased risk of condensation where a RIRI measure is installed to less than 100% and this has not been accounted for in the design of the measure

4.71. In relation to the first concern, after thorough engagement with industry and in-depth research we concluded that the technique, often referred to as 'enveloping', is in fact an acceptable method under PAS 2030:2014 with the majority of certification bodies approving the technique.

4.72. In relation to the second concern, we concluded that PAS 2030:2014 was not clear on this topic and it would therefore be inappropriate to take any action in relation to this.

Care Homes Investigation

4.73. In April 2018 we began an investigation into the installation of district heating systems (DHS) to care homes. It was discovered that in some cases these premises did not meet the definition of DHS as defined in the ECO2 Order[40] because it could not be demonstrated that the system was delivering heat to multiple domestic premises.

4.74. Where evidence could not be provided to demonstrate a care home was in fact comprised of multiple domestic premises, we did not consider the heating system installed there to be a DHS.

4.75. In the majority of cases it was determined the definition of DHS was met.

[40] Article 2(1) of the ECO2 Order.

5. Looking Forward

Chapter Overview

In this section we look forward to the implementation of ECO3 outlining some key changes following on from the completion of ECO2t. ECO3 came into force on 3 December 2018 and will run in four "phases" until 31 March 2022. The ECO3 Order recognises that there is a gap between ECO2 and ECO3. Measures that are completed on or after 1 October 2018 and before 3 December 2018 can contribute towards the achievement of supplier's ECO3 obligations. These measures must be completed in compliance with ECO3 scheme rules.

The below represents a brief summary of some key policy developments looking forward.[41]

Home Heating Cost Reduction Obligation (HHCRO)

5.1. Previously ECO consisted of three main obligations which suppliers had to deliver measures and demonstrate compliance against, these being CSCO, CERO and HHCRO. ECO2t rationalised this down to two obligations as CSCO ended. Moving into ECO3 the key change with regards to the structure of the scheme is that ECO3 will be a HHCRO only scheme (i.e. CERO will cease to exist and CSCO ended at the end of phase 2 of ECO2).

5.2. As such the requirement will be for obligated parties to demonstrate cost savings alone - there will no longer be carbon saving targets. The requirement on suppliers to demonstrate the cost savings of measures is not new, as this was previously undertaken for all HHCRO measures. Whilst the focus in ECO3 will be on savings to consumer bills, assumed carbon savings flow from this, in that energy efficiency measures resulting in lower energy usage achieve cost-savings as well as carbon savings.

5.3. Whilst the impact of this on the consumer will be limited, it is anticipated that this will simplify some aspects of scheme administration for suppliers and Ofgem, as there will only be one over-arching obligation to achieve, albeit with sub-obligations. There was evidence that some suppliers found challenges in tracking their various obligations under ECO2. The move to a HHCRO only scheme simplifies obligations, making them easier to track and monitor delivery of.

5.4. Another scheme administrative benefit is that by having all measure savings presented in the same manner (i.e. cost savings) this negates the need to rescore measures from carbon savings to cost savings, or vice-versa, as part of the previously operated process to re-elect measures between CERO and HHCRO.

Targeting and eligibility

5.5. With the move to a HHCRO only scheme, ECO3 eligibility is now focused on those households that are in, or at risk of, fuel poverty. This brings ECO into close alignment with eligibility under the Warm Home Discount (WHD) scheme which also focusses on providing support to households in or at risk of fuel poverty.

5.6. The eligibility routes for HHCRO in ECO3 will be similar to those for HHCRO under ECO2t, with some alterations. Routes of eligibility can be summarised as:

[41] For further details see the ECO3 Supplier Administration, Delivery and Innovation Guidance documents www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-guidance-and-associated-documents.

- Help to Heat Group (10 new benefits have been added through which eligibility can be demonstrated)
- Local authority declarations will continue as a route (and those which meet the associated 'in-fill' criteria)
- Social housing with an EPC energy efficiency rating of E, F or G (or D for innovation)
- Private domestic premises as Affordable Warmth (AW) "in-fill" measures - linked to two other eligible properties. Previously "in-fill" only operated as a route to eligibility as part of a local authority declaration

5.7. Private rented sector (PRS) – new regulations establish a minimum level of energy efficiency standards. The specific measures that can be installed in a PRS property is dependent on the EPC rating as follows:

- EPC A-E any measure except replacement of broken heating
- EPC F or G, SWI or renewable heating inc. first time central heating (FTCH) (DHS)

Changes to measures in ECO3

5.8. The types of measures that are permitted to be installed under ECO3 will broadly overlap with those that were permitted in ECO2. Some changes that have been implemented are:

- FTCH – First Time Central Heating is a measure to any eligible property which has never had a central heating system
- Primary insulation/secondary heating – as part of the inefficient heating systems upgrades, a primary insulation measure is installed followed by a secondary measure
- AW In-fill – for every two ECO-eligible premises which are treated with SWI or a DHS connection, a third premises (neighbour) can also receive support
- Interaction with RHI – Only ground source heating pumps (GSHP) can receive funding from both ECO and RHI (Renewable Heat Incentive), and only under specific conditions relating to assignment of rights on the RHI scheme.

5.9. A cap on repairing broken heating systems will be in place and the distinction between "qualifying" and "non-qualifying" boilers will cease to exist.

5.10. With regards to measures potentially overlapping with RHI, there is the intention to ensure declarations are obtained stating that measures have not been/will not be accredited under RHI (for all cases except GSHP).

Innovation

5.11. ECO3 will has seen the introduction of a formal innovation process with regards to measures installed. As the name suggests, the focus here is on suppliers demonstrating innovative approaches to current measure types or new materials that can exceed in performance or installation standards to those normally installed. The aim here is to seek new and better materials and methods, through which enhanced savings and quality of installations can be achieved. Where this is successfully demonstrated higher cost saving scorings may be allocated. In brief, there are three strands to innovation:

- **Demonstration Actions:** These are measures that may have been tested in lab conditions but need further large scale testing.
- **Innovation Measures:** Measures that are different to those previously delivered. These could be using an improved material that can demonstrate either enhanced energy efficiency performance, or improved installation technique.
- **Monitored Measures:** This is referred to as "in-situ performance". Under this strand suppliers can use modern monitoring technology to measure the actual energy efficiency obtained by a measure. This in effect tests the deemed score and where the measure can demonstrate higher performance, a score uplift can be applied.

Changes to obligation thresholds and newly obligated suppliers

5.12. Over the period through which ECO1, ECO2 and ECO2t have operated we have seen an increase in the number of obligated suppliers as market conditions have changed. ECO3 looks to be no exception. In Phase 1 of ECO3 two suppliers became obligated for the first time. Furthermore, in Phase 2 (commencing 1 April 2019) there will be a further four new participants in the scheme. With each new phase comes a reduction in the obligation thresholds that will likely result in greater number of suppliers being required to participate in the scheme as it progresses.

5.13. This presents challenges to the scheme as these new participants are unfamiliar with delivering obligations under ECO and the various processes and requirements that underpin it. In order to facilitate ongoing effective administration, Ofgem will continue to act to support these new participants in understanding the scheme and their obligations.

5.14. We will support suppliers through a variety of means including induction sessions, monthly bi-laterals and regular reporting to keep track of suppliers' delivery of obligations. It is useful to note that obligated suppliers have until the end of Phase 4 to demonstrate compliance with their obligations and as such, will have time to adjust to the requirements of the ECO scheme. We also recognise that some suppliers will opt to trade away their obligations in a similar manner to ECO2t.

6. Appendix 1: Supplier Licence Compliance

Supplier Licence	CERO	CERO Rural	CSCO	CSCO Rural	HHCRO	HHMR	PSWMR
British Gas:							
BGT03078711E	100.00%	n/a	100.01%	147.96%	n/a	n/a	100.00%
BGT03078711G	110.63%	191.28%	100.01%	135.23%	103.50%	111.25%	112.66%
Co-op Energy:							
COP06993470E	102.68%	106.56%	105.80%	105.23%	110.99%	121.21%	100.37%
COP06993470G	126.59%	n/a	105.26%	105.89%	103.76%	n/a	100.73%
EDF:							
EDF02228297E	107.01%	236.52%	100.06%	181.15%	108.11%	127.18%	103.75%
EDF02228297G	107.71%	179.58%	100.10%	163.91%	109.73%	135.50%	108.58%
EON:							
EON03407430E	106.90%	195.24%	101.87%	100.54%	108.03%	125.07%	100.00%
EON03407430G	100.02%	n/a	100.81%	130.53%	n/a	n/a	143.08%
First Utility:							
FUL05070887E	149.39%	n/a	103.46%	118.94%	n/a	n/a	102.46%
FUL05070887G	104.38%	178.80%	103.33%	108.55%	104.77%	120.02%	103.85%
Npower:							
NPW02845740E	111.34%	161.32%	100.09%	117.71%	109.66%	130.69%	113.63%
NPW02999919G	108.47%	184.63%	100.16%	315.91%	110.46%	135.47%	104.11%
NPW03432100G	116.32%	231.64%	100.27%	156.33%	119.62%	161.42%	106.82%
NPW03653277E	108.44%	168.27%	99.99%	156.34%	109.93%	133.01%	106.66%
NPW03768856G	516.11%	395.68%	141.83%	660.31%	128.70%	158.48%	204.66%
NPW03782443E	115.46%	171.23%	100.03%	130.60%	111.68%	138.83%	107.18%
NPW03782443G	363.93%	202.90%	111.29%	741.96%	113.00%	132.85%	1743.37%
NPW03937808G	112.75%	169.07%	100.01%	144.61%	112.77%	142.95%	107.43%
NPW04212116E	114.00%	189.46%	100.00%	154.20%	111.68%	138.92%	107.14%
Ovo Energy:							
OVO06752915G	118.82%	271.31%	100.01%	100.01%	106.14%	109.77%	114.33%

OVO06858121E	119.21%	n/a	100.47%	102.13%	106.62%	n/a	109.27%
Scottish Power:							
SPWSC190287E	104.55%	114.12%	100.31%	103.38%	106.23%	124.13%	100.70%
SPWSC190287G	108.22%	104.76%	100.28%	102.88%	106.99%	110.37%	101.41%
SSE:							
SSE02716495G	108.02%	169.18%	100.32%	200.45%	106.66%	121.71%	109.44%
SSE03757502E	120.68%	n/a	100.46%	166.60%	n/a	n/a	120.17%
Utilita:							
UTA04849181E	101.84%	99.19%	102.00%	107.40%	110.23%	145.80%	100.16%
UTA04849181G	82.31%	32.77%	n/a	n/a	91.51%	93.74%	79.77%
Utility Warehouse:							
UTW05199935G	107.53%	185.18%	100.00%	141.74%	106.03%	118.08%	103.37%
UTW05199936E	105.19%	163.17%	100.00%	145.23%	106.61%	119.71%	102.94%
Extra Energy:							
XEN08053154E	74.42%	53.86%	100.30%	294.50%	89.73%	83.32%	50.61%
XEN08053154G	44.35%	47.59%	134.64%	197.08%	73.23%	57.98%	18.59%