

# Energy Company Obligation (ECO2t) Guidance: Delivery

Version 1.1

[www.ofgem.gov.uk/eco](http://www.ofgem.gov.uk/eco)

11 December 2017



## About this Guidance

Energy efficiency is a key part of government policies for reducing the UK'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.<sup>1</sup>

The Energy Company Obligation (ECO), first introduced in 2013, is an energy efficiency scheme for Great Britain. ECO places legal obligations on larger energy suppliers to deliver energy efficiency measures to domestic premises. It focuses on insulation and heating measures and supports vulnerable consumer groups. ECO is intended to assist in reducing carbon emissions, maintaining security of energy supply and reducing fuel poverty.<sup>2</sup>

Ofgem (on behalf of the Gas and Electricity Markets Authority) is the ECO administrator. This document provides guidance on how Ofgem ('we', 'our' and 'us' in this document) will administer the ECO scheme, in line with the requirements of the Electricity and Gas (Energy Company Obligation) Order 2014 as amended<sup>3</sup> (referred to as 'the ECO2 Order'), for the obligation period that runs from 1 April 2017 to 30 September 2018 (referred to as 'ECO2t').

**For measures installed before 1 April 2017, please refer to our ECO2 guidance Delivery and Administration Versions 1.1.<sup>4</sup>**

The ECO2 scheme consists of three distinct obligations and energy suppliers must achieve the following cost and carbon savings – 19.7MtCO<sub>2</sub> under the Carbon Emissions Reduction Obligation (CERO), 6MtCO<sub>2</sub> under the Carbon Saving Community Obligation (CSCO) and £6.46billion under the Home Heating Cost Reduction Obligation (HHCRO). The targets are divided between suppliers according to each supplier's relative share of the domestic gas and electricity market.

**The CSCO target had to be achieved by 1 April 2017, while the CERO and HHCRO targets must be achieved before 1 October 2018.**

To help users of our guidance, we have split it into two parts:

1. **ECO2t Guidance: Administration** - is aimed mainly at suppliers, describing the processes that suppliers and Ofgem follow to meet the requirements of the ECO2 Order.
2. **ECO2t Guidance: Delivery** - is aimed at suppliers and the broader supply chain, describing how to deliver measures that are eligible to contribute towards

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<sup>1</sup> The Carbon Plan: Delivering our low carbon future, December 2011  
<https://www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2>.

<sup>2</sup> The Green Deal and Energy Company Obligation Consultation, Reference number 11D/886  
[http://www.decc.gov.uk/en/content/cms/consultations/green\\_deal/green\\_deal.aspx](http://www.decc.gov.uk/en/content/cms/consultations/green_deal/green_deal.aspx).

<sup>3</sup> Any further references to the ECO2 Order are references to the ECO2 Order as amended by the Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017.

<sup>4</sup> <https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-delivery>.

the ECO targets.

This document (ECO2t Guidance: Delivery) addresses the following:

- how a supplier achieves its obligations
- which measures are eligible under ECO and the criteria that must be met
- specific requirements relating to each obligation (CERO and HHCRO)
- how to determine ECO savings, including information on deemed scores and SAP/RdSAP
- how measures are notified and the information we require
- the technical and score monitoring requirements that suppliers must meet
- the auditing and counter fraud processes that suppliers will be subject to, and
- supporting information contained in appendices.

We have no role in administering the ECO Brokerage mechanism and this document does not address its requirements.

**It is the responsibility of each supplier to understand the provisions of the ECO2 Order and how those provisions apply to it. This guidance may be used by suppliers and members of the supply chain but it is not intended to be a definitive guide to those legislative provisions. A supplier is responsible for ensuring that it, and any member of the supply chain acting on its behalf, complies with the applicable requirements of the law.**

### **Useful Links**

#### **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/pdfs/uksi\\_20170490\\_en.pdf](http://www.legislation.gov.uk/uksi/2017/490/pdfs/uksi_20170490_en.pdf).

#### **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>.

#### **ECO2t Guidance: Administration (V1.1):**

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2017-18-eco2t-guidance-administration>

### **ECO2 Guidance**

For reference purposes, the most recent version of our Energy Companies Obligation (ECO2): Guidance for Suppliers (version 1.1) can be found here:

<https://www.ofgem.gov.uk/publications-and-updates/eco2-guidance-and-associated-documents>

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# 1. Introduction

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- 1.1. The Energy Company Obligation (ECO), first introduced in 2013, is an energy efficiency scheme for Great Britain that places legal obligations on larger energy suppliers to deliver energy efficiency measures to domestic premises. The ECO1 scheme ran between 1 January 2013 and 31 March 2015.
- 1.2. A new obligation period was established under the Electricity and Gas (Energy Company Obligation) Order 2014. The scheme was then extended by the Electricity and Gas (Energy Company Obligation) (Amendment) Order 2017. The 2014 Order as amended by the 2017 Order are collectively called the ECO2 Order in this document. The extension to the obligation period runs from 1 April 2017 to 30 September 2018 and is referred to as ECO2t.
- 1.3. The overall obligation period for ECO2 runs from 1 April 2015 to 30 September 2018 and is split into three phases. We are required to determine a supplier's obligations for each of these phases:
  - a. **phase 1:** 1 April 2015 to 31 March 2016,
  - b. **phase 2:** 1 April 2016 to 31 March 2017, and
  - c. **phase 3 (ECO2t):** 1 April 2017 to 30 September 2018.
- 1.4. ECO2t has two distinct obligations:
  - a. **Carbon Emissions Reduction Obligation (CERO):** the installation of carbon qualifying actions, which are wall and roof insulation measures, connections to district heating systems (DHS), and 'secondary' insulation measures, and
  - b. **Home Heating Cost Reduction Obligation (HHCRO):** the installation of heating qualifying actions, including insulation and the repair and replacement of boilers and electric storage heaters, to reduce home heating costs for low income, fuel poor and vulnerable people. This is also known as the 'Affordable Warmth'.
- 1.5. The ECO2 Order sets overall targets for each of the above obligations. These are 19.7MtCO<sub>2</sub> for CERO and £6.46 billion for HHCRO.
- 1.6. For each phase of ECO2, a supplier is allocated a proportion of the overall targets depending on its relative share of the domestic gas and electricity

market. A supplier must achieve its obligations by **1 October 2018**.<sup>5</sup>

- 1.7. A supplier achieves its obligations by promoting qualifying actions ('measures') at domestic premises.

## The ECO guidance

- 1.8. This guidance details our administrative processes for ECO2t and sets out the requirements for all obligated suppliers in accordance with the ECO2 Order. Where a supplier fails to meet the requirements of the ECO2 Order, we may take enforcement action.
- 1.9. This guidance does not address the operation of the ECO Brokerage mechanism.

## Information gathering powers

- 1.10. We use our information gathering powers<sup>6</sup> under the ECO2 Order to require suppliers to provide us with information (for example, the submission of technical monitoring reports). We may require a supplier to:
- a. provide specific information about its proposals for complying with any requirement under the ECO2 Order
  - b. produce specific evidence to demonstrate that it is complying with, or that it has complied with, any requirement under the ECO2 Order, and
  - c. provide information relating to the cost to the supplier of achieving its obligations.<sup>7</sup>
- 1.11. The information that suppliers must be able to provide at audit, based on the requirements set out in this guidance, is detailed in Appendix 1. This appendix provides full details of the specific data and documents that must be made available on request.

## ECO Brokerage

- 1.12. The ECO Brokerage is an auction-based mechanism to enable suppliers to buy forward contracts for the delivery of ECO measures by participating authorised sellers.
- 1.13. We have no role in administering the ECO Brokerage and this guidance does not

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<sup>5</sup> The government removed CSCO from the scheme for ECO2t. Suppliers with a CSCO target had to achieve this by 1 April 2017.

<sup>6</sup> Article 32(1) of the ECO2 Order.

<sup>7</sup> Article 32(2) of the ECO2 Order.

address the Brokerage or its administrative requirements. However, we recognise that suppliers may seek credit for measures obtained through it. Any measures obtained through the ECO Brokerage must still meet the requirements of the ECO2 Order and this guidance to be considered eligible under ECO.

## Queries and further information

- 1.14. For further information on our administration of ECO please visit our website: [www.ofgem.gov.uk/eco](http://www.ofgem.gov.uk/eco). Any queries about our guidance or the administration of the ECO scheme should be directed to [eco@ofgem.gov.uk](mailto:eco@ofgem.gov.uk).
- 1.15. For further advice and referrals regarding energy efficiency, including ECO, homes and businesses may also contact the Energy Saving Advice Service (ESAS) at 0300 123 1234 or refer to [www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk). ESAS provides this service in England and Wales.<sup>8</sup>
- 1.16. For further information on the ECO Brokerage, please refer to: <https://www.gov.uk/energy-companies-obligation-brokerage>.
- 1.17. Please direct any queries about the ECO2 Order, future changes to the ECO scheme and wider policy to the Department for Business, Energy and Industrial Strategy (BEIS) at: [enquiries@beis.gov.uk](mailto:enquiries@beis.gov.uk).

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<sup>8</sup> The Energy Saving Trust no longer provides an ECO customer referral service in Scotland. However, it continues to provide energy saving advice for Scottish customers.



## 2. Achieving obligations

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- 2.1. For ECO2t each supplier must achieve two distinct obligations – CERO and HHCRO. This chapter provides information that relates, except where otherwise stated, to both obligations. Chapter 3 contains information about specific ECO measures and Chapters 4 and 5 provide information about the specific requirements of CERO and HHCRO respectively. This chapter covers:
- a. promotion of a qualifying action
  - b. definition of domestic premises
  - c. extensions and new builds
  - d. standards relating to the installation of ECO measures
  - e. installation by a person of appropriate skill and experience, and
  - f. the percentage of a measure that must be installed.

### Promotion of a qualifying action

- 2.2. A qualifying action is the installation<sup>9</sup> at domestic premises of a measure that meets the eligibility criteria specified in the ECO2 Order. The act of promotion is therefore linked to the act of installing a measure. A supplier promotes the installation of a measure if it is a cause of that measure being installed. Only one supplier may be credited with the savings arising from a specific measure.
- 2.3. The clearest means of promotion is if a supplier contracts an installer to carry out the installation of a measure. However, the fact that a supplier has funded all or part of the installation of a measure is sufficient to establish that the supplier was a cause of that measure being installed.
- 2.4. Funding of the installation should be agreed before installation of the measure begins.
- 2.5. A supplier may jointly fund a measure with a third party, for example local government or a devolved administration. In this case the supplier will still need to satisfy us that it was a cause of that measure being installed.
- 2.6. The supplier notifying the measure might not be the supplier that originally promoted the measure. In this scenario the supplier that notifies the measure must be able to provide on request evidence that a supplier was the cause of the

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<sup>9</sup> In the case of most boilers and electric storage heaters, installation refers to repair or replacement. In the case of district heating systems, installation refers to a connection.

measure being installed.

## Domestic premises

- 2.7. A supplier achieves its obligations by promoting qualifying actions at domestic premises, including mobile homes.<sup>10</sup>

### Domestic premises, other than a mobile home

- 2.8. For premises, other than a mobile home, to be considered a domestic premises they must:

- a. be separate and self-contained premises,

AND

- b. be used wholly or mainly for domestic purposes.

- 2.9. Premises will be considered to be *separate and self-contained* if, within the boundaries of the premises, they contain:

- a) one or more bedrooms. A bedroom can also be a living area, eg a bedsit,

AND

- b) private kitchen facilities, including a kitchen sink and stove, for occupants to prepare food. Kitchen facilities are private when they are accessible only to the occupants of the bedroom or bedrooms within the part of the building that forms the premises.

- 2.10. Examples of premises that are self-contained:

- a. a studio (containing private kitchen and bathroom facilities)
- b. a bedsit (containing private kitchen facilities, with access to shared bathroom facilities)
- c. an apartment, including a shared apartment where the occupant of each bedroom has a separate occupancy agreement with the landlord and the occupants share a communal kitchen
- d. a house, including a shared house where the occupant of each bedroom has a separate occupancy agreement with the landlord and the occupants

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<sup>10</sup> Article 2(1) of the ECO2 Order.

share a communal kitchen, and

- e. a hostel or hall of residence, containing several bedrooms and a communal kitchen for the exclusive use of the occupants of those bedrooms.

2.11. The boundaries of the premises are the outermost walls of the total space that is for the exclusive use of the occupants of the premises. For example:

- a) in a shared house, the total space includes all bedrooms and the common areas (kitchen, bathroom(s) and living area(s)), or
- b) for a bedsit containing a kitchen, the boundaries of the premises are the walls of that bedsit.

2.12. Premises are considered to be *used wholly or mainly for domestic purposes* if the premises are used by the occupant as a home.

2.13. In most cases it should be clear that premises are being used as a home, ie the premises are used by the occupants for living in on more than a short term basis (typically more than three months). Suppliers are normally expected to check the length of a lease or licence to occupy in scenarios where you would expect the lease or licence to be short term, eg hostels.

2.14. Occupants may carry out some commercial activities at the premises from a room also used for domestic purposes, provided that the primary use of the premises is as a home. Examples of commercial activities include working or running a business from home. Areas used solely for commercial purposes should not be included in determination of savings for that premises.<sup>11</sup>

2.15. Examples of premises that are not generally used as a home:

- a. a hotel, where guests do not usually stay for periods of longer than a couple of weeks,
- b. a short-stay apartment, where occupants usually stay for periods of less than 3 months, or
- c. a short-stay hostel, where occupants usually stay for periods of less than 3 months.

2.16. For more information on how to determine if a premises is a domestic premises

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<sup>11</sup> For more information on how to score mixed-use premises refer to our 'Domestic premises' guidance note, See; [https://www.ofgem.gov.uk/system/files/docs/2017/05/es996\\_domestic\\_premises\\_guidance\\_note\\_may\\_2017.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/05/es996_domestic_premises_guidance_note_may_2017.pdf).

see our guidance note.<sup>12</sup>

## Mobile homes

2.17. For a structure to be considered a mobile home, and therefore a domestic premises, it must:

- a. be a caravan

AND

- b. be used as a dwelling.<sup>13</sup>

2.18. 'Used as a dwelling' means a structure being used by the occupant as a home.

2.19. This structure must be connected to land in respect of which the occupant has some right of possession.

## New builds and extensions

### New build premises

2.20. Suppliers can only deliver measures to:

- i. **"pre-existing buildings"** ie a building erected before 1 April 2017,<sup>14</sup> or
- ii. **"new buildings"** ie a building erected on or after 1 April 2017 where there is evidence that confirms that the premises are occupied or were previously occupied before a measure was installed.

2.21. Where a building is subject to large scale renovations which are subject to building regulations (eg as part of a change of use) we would consider this building to be a "new building" under this provision. Suppliers should contact us if there is any uncertainty over whether premises would qualify as a new building.

### Confirming that premises are not new build premises

2.22. Where a building is pre-existing before 1 April 2017, the declaration of conformity and completed installation (DOCC) should be completed and signed to confirm that the building was pre-existing before 1 April 2017. The supplier should make

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<sup>12</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-determining-whether-premises-are-domestic-premises>

<sup>13</sup> Articles 2 and 12(3)(d) of the ECO2 Order.

<sup>14</sup> Article 2(1) of the ECO2 Order

the DOCC available on request.

- 2.23. Where the DOCC is not completed and signed to identify that the premises are pre-existing, evidence of occupancy (see paragraph 2.35), or evidence that the building is pre-existing, must be available.
- 2.24. Where there is uncertainty about the age of premises, a building that was erected before 1 April 2017 may be identified by reference to any of the following documents:
- a) documentation that meets the occupancy requirements, listed below in paragraph 2.35.
  - b) in England and Wales, a Land Registry search, where a title has been registered prior to 1 April 2017
  - c) in Scotland, a search of the Land Register of Scotland or Register of Sasines, where a title has been registered prior to 1 April 2017
  - d) a Certificate of title or deeds dated prior to 1 April 2017
  - e) a date prior to 1 April 2017 on an EPC listed on the Landmark EPC register
  - f) in England and Wales, a building control completion certificate, or
  - g) in Scotland, notification from a local authority of acceptance of a completion certificate.
- 2.25. Where none of these documents are available, suppliers should contact us to discuss alternative documentation.
- 2.26. We may carry out an audit to confirm that the DOCC has been completed as required. Where the DOCC is not completed, we may request further evidence from suppliers to verify that a building was erected before 1 April 2017.

### Evidencing requirements for delivering measures to new buildings

- 2.27. Where a measure is delivered to new build premises, occupancy must be evidenced.
- 2.28. For a HHCRO help to heat measure, evidence to demonstrate that a member of the help to heat group resides in the premises will be sufficient to evidence eligibility as this demonstrates that premises are occupied.
- 2.29. All CERO, HHCRO Social E, F or G, and HHCRO flexible eligibility measures<sup>15</sup> delivered to new buildings require a declaration on the DOCC to be completed and signed by the occupant.
- 2.30. Where premises erected from 1 April 2017 are unoccupied, a declaration from a

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<sup>15</sup> See Chapter 5 for more information on the social housing E, F or G and flexible eligibility provisions.

landlord or non-resident owner must be signed on the DOCC to confirm that premises were previously occupied.

2.31. If the DOCC is signed by a landlord or non-resident owner, additional evidence must be collected to demonstrate date of building completion, as well as current or previous occupancy.

2.32. Evidence to confirm the date of building completion can include:

- i. In England and Wales, a building control completion certificate, or
- ii. in Scotland, notification from a local authority of acceptance of a completion certificate.

2.33. Where neither of these documents is available, suppliers should contact us to discuss alternative documentation. A measure may not be eligible if evidence cannot be provided.

2.34. Evidence to demonstrate the date of building completion must be dated prior to the evidence of occupancy.

2.35. Premises are considered occupied or previously occupied, where any of the following documentation is dated after the building completion and prior to the installation of the measure:

- a) a utility bill or phone bill
- b) a council tax letter or letter from the council
- c) a mortgage statement or bank statement
- d) a tenancy agreement, or
- e) an extract from the electoral register.

2.36. Where these documents are not available, suppliers should contact us to discuss alternative documentation.

2.37. Evidence of date of completion and occupancy must be made available on request. Where there is insufficient supporting evidence, the measure may be ineligible.

### New build extensions

2.38. A new build extension is an extension<sup>16</sup> completed from 1 April 2017.

2.39. An ECO measure may not be delivered to a new build extension before it is

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<sup>16</sup> An extension as referenced and defined by Building Regulations Part Lb, Fabric standards, at Section 4.1. This supports the Building and Approved inspectors (Amendment) Regulations 2010: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/540327/BR\\_PD\\_F\\_AD\\_L1B\\_2013\\_with\\_2016\\_amendments.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/540327/BR_PD_F_AD_L1B_2013_with_2016_amendments.pdf).

complete.

- 2.40. In the case of measures installed to new build extensions, suppliers will need to evidence that the construction of the extension is complete prior to the date of completed installation of the ECO measure.
- 2.41. Suitable evidence that the extension was completed before the date of completed installation includes:
- a) In England and Wales, building control completion certificate, or
  - b) in Scotland, the notification from a local authority of acceptance of a completion certificate.
- 2.42. Where neither of these documents is available, suppliers should contact us to discuss alternative documentation. Where no documentation is available, the measure may be ineligible.
- 2.43. This evidence must be made available on request.

## **Standards relating to the installation of ECO measures**

- 2.44. Suppliers should ensure that the installation of a measure is carried out in accordance with the relevant standards. How this is demonstrated will vary depending on whether or not the measure is referred to in the Publicly Available Specification (PAS) 2030.<sup>17</sup>
- 2.45. If a measure is referred to in PAS, the installation of the measure must be carried out:
- a) by a PAS certified installer. We will accept certification to either PAS 2030:2014 Edition 1 or PAS 2030:2017 Edition 1
  - b) in accordance with the provisions of PAS, building regulations and any other applicable regulations
- 2.46. Prior to 1 June 2017 measures must be installed in accordance with either of these versions of PAS. However, from 1 June 2017 measures referred to in PAS must be installed in accordance with PAS 2030:2017 Edition 1.
- 2.47. If a measure is not referred to in PAS, the installation of that measure must be carried out in accordance with building regulations and any other regulations that relate to the installation of the measure. For example, operatives installing

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<sup>17</sup> This is available for purchase on the BSI website:  
<http://shop.bsigroup.com/ProductDetail/?pid=000000000030297314>.

microgeneration measures must be members of the Microgeneration Certification Scheme (MCS).

## Demonstrating compliance with PAS

- 2.48. Compliance with the provisions of PAS can be demonstrated where the installation is carried out by a PAS-certified installer. Installers must be certified as being compliant to the parts of PAS that apply to the measure by a certification body or organisation accredited to EN 45011<sup>18</sup> or EN ISO/IEC<sup>19</sup> 17065:2012.<sup>20</sup>

## Demonstrating compliance with building regulations and other regulations

- 2.49. We will accept any reasonable means of demonstrating compliance with building regulations.
- 2.50. We require suppliers to demonstrate that a product or system used in the installation of a measure complies with building regulations. Suppliers can demonstrate this in various ways, including:
- a. United Kingdom Accreditation Service (UKAS) accredited product approval
  - b. European Technical Approval with additional documentation to show compliance with building regulations
  - c. approval by a building control body, or
  - d. for some measures<sup>21</sup>, self-certification schemes.
- 2.51. Any certification or approval must be relevant to the conditions under which the product or system will be used, although the building control body is ultimately responsible for accepting that a measure complies with building regulations.
- 2.52. Suppliers must conduct technical monitoring of installation standards. Checking that a measure is installed in accordance with PAS (where relevant), building regulations and other regulations will form part of technical monitoring. See Chapter 10 for more information.

## Percentage of a measure that must be installed

- 2.53. Suppliers must install 100% of a measure at premises, unless there are

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<sup>18</sup> EN 45011 is a European Standard that outlines the general requirements for bodies operating product certification systems.

<sup>19</sup> EN ISO/IEC is an international standard that specifies requirements for bodies certifying products, processes and services.

<sup>20</sup> Article 2(1) of the ECO2 Order.

<sup>21</sup> The building regulations in England and Wales list the measure types this applies to and the requirements governing the person carrying out the work. Suppliers should refer to these building regulations for more information about self-certification schemes.



reasonable grounds for not doing so.

- 2.54. For clarity, below are some examples of what constitutes 100% of a measure for different measure types:
- a. for loft insulation, 100% of the measure will be the insulation of the entire loft, including the hatch
  - b. for glazing or draught proofing of windows and doors, 100% of the measure will be the treatment of all windows and doors in the premises, rather than the treatment of a single window or door
  - c. for internal wall insulation, 100% of the measure will be the insulation of the internal face of all exterior-facing walls in the premises
  - d. for party wall insulation, 100% of the measure will be the insulation of all party cavity walls of the premises
  - e. for mobile home insulation (also known as park home insulation, or park home external wall insulation), 100% of the measure will be the insulation of the exterior facing walls, ceiling, and floor area of the mobile home, and
  - f. for room-in-roof insulation the common walls/stud walls, sloping ceilings, gable walls, party walls, ceiling, and possible residual areas.
- 2.55. Some examples of what we consider reasonable grounds for installing less than 100% of a measure include planning restrictions, inability to gain access to necessary work areas, or lack of consent from the occupant or landlord of the premises. The requirement to install measures in accordance with PAS and other relevant standards overrides the requirement to install 100% of the measure.
- 2.56. When referring to the requirement to install 100% of the measure, this relates to installing the measure to the *treatable area* of a premises. For example, ventilation bricks do not constitute a treatable part of a premises and so would not fall within the 100%.
- 2.57. Where a pre-existing measure (not delivered through ECO) has only been partially installed, we also consider this as reasonable grounds for installing less than 100%. For example, where pre-existing flat roof insulation is installed to 40% of the roof area, insulating the remaining 60% of the roof area (which can be considered 100% of the treatable area) will be an eligible ECO measure.
- 2.58. Reasons relating to the cost of installing the measure alone will not be accepted as reasonable grounds for suppliers not to install 100% of a measure.
- 2.59. A supplier should contact us if it is unclear as to whether the reason 100% of a

measure cannot be installed constitutes reasonable grounds.

- 2.60. Suppliers must ensure that, if less than 100% of a measure is installed where there are reasonable grounds for not installing more, the savings attributed to the measure are reduced accordingly.<sup>22</sup> For more information on how to reduce the savings for a measure, please see Chapter 7.

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<sup>22</sup> See paragraph 7.34 for more information on calculating the percentage of a measure installed.

## 3. Information on specific ECO measures

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- 3.1. To achieve its ECO obligations a supplier must install measures that qualify under the scheme. The ECO2t Measures Table ('the measures table') lists energy efficiency measures that are eligible under ECO.<sup>23</sup>
- 3.2. The measures table identifies which obligation(s) the measure can be credited against (ie CERO or HHCRO). It also lists whether it qualifies as a primary or secondary CERO measure, the relevant in-use factor, the relevant lifetime and other applicable information. This list is not exhaustive and is updated periodically. Suppliers wishing to install measures not listed in the measures table (for example new or innovative measures) should contact us prior to installation.
- 3.3. This chapter provides information, further to that contained in the measures table, on the following measure types:
  - a) solid wall insulation
  - b) insulation of a cavity wall
  - c) loft insulation
  - d) connections to district heating systems, and
  - e) relevant district heating connections.

### Solid wall insulation

- 3.4. Solid wall insulation (SWI) means internal or external insulation of a solid wall (ie internal wall insulation (IWI) or external wall insulation (EWI) respectively). SWI does not include insulation of a mobile home, which is a separate eligible ECO measure.<sup>24</sup>
- 3.5. A solid wall can be a solid brick wall or a solid non-brick wall (including stone walls). The types of non-brick wall covered by the definition of solid wall include metal or timber frame walls, and walls of pre-fabricated concrete construction.<sup>25</sup>
- 3.6. Where a solid wall is insulated with either EWI or IWI the savings for that measure will count towards a supplier's provisional solid wall minimum requirement (PSWMR).<sup>26</sup> In addition, in cases where a wall of system built construction is treated with IWI or EWI as this is the most appropriate method of

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<sup>23</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table>.

<sup>24</sup> Article 2(1) of the ECO2 Order.

<sup>25</sup> See ECO2t Guidance: Administration Chapter 5 for more information on the provisional solid wall minimum requirement (PSMWR).

insulation, savings for that measure will also count towards a supplier's PSWMR.

- 3.7. Insulation of a cavity wall includes the insulation of exterior-facing cavity walls and party walls. Cavity walls can be treated with:
- a. cavity wall insulation (CWI) installed to the cavity of the cavity wall
  - b. EWI installed to the exterior face of the cavity wall, or
  - c. IWI installed to the interior face of the cavity wall.
- 3.8. Cavity walls insulated with a solid wall insulation solution (ie EWI or IWI) do not count towards a supplier's PSWMR.

## Loft insulation

- 3.9. Loft insulation, which is insulation installed at joist level, can be considered one of two measures:
- a) Loft Insulation: where there is less than or equal to ( $\leq$ ) 100mm pre-existing insulation, or
  - b) Loft Insulation: where there is greater than ( $>$ ) 100mm pre-existing insulation.<sup>27</sup>

### Loft measures $\leq$ 100mm pre-existing insulation

- 3.10. For loft insulation to be claimed as loft insulation  $\leq$  100mm, a supplier must be able to demonstrate that there was less than 100mm of pre-existing insulation present in the loft and/ or that no insulation was recently removed before the measure was installed. If any pre-existing insulation was removed within the past six months, regardless of whether this was for health and safety reasons, a loft insulation  $\leq$  100mm cannot be claimed.
- 3.11. Where the pre-existing insulation is less than or equal to  $\leq$  100mm, the declaration of conformity and completed installation (DOCC) should record the level of pre-existing insulation.

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<sup>27</sup> In some instances, pre-existing insulation may be removed and new insulation installed. However, the pre-installation assessment accounts for the pre-existing insulation and so the measure should be notified as loft insulation  $>$  100mm.

- 3.12. Further, at the time of installation, the installer, operative<sup>28</sup> or assessor, and the consumer, must sign a declaration to confirm that the level of pre-existing insulation was  $\leq 100\text{mm}$  and that no loft insulation was removed within the past six months, before the ECO loft insulation is installed.<sup>29</sup>
- 3.13. A copy of the signed declaration must be left in the loft at the time of installation. The declaration should be fixed in a secure position close to the loft hatch where it can be clearly viewed and is unlikely to be covered up or disturbed, for example on a nearby rafter. The declaration should be legible to somebody who is standing at the top of a ladder entering the loft.
- 3.14. A supplier may also choose to retain a copy (or photo) of the signed declaration, which can then form part of an initial review should we have concerns over these requirements being met.
- 3.15. Where score monitoring is carried out on the measure the monitoring agent must confirm that a correctly signed declaration is present in the loft where the measure was installed and that any pre-existing loft insulation is not more than 100mm deep.
- 3.16. Where part of a loft has already been insulated, the areas with no pre-existing insulation can be claimed as loft insulation  $\leq 100\text{mm}$ . If additional insulation is installed in the areas with pre-existing insulation, these areas must be claimed as loft insulation  $> 100\text{mm}$ . Each measure type should be notified separately and the deemed score for each measure reduced accordingly depending on the percentage of property treated for each.

### Removal of pre-existing loft insulation

- 3.17. Where no pre-existing loft insulation is present during the assessment of the premises, but insulation has been recently removed (within the six months prior to the assessment), this measure must be notified as loft insulation  $> 100\text{mm}$ . We do not expect many instances of this scenario to be encountered.
- 3.18. When carrying out technical monitoring and score monitoring, suppliers should indicate to the monitoring agent that pre-existing insulation was removed, making it clear why the relevant loft measure was selected.

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<sup>28</sup> We have adopted the PAS 2030 definition of an 'operative'. That is, a person employed by the installer, either directly or under a subcontract arrangement, to undertake installation tasks on an energy efficiency measure in accordance with the relevant method statement and the related requirements of this PAS. Individuals employed to provide labouring, carrying or loading/unloading capability do not constitute operatives in the terms of this PAS.

<sup>29</sup> <https://www.ofgem.gov.uk/publications-and-updates/eco2t-pre-existing-loft-insulation-declaration>.

## Microgeneration

- 3.19. When delivering microgeneration measures, the installer must be accredited under the Microgeneration Certification Scheme (MCS).
- 3.20. Any microgeneration measures installed under ECO must be MCS certified.
- 3.21. For solar PV measures, many variables can affect the efficiency, such as the kilowatts peak (kWp) of the system installed. Suppliers must contact us prior to the delivery of solar PV measures to ensure that the deemed score is adjusted appropriately.

## Connections to district heating systems

- 3.22. A district heating system (DHS) is a system that delivers heat through pipes or conduits to two or more domestic premises.
- 3.23. Connections to DHS are eligible measures where they meet the relevant requirements of the obligation they are being credited against. The following measures are deemed connections to a DHS:
  - a. a new connection to domestic premises, including a connection to an existing DHS or to a new DHS
  - b. an upgrade of an existing DHS where substantial replacement work is carried out to the plant and/or pipework, or
  - c. the installation of a heat meter to an existing connection. Suppliers cannot notify the installation of a heat meter as a separate measure where it is installed as part of new connection or upgrade (ie a. or b. above).
- 3.24. Where an upgrade to a DHS connection includes two or more technologies with different lifetimes it should be notified as a multi-fuel upgrade.<sup>30</sup>
- 3.25. Suppliers are required to contact us before undertaking a DHS connection in a multi-occupancy property, shared property or house of multiple occupation (HMO).<sup>31</sup> If the DHS does not fall into one of these three categories the supplier is not required to contact us although they may do so if they wish.

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<sup>30</sup> See Chapter 8 for more information on calculating the lifetime for a multi-fuel upgrade to a DHS.

<sup>31</sup> For more information on property types, see our guidance on determining whether premises are domestic premises: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-determining-whether-premises-are-domestic-premises>

## Relevant district heating connections

- 3.26. Under CERO and HHCRO Social E, F, or G, connections to DHS (as defined above) are eligible measures only where the premises being connected meet one of two insulation pre-conditions. Where a connection to a DHS is installed to premises that are eligible through a combination of CERO and HHCRO the relevant pre-condition must still be met.
- 3.27. Where the premises meet the relevant insulation pre-condition, we refer to the measure as 'a relevant district heating connection'.
- 3.28. The insulation pre-condition that the premises must meet depends on the type of building the premises are located in:
1. **Pre-condition 1:** This pre-condition applies to all premises, except those located in a multi-storey building that do not include the top floor of the multi-storey building.
  2. **Pre-condition 2:** This pre-condition applies to premises, located in a multi-storey building, that do not include the top floor of the multi-storey building.
- 3.29. The top floor of a multi-storey building is the highest floor in that building. Premises which are not on the top floor, but may have some roof area (eg in tiered buildings), are not considered the top floor. Pre-condition 2 applies to these premises.
- 3.30. In certain circumstances, it may be appropriate to connect the DHS before insulating the premises. In such instances, installation of the insulation must be complete by the time the connection to a DHS is notified to us.<sup>32</sup>
- 3.31. Premises may be insulated with new or pre-existing insulation, or a combination of both, to meet the pre-conditions. Where pre-existing roof or wall insulation is used it must meet the minimum criteria set out in paragraphs 3.52 and 3.53.

### Pre-condition 1

- 3.32. Pre-condition 1 applies to all premises, except premises located in a multi-storey building that do not include the top floor of the multi-storey building.
- 3.33. To meet pre-condition 1, premises must have either roof insulation<sup>33</sup> **or** wall

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<sup>32</sup> See Chapter 9 for information on notifying measures.

<sup>33</sup> Roof insulation refers to flat roof insulation, loft insulation, rafter insulation or room-in-roof insulation.

insulation<sup>34</sup> in place. We will consider that the pre-condition is met if:

- a) the total roof area or exterior-facing wall area of the premises is insulated,
- OR
- b) where part of the total roof area or exterior-facing wall area *cannot be insulated*, then at least 50% of the premises is insulated.

3.34. We use the term 'roof area' to mean:

- a. for loft insulation, the area of the floor of the loft
- b. for rafter insulation, the area of the rafters (when measured from inside the roof)
- c. for flat roof insulation, the area of the roof, and
- d. for room-in-roof insulation, the area of the room-in-roof including the common walls/stud walls, sloping ceilings, gable walls, party walls, ceiling, and residual areas.

3.35. The 'total roof area' includes any areas not suitable for insulation. For premises with more than one roof type, the total roof area is the sum of any of the areas listed in paragraph 3.34 above.

3.36. The 'total exterior-facing wall area' refers to the total wall area of the premises that is exterior facing.<sup>35</sup>

3.37. For premises with more than one roof type or wall type, the percentage of the total area insulated with each measure type should be added together. For example, where the premises have a flat roof and a pitched roof, the percentage insulated is the percentage of the total roof area insulated with flat roof insulation and rafter insulation.

### Reasons for judging a roof area or an exterior-facing wall area cannot be insulated

3.38. We will judge that part of a roof area or an exterior-facing wall area *cannot be insulated* under the following circumstances:

- a. It is **not possible to access** an area of the roof or exterior-facing wall to

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<sup>34</sup> Wall insulation refers to insulation of a cavity wall and solid wall insulation.



install the insulation. For example:

- i. in relation to roof insulation, there are separate areas within the roof and one of these areas does not have a loft hatch, or
- ii. in relation to wall insulation, the space between the wall and another building is too small to allow access,

OR

b. It is **unlawful** to install the insulation. For example:

- i. in relation to roof insulation, there is a protected species inhabiting the roof area, or
- ii. in relation to wall insulation, planning permission to install external wall installation will not be granted,

OR

c. The occupier or landlord of the premises, as applicable, **refuses to consent** to the installation on reasonable grounds other than cost. For example:

- i. in relation to roof insulation, the loft is used as a living space therefore the occupant refuses to have loft insulation installed, or
- ii. in relation to wall insulation, the occupier refuses to consent to internal wall insulation because it would cause too much disruption and/or inconvenience.

3.39. At least one reason must apply to **each type** of insulation measure that could be used to treat that area for us to judge it cannot be insulated. For example:

- a) where a roof area consisting of a combination of flat roof and pitched roof construction cannot be insulated, a reason must be given for each type of insulation that could be installed to both the pitched roof and flat roof areas, or
- b) where an exterior-facing solid wall cannot be insulated, a reason must be given for both EWI and IWI.

### Reasons for judging a cavity cannot be insulated

3.40. The exterior-facing walls of a multi-storey building must be insulated where they

are of cavity wall construction, except for the walls which have a cavity which *cannot be insulated* (ie the cavity cannot be filled with cavity wall insulation).

- 3.41. Where a cavity wall cannot be insulated with cavity wall insulation (CWI), there is no requirement to treat that wall with solid wall insulation.
- 3.42. We will judge that the cavity of an exterior-facing wall cannot be insulated where any of the reasons relating to wall insulation, provided above in paragraph 3.40 can be demonstrated.

#### Additional technical reason

- 3.43. In addition to the reasons described in 3.38 above, we will judge that a cavity cannot be insulated where there are technical reasons to support this.
- 3.44. We require a report<sup>36</sup> by an appropriately qualified chartered surveyor<sup>37</sup> or structural engineer<sup>38</sup> confirming that a cavity cannot be filled for technical reasons. The report must demonstrate that there is no cavity wall insulation system available for that construction type or that the particular conditions of the wall mean that the cavity cannot be insulated. It is not sufficient for the report to show that the cavity is hard-to-treat.
- 3.45. Each assessment must be undertaken on an individual wall basis and be specific to the structure and conditions of the building. The chartered surveyor or structural engineer must undertake a reasonable assessment of each wall before recommending that the cavity cannot be insulated.
- 3.46. A supplier may identify other reasons which it believes prevents the cavity of an exterior-facing wall from being insulated. In such instances the supplier should contact us and we will make a determination whether or not the area can be insulated.
- 3.47. The cost of the installation alone is not a sufficient reason for judging that a cavity cannot be insulated.
- 3.48. A supplier may identify other reasons which it believes prevents the roof or exterior-facing wall area from being insulated. In such instances the supplier should contact us and we will judge whether or not the area can be insulated.

#### Pre-condition 2

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<sup>36</sup> <https://www.ofgem.gov.uk/publications-and-updates/eco2t-district-heating-pre-conditions-insulation-technical-report-template-0>.

<sup>37</sup> A chartered surveyor accredited with a Royal Institution of Chartered Surveyors (RICS) membership (MRICS) or a Fellow (FRICS) of the association who has qualified through the residential survey and valuation pathway.

<sup>38</sup> A structural engineer accredited with Chartered membership of the Institution of Structural Engineers (MIStructE), or an Associate (AIStructE) or Fellow (FIStructE) of the institution.

3.49. Pre-condition 2 applies to premises, located in a multi-storey building, that do not include the top floor of the multi-storey building.

3.50. To meet pre-condition 2, premises are not required to have roof insulation in place as this is not possible. We will determine that premises meet pre-condition 2 if all exterior-facing walls of the multi-storey building in which the premises are located are insulated, except for walls which have:

- i. one or more parts of solid wall construction, or
- ii. a cavity which cannot be insulated.

3.51. To determine whether pre-condition 2 has been met for premises, the test in paragraph 3.50 must be applied to *each* of the exterior-facing walls of the multi-storey building in which the premises are located.

### Minimum standards for pre-existing roof insulation

3.52. Where premises have pre-existing roof insulation which is not being claimed as an ECO measure, and which a supplier intends to use to meet pre-condition 1, we will judge that the roof area is insulated if either of the following conditions are met:

- a. the premises were built during or after 1983 in England and Wales, or 1984 in Scotland, and there is roof insulation present,

#### **OR**

- b. where the premises were built before 1983 in England and Wales, or before 1984 in Scotland, or where the dates are unknown, the roof (with the insulation) achieves the required U-value<sup>39</sup> for the relevant roof type. This is where:
  - i. the premises have a flat roof and the roof with the existing flat roof insulation achieves a U-value of 0.40W/m<sup>2</sup>K or lower
  - ii. the premises have a pitched roof and the roof with the existing rafter insulation achieves a U-value of 0.40W/m<sup>2</sup>K or lower
  - iii. the premises have a room-in-roof and the roof with the existing room-in-roof insulation achieves a U-value of 0.50W/m<sup>2</sup>K or lower, or
  - iv. the premises have a loft and the roof with the existing loft insulation achieves a U-value of 0.40W/m<sup>2</sup>K or lower (this will be considered achieved where the pre-existing insulation is installed

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<sup>39</sup> A U-value is a measure of the heat transmission through a material in W/m<sup>2</sup>K.

to a depth of 100mm).

### Minimum standards for pre-existing wall insulation

3.53. Where premises have pre-existing wall insulation which is not being claimed as an ECO measure, and which a supplier intends to use to meet pre-condition 1 or pre-condition 2, we will judge that the wall area is insulated if:

- a. the premises were built during or after 1983 in England and Wales, or 1984 in Scotland, and there is wall insulation present,

**OR**

- b. where the premises were built before 1983 in England and Wales, or before 1984 in Scotland, or where the dates are unknown:
  - i. the premises have cavity walls that are adequately filled with cavity wall insulation
  - ii. the premises have cavity walls that have existing EWI or IWI in place which achieve a U-value of 0.60 W/m<sup>2</sup>K or lower, or
  - iii. the premises have solid walls that have existing EWI or IWI in place which achieve a U-value of 0.60 W/m<sup>2</sup>K or lower.

## 4. Carbon Emissions Reduction Obligation

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- 4.1. The Carbon Emissions Reduction Obligation (CERO) focuses 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' if they are promoted at the same premises as a primary measure.
- 4.2. This chapter outlines the following:
- a) what constitutes a 'carbon qualifying action'
  - b) what constitutes a primary and secondary measure, and
  - c) how primary measures can be used to support secondary measures.

### Achieving CERO

- 4.3. A supplier must achieve its CERO by promoting carbon qualifying actions. To meet its CERO a supplier must also deliver a minimum amount of solid wall insulation measures. This is known as a supplier's solid wall minimum requirement (SWMR) and is discussed in more detail in Chapter 5 of the ECO2t Guidance: Administration.
- 4.4. At least 15% of a supplier's phase 3 CERO must be achieved by promoting carbon qualifying actions in rural areas. We refer to this as a supplier's 'rural minimum requirement'.<sup>40</sup> A rural area is as listed in the 2014 low income and rural document.<sup>41</sup>
- 4.5. A carbon qualifying action is the installation, at domestic premises<sup>42</sup>, of a measure that:
- a) is installed on or after 1 April 2017
  - b) is installed in accordance with the Publicly Available Specification (PAS)<sup>43</sup> where the installation is referred to in the Specification<sup>44</sup>, and
  - c) where the measure is not specified in PAS, is installed in accordance with building regulations and any other regulations that relate to the installation of the measure.

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<sup>40</sup> Article 7(4)(b) of the ECO2 Order.

<sup>41</sup> See: <https://www.gov.uk/government/publications/The-Future-of-the-Energy-Company-Obligation-Small-Area-Geographies-Eligible-for-ECO-CSCO-Support>.

<sup>42</sup> See Chapter 2 for information on domestic premises.

<sup>43</sup> See paragraphs 2.45 to 2.46 for information on which version of PAS to refer to.

<sup>44</sup> See Chapter 2 for information on standards relating to the installation of a measure.

4.6. CERO measures are divided into two broad groups:

- a. **'primary measures'** - including wall and roof insulation measures and relevant district heating connections<sup>45</sup>, and
- b. **'secondary measures'** - including other insulation measures, such as glazing and draught proofing, installed at the same premises as a primary measure.

## Primary and secondary measures

4.7. This section details which measures are considered to be primary measures, the eligibility requirements for primary and secondary measures, and the conditions which must be met for a primary measure to support a secondary measure.

### Primary measures

4.8. A primary measure is<sup>46</sup>:

- a) flat roof insulation
- b) loft insulation
- c) rafter insulation
- d) room-in-roof insulation
- e) wall insulation (insulation of a cavity wall or solid wall insulation)<sup>47</sup>
- f) insulation of a mobile home, or
- g) a relevant district heating connection.

4.9. We use the term 'roof insulation' to refer to flat roof insulation, loft insulation, rafter insulation or room-in-roof insulation.

### Secondary measures

4.10. A secondary measure is a measure, other than a primary measure, which is installed to improve the insulating properties of the premises.

4.11. In addition to the criteria set out in paragraph 4.5, a secondary measure will not

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<sup>45</sup> See Chapter 3 for information on relevant district heating connections.

<sup>46</sup> See Chapter 3 for measure-specific information on certain primary measures.

<sup>47</sup> This includes internal wall insulation, external wall insulation, cavity wall insulation and party cavity wall insulation.

be considered a carbon qualifying action unless:

- a) it is installed at the same premises where a primary measure(s) has been, or will be, installed
- b) it is installed by the same supplier that installed the primary measure(s), ('the supplier condition') <sup>48</sup>
- c) it is installed no more than six months before or after the date on which the primary measure(s) is installed, ('the installation condition'), and
- d) the primary measure, except relevant district heating connections and party cavity wall insulation, is installed to a specified minimum insulation level ('the minimum condition').

4.12. We refer to the primary measure that *supports* a secondary measure as a 'related primary measure'. More than one secondary measure may be supported by the same related primary measure.

4.13. The installation condition does not apply to relevant district heating connections or any secondary measure that is supported by a relevant district heating connection as its related primary measure. A relevant district heating connection can be installed at any point during the obligation period.

## The minimum condition

4.14. For a primary measure to support a secondary measure it must meet the minimum condition (except relevant district heating connections and party cavity wall insulation). To meet the minimum condition the primary measure must be installed to at least 50% of, as applicable:

- a) the total exterior-facing wall area<sup>49</sup> of the premises
- b) the total roof area<sup>50</sup> of the premises, or
- c) the ceiling, floor and wall area of a mobile home.

4.15. In the case of loft insulation, to meet the minimum condition the loft must also be:

- a) insulated to a depth of no greater than 150mm before installation, and
- b) insulated to a depth of at least 250mm after installation.

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<sup>48</sup> This does not mean that the measure needs to be installed by the same installer.

<sup>49</sup> See paragraph 3.36 for information on 'total exterior-facing wall area'.

<sup>50</sup> See paragraph 3.35 for information on 'total roof area'.

- 4.16. Where a primary measure does not meet the minimum condition (ie it is installed to less than 50% of the area and, in the case of loft insulation, to the required depth) it may still be an eligible primary measure, provided it meets the requirements relating to the percentage of a measure that must be installed.<sup>51</sup> However, this installation cannot support a secondary measure and will not be considered a related primary measure.

### Using more than one primary measure to meet the minimum condition

- 4.17. Suppliers can use more than one primary measure to meet the minimum condition and in turn support a secondary measure.<sup>52</sup> In such instances, both primary measures are considered related primary measures.
- 4.18. Where more than one type of wall insulation or roof insulation is used to treat the wall or roof area of a premises respectively, the percentage of the area that these measures are installed to can be added together to meet the minimum condition for that area. For example, where a premises has both solid and cavity walls, and more than one type of wall insulation is used to treat the exterior-facing wall area, the percentages of each can be added together to meet the minimum condition.
- 4.19. The secondary measure will only be eligible as a qualifying action after the minimum condition has been met. Therefore, where there is more than one related primary measure, the primary measure which results in the minimum condition being met should be notified as the 'associated measure' in the notification template.<sup>53</sup>
- 4.20. In relation to the installation condition, the secondary measure must be installed no more than six months before or after the date of installation of the primary measure which results in the minimum condition being met.

### The rural minimum requirement

- 4.21. A supplier must achieve at least 15% of its phase 3 CERO by delivering measures to domestic premises in rural areas. These measures must be installed from 1 April 2017.<sup>54</sup>
- 4.22. Suppliers should refer to the 2014 low income and rural document,<sup>55</sup> or use the ECO tool,<sup>56</sup> or an equivalent system, to ensure measures are installed in eligible rural areas.

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<sup>51</sup> See Chapter 2 for information on the percentage of installation that must be completed.

<sup>52</sup> Provided all other conditions specified in paragraph 4.5 and 4.11 are also met.

<sup>53</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-notification-template>.

<sup>54</sup> Article 7(4)(b) of the ECO2 Order.

<sup>55</sup> See: <https://www.gov.uk/government/publications/The-Future-of-the-Energy-Company-Obligation-Small-Area-Geographies-Eligible-for-ECO-CSCO-Support>.

<sup>56</sup> See: <https://eco.locationcentre.co.uk/>.



## 5. Home Heating Cost Reduction Obligation

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- 5.1. For the Home Heating Cost Reduction Obligation (HHCRO), suppliers must deliver measures that reduce home heating costs for low income, fuel poor and vulnerable people. HHCRO measures can be delivered to:
- a) private domestic premises occupied by someone in receipt of specific benefits (the help to heat group)
  - b) private domestic premises listed in a local authority declaration, and
  - c) social housing with an EPC energy efficiency rating of E, F or G.<sup>57</sup>
- 5.2. This chapter details the requirements suppliers must meet when delivering HHCRO measures, and in particular how a supplier can satisfy us that:
- a. measures installed are eligible heating qualifying actions
  - b. measures are installed at private domestic premises or in social housing with an EPC energy efficiency rating of E, F or G
  - c. for measures installed at private domestic premises, the premises are occupied by a member of the help to heat group or listed in a local authority declaration
  - d. where applicable, measures are installed at non-gas fuelled premises, and
  - e. it has delivered suitable measures to meet its home heating minimum requirement (HHMR).
- 5.3. Information on the specific documents which can be used to demonstrate that the premises and occupant requirements are met is provided in Appendix 2. Additional guidance on boilers and electric storage heaters (ESHs) is provided in **Error! Reference source not found.**<sup>3</sup> and Appendix 4 respectively.

### Qualifying actions in HHCRO

- 5.4. A supplier achieves its HHCRO by promoting heating qualifying actions. A heating qualifying action is the installation (or in the case of boilers and electric storage heaters, the repair or replacement) of an eligible measure where:
- a) it is delivered
    - i. at private domestic premises occupied by a member of the

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<sup>57</sup> Articles 16 and 16A of the ECO2 Order.

help to heat group

- ii. to social housing with an EPC energy efficiency rating of E, F or G, or
- iii. at private domestic premises listed in a local authority declaration

- b) it results in a reduction in the cost of heating those premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas.

And

- c) it is installed on or after 1 April 2017.<sup>58</sup>

5.5. Where the measure is specified in the Publicly Available Specification (PAS), it must be installed by a PAS-certified installer, certified to install the measure.

5.6. Where the measure is not specified in PAS, it must be installed in accordance with building regulations and any other regulations that relate to the installation of the measure and be installed by someone with the appropriate skill and experience.<sup>59</sup>

5.7. In addition, the following measures must be accompanied by a warranty:

- a. a replacement boiler. This measure must be accompanied, at the time installation is complete, by a *qualifying warranty*<sup>60</sup> of at least one year
- b. the repair of a qualifying boiler. This measure must be accompanied by a warranty of at least one year
- c. a replacement electric storage heater (ESH). This measure must be accompanied by a warranty of at least one year, and
- d. the repair of a qualifying electric storage heater (QESH). This measure must be accompanied by a warranty of at least one year.<sup>61</sup>

5.8. Where both a heating measure<sup>62</sup> and insulation are being installed in premises, the heating measure should be sized so that it is appropriate for the premises once the insulation has been installed.

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<sup>58</sup> Article 16 of the ECO2 Order

<sup>59</sup> See Chapter 2 for information on installation by a person of appropriate skill and experience.

<sup>60</sup> See Article 16 of the ECO2 Order and Appendix 3 for information on qualifying warranties.

<sup>61</sup> Article 16(4) of the ECO2 Order

<sup>62</sup> For example, a boiler, micro generation or electric storage heaters.

## Boilers

- 5.9. This section should be read in conjunction with **Error! Reference source not found.3**, which provides an overview of the different boiler measures which are eligible in ECO. It also details when a boiler is considered to be a 'qualifying boiler', how to assess boilers and outlines the warranty requirements for the repair and replacement of boilers.

### Replacement of a qualifying boiler

- 5.10. In the case of a boiler being replaced, a qualifying boiler is one that we are satisfied is not functioning efficiently or has broken down and:
- a. has a seasonal energy efficiency<sup>63</sup> value of < 86%, or
  - b. has a seasonal energy efficiency value of  $\geq 86\%$  and cannot be economically repaired.
- 5.11. Where a boiler being replaced meets the definition of a 'qualifying boiler'<sup>64</sup> and is being replaced either with another boiler or a different heating measure, the cost score for the measure can be determined using the deemed score matrix for qualifying boiler measures.
- 5.12. Where a mains-gas fuelled qualifying boiler is being replaced by another mains-gas fuelled boiler, the cost score for that measure is reduced by 20%.

### Boiler installations

- 5.13. Where a boiler is installed and it is not replacing a qualifying boiler, it may still be an eligible HHCR measure. We refer to such measures as 'non-qualifying boiler installations'.
- 5.14. Where a replacement boiler replaces a previous heating source, it must be connected to a working heating system. If the heating system is not working then savings will not be achieved and the boiler is not a heating qualifying action.

## The home heating minimum requirement

- 5.15. A supplier must meet its 'home heating minimum requirement' (HHMR),<sup>65</sup> which is

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<sup>63</sup> When assessing the efficiency of the boiler, the operative should use the annual efficiency from the PCDB. See: <http://www.ncm-pcdb.org.uk/sap/searchpod.jsp?id=17>. If the boiler is not included in the PCDB, then the assessor should use winter efficiency from table 4b of SAP 2012. See: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf).

<sup>64</sup> Article 2(1) ECO2 Order.

<sup>65</sup> Articles 2(2) and 7(4)(a) of the ECO2 Order.

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.

- 5.16. Other HHCRO eligible measures can count towards a supplier's HHMR, except those measure names listed in Table 1 below.<sup>66</sup>

**Table 1** List of measure names that do not count towards a supplier's HHMR

Measure type	Measure name for notification
<b>Replacement of a mains gas-fuelled qualifying boiler with a boiler of any non-gas fuel type.</b>	QBgas_[walltype]_nopreHCs
	QBgas_[walltype]_preHCs
<b>Replacement of a mains gas-fuelled qualifying boiler with a gas boiler.</b>	QBgas_gas_[walltype]_nopreHCs
	QBgas_gas_[walltype]_preHCs

- 5.17. Measures installed from 1 July 2016 can count towards a supplier's HHMR.

- 5.18. A supplier may choose to re-notify a 'qualifying gas boiler replacement' as a 'non-qualifying boiler' to count towards its HHMR (providing the measure was installed after 1 July 2016). To do this the supplier must submit a measure change request form.<sup>67</sup> The cost score used must reflect the notified measure type. Non-qualifying boiler measures will usually have a lower cost score compared to qualifying boilers.

### Repair of a qualifying boiler

- 5.19. The repair of a boiler is only an eligible measure where the boiler being repaired is a qualifying boiler.

- 5.20. In the case of a boiler being repaired, a qualifying boiler is one that we are satisfied:

- a) is not functioning efficiently or has broken down, and
- b) has a seasonal energy efficiency value of 86% or more when assessed

<sup>66</sup> These are taken from the ECO2t measures table. See:

<https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table>.

<sup>67</sup> We will provide guidance on the final deadlines for measure change requests at a later date.

against the Standard Assessment Procedure (SAP).<sup>68</sup>

- 5.21. No more than 5% of a supplier's total HHCRO can be achieved by the repair of qualifying boilers.<sup>69</sup>
- 5.22. Once all measures are approved we will determine the percentage of a supplier's HHCRO delivered through the repair of qualifying boilers. Where the savings for a supplier's qualifying boiler repairs exceed the 5% limit we will revoke our earlier approval of some of these measures with total savings equal to the amount by which the limit was exceeded. If we are required to revoke approval of measures, we will work with suppliers to select which measures this will apply to.

### Electric storage heaters

- 5.23. This section should be read in conjunction with Appendix 4, which provides an overview of the different electric storage heater (ESH) measures which are eligible in ECO. It also details when an ESH is considered to be a 'qualifying ESH' (QESH), how to assess ESHs, and outlines the warranty requirements for the repair and replacement of ESHs.

### Replacement of a qualifying electric storage heater

- 5.24. There are two ways of demonstrating QESH replacements.

- 1) Where an ESH has broken down

In this instance a QESH replacement is where an ESH being replaced:

- a. has broken down and cannot be economically repaired, and
- b. is being replaced by another ESH.

All sections of the ESH checklist, including sections B to F, must be completed for these measures.

- 2) Where there are multiple ESH in one property

In this instance a QESH replacement is where an ESH:

- a) is located in the same property as a QESH replacement (which has broken down and cannot be economically repaired),
- b) has a responsiveness when assessed against SAP equal to or less than

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<sup>68</sup> See Chapter 8 for information on the Standard Assessment Procedure (SAP).

<sup>69</sup> Article 16(6) of the ECO2 Order.

0.2, and

- c) is being replaced by another ESH.

Replaced ESHs which do not meet all of the criteria in ii) above should be notified as an ESH replacement.

### Electric storage heater installations

- 5.25. Where an ESH is installed and it is not replacing a QESH, it may still be an eligible HHCRO measure. The cost score for these measures can be determined using the deemed score matrix for ESH measures.

### Repair of a qualifying electric storage heater

- 5.26. The repair of an ESH is only an eligible measure where the ESH being repaired is a QESH. The cost score for these measures can be determined using the deemed score matrix for ESH measures.
- 5.27. A QESH repair is where an ESH:
  - a) is broken down but can be economically repaired, and
  - b) has a responsiveness of more than 0.2 when assessed against SAP.<sup>70</sup>
- 5.28. No more than 5% of a supplier's total HHCRO can be achieved by the repair of QESHs.<sup>71</sup>
- 5.29. Once all measures are approved we will determine the percentage of a supplier's HHCRO delivered through the repair of QESHs. Where the savings for a supplier's QESH repairs exceed the 5% limit we will revoke our earlier approval of some of these measures with total savings equal to the amount by which the limit was exceeded. If we are required to revoke approval of measures, we will work with suppliers to select which measures this will apply to.

### The premises requirement

- 5.30. Measures delivered to premises either occupied by a member of the help to heat group, or listed in a local authority declaration must be delivered to private domestic premises. Private domestic premises are domestic premises<sup>72</sup> that are,

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<sup>70</sup> Table 4a in the Government's Standard Assessment Procedure for Energy Rating of Dwellings (2012). See: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf).

<sup>71</sup> Article 16(7) of the ECO2 Order.

<sup>72</sup> See Chapter 2 for information on domestic premises.

in general, not owned or let by a social landlord.<sup>73</sup>

- 5.31. This requirement does not apply to social housing E, F or G measures.
- 5.32. Measures can only be delivered to properties owned or let by a social landlord where it has been let by the social landlord at or above market rate. Information on how to determine market rate can be found in Appendix 2.
- 5.33. The evidence required to demonstrate that premises are private domestic premises depends on:
- a) whether or not a 'relevant interest' in the premises is registered<sup>74</sup>
  - b) who the premises belong to, or are let by, and
  - c) where applicable, the financial rate at which the premises are let (ie rent).
- 5.34. The 'relevant interest' is the legal interest granting the current right to occupy those premises. In England and Wales, the relevant interest may belong to a freeholder, leaseholder or sub-leaseholder. In Scotland, the relevant interest may belong to the person holding the owner's interest or right, or the person holding the lessee's interest, or the sub-leaseholder.
- 5.35. Where premises are subject to a shared ownership arrangement between a private individual and a social landlord, we consider the premises to be private domestic premises as the private individual is one of the owners of the premises.

### Registered relevant interest

- 5.36. In England and Wales, premises are not considered to be private domestic premises if the relevant interest registered on the Land Registry belongs to a social landlord, unless the supplier can evidence that the premises are let at or above market rate.<sup>75</sup>
- 5.37. In Scotland, premises are not considered to be private domestic premises if the relevant interest registered on the Land Register of Scotland or recorded in the Register of Sasines belongs to a social landlord, unless the supplier can evidence that the premises are let at or above market rate.
- 5.38. Generally, where the relevant interest is registered as belonging to an individual

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<sup>73</sup> For more information on the definition of a social landlord, see Schedule 4, Part 1(5) of the ECO2 Order.

<sup>74</sup> A registered premises is one with a relevant interest registered on the Land Registry in England and Wales or, in Scotland, the Land Register of Scotland or recorded in the Register of Sasines. For more information on the evidencing routes for registered and unregistered premises refer to Appendix 2.

<sup>75</sup> See Appendix 2 for information on calculating the market rate.

person, we will be satisfied that they are private domestic premises. If the search results prove inconclusive, ie the registered relevant interest belongs to a corporation and not an individual, the supplier must use other means to ensure the entity is not a social landlord.

### Unregistered relevant interest

5.39. Premises for which a relevant interest is not registered will be considered private domestic premises if:

- a) the premises are not owned or let by a social landlord
- b) the premises are let under a lease granted under the 'Right to Buy' or 'Right to Acquire' schemes in England or Wales
- c) the premises are let under a lease granted under the 'Right to Purchase' scheme in Scotland
- d) the premises are let by a social landlord at or above market rate
- e) the premises is a Croft (see sections 5.43-5.44 below for more information)

### Online Verification Service (for premises in England and Wales)

5.40. The Energy Saving Trust (EST) has developed a service allowing users to verify that a premises is a private domestic premises through a data-matching process with the Land Registry.

5.41. EST will provide the following categories against these verifications:

- a) Matched
- b) Unmatched
- c) Not checked

5.42. Where EST verifies a premises as 'matched', we consider that the premises is a private domestic premises. Where the premises are 'unmatched' or 'not checked', alternative evidence will be required.

### Crofts

5.43. A property that is a croft can be treated as a private domestic premises as long as appropriate evidence is provided. This should show that the property is a croft and



that the Help to Heat group member or person listed as eligible by the local authority lives at the property. This can be evidenced by any of the following:

- a) Evidence of leases registered with the Crofting Commission
- b) Evidence that the premises is listed on the Register of Crofts (mandatory for all crofts)
- c) A copy of a crofting tenancy agreement

5.44. Although it is possible to evidence the property as listed on the Register of Sasines or providing title deeds, these documents are not usually available for Crofts. If a supplier wishes to use an alternative form of evidence, they should contact Ofgem.

### The occupant requirement

5.45. For HHCRO, where measures are delivered to private domestic premises, the premises must either be occupied by:

- a) a member of the help to heat group, or <sup>76</sup>
- b) a household living in fuel poverty or low income and vulnerable to the effects of living in a cold home, as declared by a local authority.<sup>77</sup>

5.46. The occupant requirements do not apply to measures delivered to social housing with an EPC energy efficiency rating of E, F or G or SWI in-fill under local authority flexible eligibility.<sup>78</sup>

### Local authority flexible eligibility

5.47. The occupant requirement under flexible eligibility can be met by a person being listed as eligible on a local authority declaration.

### Membership of the help to heat group

5.48. For suppliers to demonstrate that the occupant requirement is met they must be able to provide evidence of the following:

- a) a person's membership of the help to heat group<sup>79</sup>, and

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<sup>76</sup> Article 16A(2) of the ECO2 Order.

<sup>77</sup> Articles 16A(3)(c), 16A(4)(d)(ii), 16A(5)(c)(iii), and 16A(5)(d)(iii) of the ECO2 Order.

<sup>78</sup> For more information on SWI in-fill see paragraph 5.69.

<sup>79</sup> Article 16A(7) and Schedule 4B to the ECO2 Order.

b) that the person is an occupant of the premises.

5.49. Appendix 2 details the specific documents which can be used to demonstrate this requirement.

5.50. This section provides an overview of the criteria that must be used to determine whether a person is a member of the help to heat group.

5.51. A person living at private domestic premises is an eligible member of the help to heat group if the person receives at least one of the following benefits and satisfies the relevant income requirements, where applicable:

- Income-related employment and support allowance (ESA)
- Income-based jobseeker's allowance (JSA)
- Income support
- Pension Credit Guarantee Credit<sup>80</sup>
- Tax Credits (on the condition that the household's relevant income does not exceed the amount set out in **Table 2** corresponding to the type of claim and the number of qualifying children), and
- Universal Credit (on the condition that the household's relevant income in any of the preceding 12 assessment periods does not exceed the amount set out in **Table 3** corresponding to the type of claim and the number of qualifying children).

5.52. **Table 2** and **Table 3** show the relevant income thresholds for each household composition for Tax Credits and Universal Credit respectively.

**Table 2** Relevant annual gross income thresholds for Tax Credits based on household composition

Type of claim	Number of qualifying children for which the person is responsible:				
	0	1	2	3	4 or more
<b>Single claim</b>	£13,200	£17,400	£21,600	£25,800	£30,000
<b>Joint claim</b>	£19,800	£24,000	£28,200	£32,400	£36,600

<sup>80</sup> People in receipt of Pension Credit Guarantee Credit and Pension Credit Savings Credit are also eligible.

**Table 3** Relevant monthly net earned income thresholds for Universal Credit based on household composition

Type of claim	Number of qualifying children for which the person is responsible:				
	0	1	2	3	4 or more
<b>Single claim</b>	£1,100	£1,450	£1,800	£2,150	£2,500
<b>Joint claim</b>	£1,650	£2,000	£2,350	£2,700	£3,050

### Evidencing eligibility – help to heat group

- 5.53. Suppliers can demonstrate to us that the occupant requirement is met by ensuring that a copy of the relevant documents are made available at audit.
- 5.54. Appendix 2 details which documents should be produced at audit to demonstrate that the occupant requirement was met at some point during the course of promotion of the measure. Suppliers wishing to use documents which are not detailed in Appendix 2 should contact us.
- 5.55. Additional guidance on evidencing concepts such as qualifying children, relevant income, and joint and single claims can be found in our help to heat guidance note.<sup>81</sup>

### Matched Warm Home Discount (WHD) Core Group Notice

- 5.56. A supplier can produce a matched WHD Core Group Notice<sup>82</sup> at audit to satisfy us that a person is receiving state pension credit and is therefore a member of the help to heat group.
- 5.57. This must be dated within 18 months prior to the date of completion of the measure.<sup>83</sup>

### ESAS reference number

- 5.58. The Energy Saving Trust (EST) operates a referrals service to direct people to energy efficiency opportunities, including ECO. For England and Wales this service is the Energy Saving Advice Service (ESAS).
- 5.59. A person who contacts ESAS is allocated a unique eight digit reference number. ESAS then check the benefit status of the person with the Department for Work and Pensions (DWP) to confirm whether the person receives a help to heat group

<sup>81</sup> <https://www.ofgem.gov.uk/publications-and-updates/eco2t-help-heat-group-guidance-note>.

<sup>82</sup> See Regulation 6(1) of the Warm Home Discount Regulations 2011 for further details.

<sup>83</sup> See paragraph 9.4 to 9.10 for information on demonstrating when a measure is completed.

benefit.<sup>84</sup>

5.60. ESAS refer the following categories of people to suppliers:

- a) **matched** - a person who is confirmed by DWP as receiving a help to heat group benefit
- b) **unverified** - a person who may be receiving a help to heat group benefit but DWP is unable to confirm, or
- c) **no consent** - the customer did not consent to the DWP check.

5.61. If ESAS referred a person to a supplier as matched (ie confirming that the person receives a help to heat group benefit), the supplier may rely on this referral as a way of demonstrating that a person is a member of the help to heat group. The supplier must include the ESAS reference number when notifying the measure.<sup>85</sup>

5.62. Where a matched eight digit ESAS number is provided, suppliers can rely on this at audit and no documentation will be needed to demonstrate that a person is a member of the help to heat group. We will contact ESAS to check that the notified number relates to a person receiving a help to heat group benefit and that they reside at the address where a measure was notified.

5.63. An 'unverified' or 'no consent' ESAS referral is not sufficient evidence that a person is a member of the help to heat group. In this case, the supplier should not include the ESAS reference number when notifying the measure. The supplier should satisfy us that the relevant person is a member of the help to heat group through one of the other routes detailed in this section. They should also ensure that any additional evidence that demonstrates this is made available on request.

#### Matched 'DWP reference number'

5.64. Suppliers may arrange for the Energy Saving Trust (the data-matching service provider), who have a contract with DWP, to confirm that a person is a member of the help to heat group.

5.65. If DWP confirms (via the Energy Saving Trust) that a person receives a help to heat group benefit, the supplier may rely on this as a way of demonstrating that a person is a member of the help to heat group. If a supplier wishes to rely on a DWP confirmation, it must include the seven-digit reference number (or 10 digits where it includes the user prefix) provided by the data-matching service provider when notifying the measure. This is the 'DWP reference number' in the notification template. This reference number will also be accepted where it is preceded by the three digits identifying the service user.

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<sup>84</sup> As listed in paragraph 5.51.

<sup>85</sup> See Chapter 9 for information on notification of completed measures.

5.66. The Energy Saving Trust refer the following categories of people to suppliers:

- **matched** - a person who is confirmed by DWP as receiving a help to heat group benefit
- **unmatched (verified)** – a person who is confirmed by DWP as not receiving a help to heat group benefit
- **unverified** - a person who may be receiving a help to heat group benefit but DWP is unable to confirm, or
- **no consent** - the customer did not consent to the DWP check.

5.67. Where a 'matched' DWP reference number is provided at notification, suppliers can rely on this at audit and no documentation will be needed to demonstrate that a person is a member of the help to heat group. We will verify these reference numbers against the records of the data-matching service provider to check that the notified number relates to a person receiving a help to heat group benefit residing at the address where a measure was notified.

5.68. An 'unmatched (verified)', 'unverified' or 'no consent' referral will not be enough to satisfy us that a person is a member of the help to heat group. In this case, the supplier should not include the DWP reference number when notifying the measure. The supplier should satisfy us that the relevant person is a member of the help to heat group through one of the other routes detailed in this section. They should also ensure that any additional evidence that demonstrates this is made available on request.

## Flexible eligibility - Local authority declarations

5.69. Measures delivered to private domestic premises are eligible where suppliers are able to provide Ofgem with a local authority (LA) <sup>86</sup> declaration stating that the households listed in the declaration are either:<sup>87</sup>

- i. living in fuel poverty (FP),
- ii. living on a low income and vulnerable to the effects of living in a cold home (LIVC),<sup>88</sup> or
- iii. 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 (SWI in-fill).

5.70. Properties owned or let by a social landlord can only be listed in an LA declaration where it is let by the social landlord at or above market rate, ie meeting the

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<sup>86</sup> Article 16A(7) of the ECO2 Order.

<sup>87</sup> Article 16A of the ECO2 Order.

<sup>88</sup> BEIS have provided guidance on what types of households meet the criteria. However, the LA maintains discretion and flexibility on whether to apply criteria that better reflect local needs: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608042/ECO\\_Heat\\_to\\_Heat\\_flexible\\_eligibility\\_guidance\\_for\\_LAs.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608042/ECO_Heat_to_Heat_flexible_eligibility_guidance_for_LAs.pdf)

private domestic premises requirement. For more information on how to evidence market rate see Appendix 2.

- 5.71. A supplier may deliver up to 10% of its phase 3 HHCRO through this route, including any SWI in-fill.
- 5.72. Once all measures are approved we will carry out an assessment of a supplier's flexible eligibility measures before we determine whether a supplier has achieved its HHCRO. Where the cost savings for a supplier's flexible eligibility exceeds the 10% limit we will revoke our approval of some of the flexible eligibility measures with total savings equal to the amount by which the limit was exceeded. If we are required to revoke approval of measures we will work with suppliers to select which measures this will apply to. It is important to note that these measures may be eligible for CERO or another element of HHCRO and could be re-elected as such.

### Statement of intent

- 5.73. To make LA declarations, an LA must produce a statement of intent (SoI) regarding its delivery of the ECO flexible eligibility provision. This SoI should be publically available (eg published on an LA's website) so that it can be easily accessed by interested parties.
- 5.74. The supplier must be able to evidence that:
- a) the SoI was published prior to any declarations being made by that LA, and
  - b) the SoI includes a methodology on how the LA intends to target FP and LIVC households.
- 5.75. The supplier can provide evidence of the above by:
- a. producing a screenshot of a published and dated SoI
  - b. producing a hardcopy of the SoI (this includes declarations provided in any LA report (eg the Home Energy Conservation Act 1995 report), or
  - c. any other means agreed with Ofgem.
- 5.76. Suppliers will need to check that a statement outlining the LA's targeting methodology is included in the SoI, but are not required to assess the content of the methodology. Ofgem will not assess or approve local authority SoIs.
- 5.77. Suppliers are entitled to rely on the LA having made an accurate assessment of eligibility. However, if we find that the SoI was not published before the LA declaration was made or that the methodology for targeting is not included in the SoI, we will look to reject measures included in the relevant declarations, ie those

linked to that version of the SoI. However, these measures may be eligible for CERO or another element of HHCRO and could be re-elected as such.

- 5.78. Suppliers should be aware that an LA may update its SoI and publish a later version. In such circumstances the supplier should obtain assurance from the LA that it had published the relevant version of the SoI prior to the date of any declarations being made.
- 5.79. A local authority can provide declarations for households not within its administrative area under certain circumstances. For example, this includes where a LA delegates some functions to another LA, where the LA providing the service is best placed to make a determination of the eligibility of a household. In such situations all relevant LAs must co-sign the SoI to confirm which LAs are operating on behalf of others. This must also be recorded on the LA declaration.
- 5.80. BEIS has published separate guidance for local authorities which provide guidance on the content of SoIs.<sup>89</sup>

#### Local authority declarations - Determining and evidencing household eligibility

- 5.81. Once an SoI has been published by an LA, the LA can make declarations. Suppliers must ensure that a copy of the LA declaration listing the household is available at audit.<sup>90</sup>
- 5.82. The LA is responsible for making the determination that a household is eligible (including SWI in-fill). Ofgem does not require suppliers to undertake supplementary checks to determine eligibility once an LA declaration is made. Suppliers are entitled to rely on the LA having made an accurate assessment of eligibility.
- 5.83. If we become aware of a local authority making false declarations, or where it does not follow the targeting methodology outlined in its SoI, we will pass this information to BEIS. This will not affect measures already notified to us based on declarations made by that LA.
- 5.84. LA declarations, including those with SWI in-fill, will remain valid for the entire ECO2t period (ie from 1 April 2017 to 30 September 2018), unless otherwise stated by the LA. There is no requirement to reassess households once a LA declaration has determined a household to be eligible within this period.
- 5.85. Declarations can be made before or after the installation of measures. Parties involved in flexible eligibility are free to negotiate when declarations should be

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<sup>89</sup> See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608042/ECO\\_Heat\\_to\\_Heat\\_flexible\\_eligibility\\_guidance\\_for\\_LAs.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608042/ECO_Heat_to_Heat_flexible_eligibility_guidance_for_LAs.pdf).

<sup>90</sup> See Chapter 10 for information on audits.

made. The ECO2 Order does however require that a LA is 'consulted' prior to the installation of the measure. As part of the standard declaration,<sup>91</sup> LAs will be required to confirm that they were 'consulted' prior to installation of a measure.

- 5.86. When notifying flexible eligibility measures to Ofgem, suppliers will need to provide the unique reference number (URN)<sup>92</sup> of the completed LA declaration. All households listed in a declaration are given the same URN. A separate URN is not required for each property. Guidance on the format of URNs can be found in the BEIS guidance for LAs.<sup>93</sup>
- 5.87. A household listed on an LA declaration may also be eligible as a member of the help to heat group. If a supplier decides to notify the measures as a help to heat group measure, the information on the declaration should also be included in the notification of the measure. This information will be provided to BEIS for reporting purposes.
- 5.88. Suppliers should be aware that Ofgem's primary interactions on measures submitted based on a LA declaration will be with suppliers, not LAs. Ofgem will not contact LAs to request missing information or query unclear information.
- 5.89. BEIS has developed standardised templates for declarations which can be found in its guidance for LAs.<sup>94</sup>

### Local authority declarations - SWI in-fill

- 5.90. An LA can also declare households as eligible for HHCRO measures that do not meet the criteria for FP or LIVC where they are in the same terrace as, immediately adjacent to, or in the same building as households that do meet those criteria. These properties are known as "in-fill".
- 5.91. In-fill properties should be listed on the same LA declaration as household(s) that i) are in the same terrace as, ii) in an immediately adjacent building to or, iii) in the same building as households identified by an LA as FP or LIVC. BEIS has created a separate declaration template for SWI in-fill projects.
- 5.92. Only SWI can be installed where the property is listed in the LA declaration as in-fill.
- 5.93. The specific requirements over the type and number of households that can be

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<sup>91</sup> Articles 16A(3)(b), 16A(4)(b), and 16A(5)(b) of the ECO2 Order.

<sup>92</sup> Guidance on the format of URNs for local authority declarations is provided in the BEIS guidance note for flexible eligibility.

<sup>93</sup> See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608042/ECO\\_He lp\\_to\\_Heat\\_flexible\\_eligibility\\_guidance\\_for\\_LAs.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608042/ECO_He lp_to_Heat_flexible_eligibility_guidance_for_LAs.pdf).

<sup>94</sup> See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608042/ECO\\_He lp\\_to\\_Heat\\_flexible\\_eligibility\\_guidance\\_for\\_LAs.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608042/ECO_He lp_to_Heat_flexible_eligibility_guidance_for_LAs.pdf).



eligible as in-fill based on the presence of eligible FP or LIVC households are summarised in

#### 5.94. **Table 4.**

**Table 4** Summary of the requirements for different property types under in-fill

Property Type	LA declaration requirements	In-fill available
Semi-detached houses or bungalows, or a building containing no more than two domestic premises	At least one of the two-properties must be classified by the LA as FP or LIVC (50% eligibility).	The other property to which it is directly adjoined is eligible for solid wall insulation.
Any other properties that are contained together on a list provided by the LA that are in the same or immediately adjacent buildings <sup>95</sup> or in the same terrace (eg flats and terraced houses)	At least 66% of properties listed in the declaration must be classified by the LA as FP or LIVC.	The other 34% of properties on the list are eligible for solid wall insulation, provided they are either in the same building, an immediately adjacent building or in the same terrace.

### Mixed eligibility projects

- 5.95. In some cases a project may include households that are eligible for different reasons, for example a block of flats that is considered eligible through a mixture of help to heat group eligible consumers, LA Flex (including SWI in-fill) and CERO.
- 5.96. Measures installed in flats identified as help to heat group or CERO eligible should be notified as such and no connection needs to be made between these measures and any LA flexible eligibility measures installed in the same block.
- 5.97. Measures already notified under help to heat group eligibility or CERO cannot be included on a declaration to support SWI in-fill. We may undertake checks to determine if this has occurred.
- 5.98. Any remaining measures delivered through LA flexible eligibility must meet the relevant in-fill requirements. For example if some households in the block of flats are identified as in-fill, these must be supported by the required number of FP and LIVC households in the same block of flats and listed in the same LA declaration.

<sup>95</sup> A detached household is eligible where it has FP or LIVC households immediately adjacent to it.

## Social housing E, F or G

5.99. HHCRO measures can also be delivered to social housing with an EPC energy efficiency rating of E, F or G, where the premises are let below market rate.

5.100. Delivery to social housing premises is limited to the following measures:

- a) insulation measures, and
- b) first time central heating systems (including renewable central heating) and first time district heating connections.<sup>96</sup>

5.101. We refer to the delivery of first time central, district and renewable heating measures collectively as first time central heating (FTCH).

5.102. A central heating system is defined as:

*a system which provides heat for the purpose of space heating through a boiler or other heat source connected to one or more separate heat emitters.*<sup>97</sup>

5.103. For a FTCH measure to be eligible, the domestic premises must at no point prior to the installation have had:

- i) a central heating system (including renewable central heating)
- ii) a connection to a district heating system, or
- iii) an electric storage heater.

5.104. 'At no point prior' refers to premises which do not, and never have had, a central heating system (including renewable central heating), a district heating connection, or an electric storage heater at any point before the installation of an ECO FTCH measure.

5.105. If premises had a central heating system (including renewable central heating), district heating connection or an electric storage heater in the past, but it is not present immediately prior to the delivery of an ECO measure, it is not eligible for FTCH.

5.106. Further, where a central heating system, district heating connection or an electric storage heater is present but not working, the premises is also ineligible for FTCH.

5.107. Presence of a central heating system (including renewable central heating),

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<sup>96</sup> Article 16A(6) of the ECO2 Order.

<sup>97</sup> Article 16A(7) of the ECO2 Order.

district heating connection, or an electric storage heater may be identified with reference to any available evidence within the premises or records relating to the premises. Examples include an old boiler, pipework, heating controls, radiators, storage heaters or records relating to the premises, such as a valid EPC.

5.108. This information is intended as a guide. Following notification of a FTCH measure, if evidence is subsequently found at audit that demonstrates a declaration provided by a social landlord was false and that premises had, at any point prior, a central heating system (including renewable and district heating) or ESH, the measure will be rejected. Evidence of social landlords making false declarations will be reported to the relevant bodies.<sup>98</sup>

5.109. As a minimum requirement, a central heating system must meet the definition outlined in paragraph 5.102 and the relevant building regulations, PAS or other relevant requirements, to be eligible.

5.110. The following pre-main heating sources are eligible for the delivery of a FTCH measure when present in social housing with an EPC energy efficiency rating of E, F or G:

- a. **electric room heaters**, including direct acting room and fan heaters which are not storage heaters
- b. **gas room heaters**; including fixed mains gas room heaters
- c. **bottled LPG room heating**, notified as a proxy electric room heater
- d. **solid fossil fuel room heaters**
- e. **wood/biomass room heating**, notified as a proxy, solid fossil fuel boiler, or
- f. **oil room heater**, notified as a proxy LPG boiler.

5.111. Where there are no heating sources present, the proxy of electric room heaters should be used for notifying the appropriate deemed score.

5.112. The list in paragraph 5.110 above is a non-exhaustive list. Suppliers should contact us prior to installation if they have queries regarding eligible pre-main heating sources for FTCH measures.

5.113. Where an eligible pre-main heating source is found in an eligible premises, the following, non-exhaustive list of heating measure types may be notified as a FTCH measure:

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<sup>98</sup> Where there is evidence of suspected fraud this will be reported to the Homes and Communities Agency or the equivalent bodies.

- Gas Boiler
- Oil Boiler
- Biomass Boiler
- LPG Boiler
- Air Source Heat Pump
- Ground Source Heat Pump
- Electric Boiler, and
- District Heating Connection - New Connection (All measures types).

## **Evidencing eligibility – social housing E, F or G**

### **Determining whether the premises are social housing**

5.114. In England and Wales, premises are considered to be social housing if the relevant interest is registered on the Land Registry as belonging to a social landlord.<sup>99</sup>

5.115. In Scotland, premises are considered to be social housing if the relevant interest is registered on the Land Register of Scotland or recorded in the Register of Sasines as belonging to a social landlord.<sup>100</sup>

5.116. Where premises are not registered, it can be considered as social housing where there is proof that a social landlord lets the property.

5.117. Information on how to identify social landlords can be found in Appendix 2 (see Section 1.3.).

### **Determining whether the premises have an EPC energy efficiency rating of E, F or G**

5.118. Suppliers must demonstrate that the property has an EPC with an energy efficiency rating below band D (ie E, F or G). This must be achieved by providing the EPC report reference number (RRN) at notification. This can either be a pre- or post-installation EPC.

5.119. The EPC must be valid (dated within 10 years of lodgement) and be the latest to be lodged for that premises.

5.120. Where a pre-installation EPC is used to demonstrate the energy efficiency rating of a premises, the supplier must collect a declaration signed by or on behalf a

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<sup>99</sup> Part 2 to Schedule 4 of the ECO2 Order.

<sup>100</sup> Part 2 to Schedule 4 of the ECO2 Order.

social landlord providing assurance that the EPC reflects the current characteristics of the property. The signatory should have sufficient and appropriate authority to act on behalf of the social landlord.

- 5.121. Where multiple measures are installed in a single premises, the premise's improved energy efficiency rating must be considered prior to any subsequent qualifying installations. For example, where the first measure improves the EPC energy efficiency rating to a D or above, any subsequent installations would not be eligible under this provision.
- 5.122. Following the installation of multiple measures, the supplier can demonstrate that the measures are eligible using the social landlord declaration in the following ways:
- a. The social landlord can list as part of the declaration the measures to be installed in the intended order of installation. Where multiple measures are installed the social landlord must confirm that the energy efficiency rating of the premises will not increase to a band D or above **before installation of the final measure listed on the declaration**, or
  - b. The social landlord can produce a separate declaration for each measure, taking into account the previous installations when confirming that the EPC energy efficiency rating of the property remains below band D.
- 5.123. We expect social landlords to have appropriate information available to them to make such a declaration.
- 5.124. We may not approve measures where there is evidence on the EPC stating that the measures notified to us will improve the energy efficiency of the premises to D or above before the installation of the final measure listed on the declaration. Social landlords and suppliers should satisfy themselves that there is no evidence to suggest this.
- 5.125. This declaration should be made available to us on request.
- 5.126. Where a post-installation EPC RRN is notified to us and states an energy efficiency rating of E, F or G, the declaration relating to the energy efficiency of the premises is not required.

#### Determining whether the premises are let below market rate

- 5.127. Social housing under this provision will only be eligible where the housing is let at below market rate. The supplier must produce a declaration signed by a social landlord providing assurance that the social housing premises are let at below market rate, or where the premises are currently void, have previously and will be let at below market rate.

5.128. This declaration should be made available to us on request.

5.129. For more information on how market rate is determined for different areas see Appendix 2.

### Evidencing 'at no point prior'

5.130. For the installation of first time central heating systems under this provision, suppliers must demonstrate that 'at no point prior' to the installation was a central heating system (including renewable central heating), district heating connection or an electric storage heater installed at the premises.

5.131. A supplier can evidence that this requirement is met through a declaration signed by the social landlord. This must state that at no point prior to the installation of the first time central heating measure did the social housing premises have a central heating system (including renewable central heating), district heating connection, or electric storage heater.

5.132. The declaration should also identify the pre-main heating source in-situ prior to the installation of the FTCH measure.

5.133. This declaration should be made available to us on request.

### Measures installed at non-gas fuelled premises

5.134. Where HHCRO measures are installed at non-gas fuelled premises that remain non-gas fuelled, the cost score may (depending on the type of measure) be subject to an increase. We outline below how suppliers can identify and evidence a non-gas fuelled premises.

### Identifying non-gas fuelled premises

5.135. Non-gas fuelled premises are premises where the main space heating system(s) is not fuelled by mains gas or a district heating system. There may be more than one main space heating system in the premises. If any of the premises' main space heating systems are:

- a. fuelled by mains gas, or
- b. a district heating system

those premises will **not** be considered non-gas fuelled.

5.136. Space heating systems are:

- a. district heating systems

- b. central heating systems which have a boiler or warm air unit and system to distribute heat to more than one room
- c. electric storage heaters
- d. electric underfloor or ceiling heating systems that distribute heat to more than one room
- e. fixed room heaters which provide heat to individual rooms, either supplementing another heating system or providing the heating requirement for the particular room, and
- f. portable room heaters.

5.137. The fuel type of the main space heating system must be recorded in the declaration of conformity and completed installation. This document must be made available on request.

### Identifying the main space heating system

5.138. District heating systems, central heating systems, electric storage heaters and electric underfloor or ceiling heating systems are always considered main space heating systems.

5.139. Where fixed room heaters are present at the same premises as a district heating system, a central heating system, an electric storage heater and/or an electric underfloor or ceiling heating system, we will not consider the fixed room heaters to be the main space heating system.

5.140. However, where premises are only heated by fixed room heaters these will be considered to be the main space heating system. If the room heaters use different fuels we will consider each type of room heater (based on fuel type) to be a main space heating system in itself. For example, if there are gas room heaters and electric room heaters then those premises have a gas fuelled main space heating system and an electric fuelled main space heating system.

5.141. Portable room heaters are never considered to be the main space heating system as they are moveable and may not remain in the premises.

## 6. Information on determining ECO savings

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6.1. Each measure receives a saving which determines the contribution that the measure makes towards a supplier's CERO or HHCRO target. This chapter covers:

- a) an introduction to ECO savings
- b) methodologies for determining savings
- c) measure lifetimes
- d) demonstrating the accuracy of savings, and
- e) decimal places.

### Introduction to ECO savings

- 6.2. A 'carbon saving' means the lifetime tonnes of carbon dioxide that a qualifying action or surplus action will save.<sup>101</sup>
- 6.3. A 'cost score' means the contribution that a heating qualifying action or surplus action makes towards a supplier's total Home Heating Cost Reduction (HHCRO) obligation (£).<sup>102</sup>
- 6.4. Where we provide information relevant to both carbon savings and cost scores, we use the collective term 'scores', however the terms 'savings' and 'scores' can be used interchangeably.
- 6.5. When notifying us of completed measures, suppliers must provide the lifetime carbon saving or cost score for the measure, relevant to the obligation the measure is intended to be credited towards.
- 6.6. At a later date a supplier may wish, where a measure qualifies, to re-elect the obligation that the measure is credited against.<sup>103</sup> To ease future re-elections we recommend that suppliers provide both the carbon saving and cost score (where possible) for each measure at notification.<sup>104</sup>

### Methodologies for determining savings

- 6.7. In ECO2t there are four ways to score measures:
- a) deemed scores
  - b) alternative methodologies

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<sup>101</sup> Article 2(1) of the ECO2 Order.

<sup>102</sup> Article 2(1) of the ECO2 Order.

<sup>103</sup> Article 31 of the ECO2 Order.

<sup>104</sup> For further information on re-elections see Chapter 9 in the ECO2t Guidance: Administration.



- c) SAP/RdSAP (DHS only), and
- d) appropriate methodologies (DHS only).

#### Deemed scores

- 6.8. As per the requirements in the ECO2 Order, Ofgem must publish a methodology through which deemed score qualifying actions (ie those installed from 1 April 2017, excluding DHS), should be scored.
- 6.9. Before publishing a methodology, we must have regard to the following:
- a) SAP
  - b) RdSAP, and
  - c) the desirability of the methodology being easy to use.<sup>105</sup>
- 6.10. Having regard to the above requirements we have developed and published the deemed scores methodology, which includes scores for all major measure types, except DHS. See Chapter 7 for more information on deemed scores.
- 6.11. Where no deemed score is published for a certain measure type or technology, a supplier may apply for a new set of deemed scores.
- 6.12. A supplier should explain in its application whether the measure can be scored using SAP/RdSAP and therefore whether a new deemed score could be created based on SAP/RdSAP.
- 6.13. If not, an alternative scoring methodology should be proposed which has regard to SAP/RdSAP. See paragraph 6.19 for more information on alternative methodologies.
- 6.14. Where an application relates to an improvement on an existing measure type, the application should include information on the level of improvement, with regard to the existing deemed score. We will only consider new scores where the current deemed scores do not already consider the technology and where the technology provides an improvement which is significantly better than achieved in the existing deemed score.
- 6.15. Applications must include a lifetime for the measure, and, where the methodology is used to calculate a carbon saving, it must consider the likely performance of the measure once it is installed in the premises. Suppliers must also provide information relating to the projected scale of delivery of the measure in question.

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<sup>105</sup> Article 24A (4) of the ECO2 Order.

- 6.16. The process for applying for a new set of deemed scores, or a new scoring methodology, can be seen in Appendix 8.
- 6.17. Where suppliers have submitted an application, affected measures may be installed from the day after the application is submitted to us. However, the supplier will be carrying out this activity at its own risk until the application is approved. Measures should not be notified until we have approved the application. Where the measure is at risk of missing the notification deadline due to this assessment the supplier may apply to us for an extension request.<sup>106</sup>
- 6.18. If the application results in a new set of deemed scores being developed, the new deemed scores will be added to the Deemed Scores Matrix and all suppliers may use these scores.

#### Alternative methodologies

- 6.19. Where there is no deemed score for a measure and SAP/RdSAP do not contain a methodology for calculating the savings for a particular measure or property type, a supplier should contact us to discuss an 'alternative methodology' to calculate the savings.<sup>107</sup>
- 6.20. Any proposed methodology must meet the requirements of the ECO2 Order, as per paragraph 6.9.
- 6.21. Should a supplier wish to apply for an alternative methodology, they should contact Ofgem to request an application form. Further guidance on the application process can be found in Appendix 8.
- 6.22. Suppliers will need to provide the information we need to decide whether to publish a methodology or not, ie whether it meets the requirements of the ECO2 Order. Applications should include a lifetime for the measure and where the methodology is used to calculate a carbon saving it must consider the likely performance of the measure once it is installed in the premises.
- 6.23. Reasons which might result in us declining an application for an alternative methodology include the following:
- a) the property assumptions used in the deemed scores are not accurate for a specific property where a measure is to be installed (eg the thermal performance before installation differs from our standard assumptions).
  - b) the measure assumptions used in the deemed scores are not accurate for a specific measure to be installed (eg the improvement caused by a measure differs from our standard assumptions for a measure/measure

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<sup>106</sup> See Chapter 9 for more information on extension requests.

<sup>107</sup> Article 24 of the ECO2 Order.

variant).

- c) the alternative methodology produces a higher saving for a measure than SAP or RdSAP, or
- d) aspects of the SAP or RdSAP methodology are inaccurate for the measure.

6.24. If we are satisfied that a methodology meets the requirements of the ECO2 Order we will publish it on our website with an explanation of which measures/property types it is to be used for. We will also assign the methodology a code that should be provided at measure notification.

6.25. A supplier may use an alternative methodology before we publish it on our website. However, the supplier will be carrying out the activity at its own risk until the date that we publish the methodology and measures scored using this methodology should not be notified until it is published on our website. Where the measure is at risk of missing the notification deadline due to the assessment of an application the supplier may apply to us for an extension request.<sup>108</sup>

6.26. Once published, an alternative methodology can be used by any supplier.

#### District Heating System (DHS) measures and appropriate methodologies

6.27. Savings for DHS measures should be calculated using one of the following methodologies:

- a. Standard Assessment Procedure (SAP)
- b. Reduced data Standard Assessment Procedure (RdSAP)

6.28. DHS measures should be scored using the most up to date version of SAP.

6.29. Where SAP or RdSAP do not contain a methodology for calculating the savings for a particular DHS measure, a supplier may apply to us for approval of an 'appropriate methodology' to calculate the savings.

6.30. Suppliers should apply to us for approval in writing, and include the information required to approve or reject the application. The appropriate methodology must include a lifetime for the measure, and, where the methodology is used to calculate a carbon saving, it must consider the likely performance of the measure once it is installed in the premises.

6.31. A supplier may install measures that require an appropriate methodology from the day after it submits the application. However the supplier will be carrying out

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<sup>108</sup> See Chapter 9 for more information on extension requests.

the activity at its own risk until the date that we approve the appropriate methodology. Measures should not be notified until we have assessed the application.

- 6.32. The following reasons are insufficient for us to approve an appropriate methodology:<sup>109</sup>
- a) The appropriate methodology produces a higher saving for a measure than SAP or RdSAP, or
  - b) Aspects of the SAP or RdSAP methodology are inaccurate for the measure.
- 6.33. We will notify the supplier whether the appropriate methodology has been approved or rejected. If we approve an appropriate methodology for a particular supplier, we will publish it on our website and other suppliers may then use that methodology. Other suppliers that wish to use this methodology must apply to us in writing.

## Measure lifetimes

- 6.34. The lifetime carbon saving or cost score for a measure reflects the expected savings that measure will make over its lifetime.
- 6.35. The measures table<sup>110</sup> provides the lifetime for each ECO measure. We deem the lifetimes in this table as 'standard'. These lifetimes have been accounted for in the Deemed Scores Matrix but should be used by suppliers when calculating the carbon saving or cost score through SAP or RdSAP (when calculating scores for District Heating System measures, for example).
- 6.36. Where a multi-fuel upgrade of a District Heating System connection consists of heat generating technologies with different lifetimes, a separate formula is available for calculating the lifetime. This is discussed in paragraph 8.10.
- 6.37. Suppliers can apply to use a 'non-standard lifetime' (a lifetime that is different from that shown in the measures table) in two cases:
- a. where a supplier wishes to install a measure that is not listed in the measures table, or
  - b. where a supplier wishes to install a measure type listed in the measures table, but has sufficient evidence that a specific technology has an improved lifetime.

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<sup>109</sup> Article 24(4)(a)

<sup>110</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table-0>.

- 6.38. A supplier must apply to us in writing for approval of a non-standard lifetime. They may then install measures for which they have requested a new score from the day after they submit the application. However, the supplier will be carrying out this activity at its own risk until we approve the new lifetime. Measures should not be notified until we have assessed the application.
- 6.39. We will only consider new lifetimes where the current lifetime does not cover the technology and where the technology can provide a significant improvement compared to the existing lifetime. We will notify the supplier of our decision on its non-standard lifetime application. If we approve an application for a non-standard lifetime, we will publish that lifetime on our ECO2t measures table. This may also require the publication of new deemed scores. Other suppliers should then use the appropriate lifetime for scoring when installing the same measure or technology.

### Guarantee dependent lifetimes for wall insulation

- 6.40. A wall insulation measure (solid wall insulation, insulation of a mobile home or insulation of a cavity wall, including party cavity wall insulation) receives the relevant standard lifetime if the installation is accompanied by an appropriate guarantee.
- 6.41. An appropriate guarantee<sup>111</sup> is one which meets the following criteria:
- a) **Financial assurance:** there must be a mechanism that gives assurance that funds will be available to honour the guarantee
  - b) **Duration:** lasts for at least 25 years
  - c) **Coverage:** provides for repair or replacement of a failed measure where appropriate and covers the costs of remedial and replacement works plus materials, and
  - d) **Quality Assurance Framework:** there must be an assurance framework for the quality of the installation and the product used in the installation. We will assess the suitability of this framework and we may require verification through independent assessment by an independent UKAS-accredited organisation or other appropriate body.
- 6.42. Appropriate guarantees, which we have reviewed and consider meet the above criteria, are listed on our website.<sup>112</sup> If a supplier chooses to use a guarantee not included in our list, which it considers meets these criteria, we will assess whether it is an appropriate guarantee before attributing the savings notified by the supplier. Where appropriate we will add these guarantees to our list on the

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<sup>111</sup> This is referred to as an 'appropriate warranty' in Article 18(4) of the ECO2 Order.

<sup>112</sup> <https://www.ofgem.gov.uk/publications-and-updates/eco2t-appropriate-guarantees>.

website. If the guarantee does not meet the criteria for an appropriate guarantee, we will be unable to attribute the savings notified by the supplier.

- 6.43. Where the installation of solid wall insulation is accompanied by an appropriate guarantee, the standard lifetime of the measure will be deemed to be 36 years.<sup>113</sup>
- 6.44. Where the installation of park home insulation is accompanied by an appropriate guarantee, the standard lifetime of that measure will be deemed to be 30 years.
- 6.45. Where the installation of cavity wall insulation and party wall insulation is accompanied by an appropriate guarantee the standard lifetime of these measures will be deemed to be 42 years.
- 6.46. Where a wall installation measure is not accompanied by an appropriate guarantee, the measure will be awarded a zero-year lifetime.<sup>114</sup>

## Demonstrating the accuracy of calculations

- 6.47. Suppliers are required to notify the lifetime carbon savings or cost scores for completed qualifying actions, and it is our duty to attribute savings to eligible notified actions.<sup>115</sup> If we are not satisfied that a saving is accurate we will ask the supplier to provide the information we need to determine the correct saving. The particular information required will depend on which of the scoring methods have been used to determine the savings.
- 6.48. After receiving this information we will attribute what we consider to be the correct savings to the measure. Until we receive this information, we are unable to attribute savings to a qualifying action.
- 6.49. Score monitoring agents may check the accuracy of scoring inputs when assessing measures. We will also assess the accuracy of savings when they are notified, and we may audit a sample of savings calculations to assess accuracy.
- 6.50. More information on audit and score monitoring is provided in Chapter 10.

## Decimal places

- 6.51. All carbon scores should be notified in tonnes of carbon dioxide (tCO<sub>2</sub>) to 3 decimal places. All cost scores should be notified as whole numbers in pounds sterling (0 decimal places). All figures in the Deemed Scores Matrix are to the correct number of decimal places. If any calculations are made (such as a

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<sup>113</sup> Articles 18(3) and 19(3) of the ECO2 Order.

<sup>114</sup> <https://www.ofgem.gov.uk/publications-and-updates/response-our-eco2-technical-requirements-consultation>

<sup>115</sup> Article 17 of the ECO2 Order.

reduction by percentage of property treated) then rounding, to the nearest number, should only take place as the final step.

## 7. Deemed scores

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- 7.1. This chapter is for any measures scored using a deemed score. For scoring district heating systems (DHS) see Chapter 8.
- 7.2. 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.
- 7.3. The deemed scores are published on our website and the information in this chapter should be used together with the scores.<sup>116</sup> The 'Deemed Scores Matrix' contains the lifetime scores for measures, taking into account the lifetime, in-use factor and the relevant HHCRO multiplier where applicable.<sup>117</sup>

### Using the deemed scores

- 7.4. To determine the appropriate deemed score for a measure, installers must first select the appropriate measure type. They must then identify the basic attributes of the property in which the measure has been installed.
- 7.5. For insulation measures, these attributes are split into three main variables:
  - a) the type of property
  - b) the number of bedrooms in the property, and
  - c) the main heating source of the property.
- 7.6. For heating measures the main wall type of the property (either solid or cavity) is also considered.
- 7.7. The percentage of measure installed and percentage of property treated must also be determined to calculate the correct score.<sup>118</sup>
- 7.8. A basic guide on how to read the scores is presented in the 'User Guide' tab of the Deemed Scores Matrix. The rest of this chapter outlines further guidance on how the variables and measure variants should be identified.

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<sup>116</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-deemed-scores>).

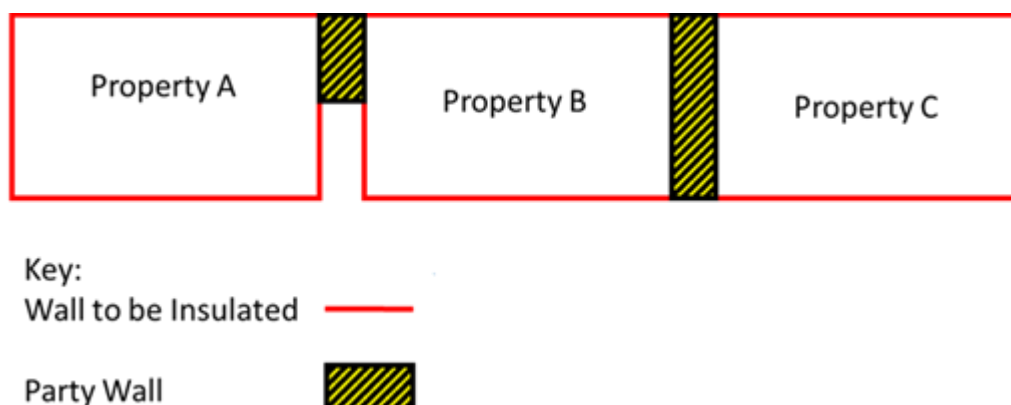
<sup>117</sup> See 'relevant HHCRO multipliers' in Chapter 8.

<sup>118</sup> See 'Percentage of measure installed and percentage of property treated' section in this chapter.



## Identification of property type

- 7.9. When determining the correct deemed score for an ECO measure, suppliers should select the appropriate property type. The property types in the deemed scores are:
- a. Semi-detached house
  - b. Detached house
  - c. End-terrace house
  - d. Mid-terrace house
  - e. Semi-detached and end-terrace bungalow
  - f. Detached bungalow
  - g. Mid-terrace bungalow
  - h. Flat with two or fewer external walls
  - i. Flat with three or more external walls
  - j. Maisonette with two or fewer external walls
  - k. Maisonette with three or more external walls
  - l. Single park home (only for use with park home insulation)
  - m. Double park home (only for use with park home insulation)
- 7.10. In the majority of cases we expect it will be straightforward to identify the relevant property type. However, there may be some instances where it is less clear. Further guidance and some examples of more unusual situations are listed below.
- a) A maisonette is considered to be any flat with two or more storeys. We do not consider an enclosed 'porch' area consisting of an external door leading to a staircase to be a full storey and in these cases the property should be considered a flat rather than a maisonette.
  - b) For a property to be considered as detached it should be completely detached from any neighbouring properties. Otherwise the 'semi' property type should be selected. Properties that are connected by a garage only would be considered as detached.
  - c) For terrace properties, the same principle as for detached/semi-detached as above applies. This is demonstrated in the diagram below. In this example, properties A and C are considered end-terrace and property B would be classed as a mid-terrace property:



- d) For flats and maisonettes the '2 external wall' score should be selected for properties with two or fewer external walls. The '3 external wall' score should be selected for properties with three or more external walls. Any walls adjacent to corridors should not contribute towards the count of external walls. The two variants reflect approximately a 50% external wall area and a 75% external wall area respectively. Where there is ambiguity over which of the two property variants should be selected, the percentage of external heat loss area should be rounded to the nearest option (either 50% or 75%).
- e) Note that whilst the previous paragraph should be used to select the most appropriate deemed score, we expect that for wall insulation measures, all heat loss walls are treated. This includes an external wall of a flat or maisonette which is adjacent to an unheated corridor.
- f) For park home insulation measures (which includes the walls, floor and roof) two property types are available. The 'single' park homes are roughly 12 metres long and 3 metres wide (36m<sup>2</sup>). The 'double' park homes are roughly 12 metres long by 6 metres wide (72m<sup>2</sup>). Where the total floor area is different to these standard dimensions the score for the closest floor area should be selected.
- g) Where a measure other than a park home insulation measure (for instance a heating measure or draught proofing) is installed in a park home, the detached bungalow archetype (selecting the heating measure with solid walls) should be used as a proxy. The number of bedrooms selected should be the number of bedrooms in the park home. For example, when selecting a score for a heating measure installed in a park home with two bedrooms, the two bedroom detached bungalow archetype should be selected.
- h) For studio flats (flats with a living room, bedroom and kitchen within one room), the one bedroom flat score should be selected

- i) For enclosed (back to back) end-terrace properties, the end-terrace score should be selected
  - j) For enclosed (back to back) mid-terrace properties, the mid-terrace score should be selected
- 7.11. If there are other situations where it is unclear which property type should be selected, suppliers should contact us prior to notification of the measure.

## Identifying the number of bedrooms

- 7.12. In general, if a room is not being used as a bedroom it should not be counted as a bedroom.
- 7.13. If there is uncertainty regarding the number of bedrooms in the dwelling, the following definition can be used as a guide.
- 7.14. A room can be included in the bedroom count if it meets all of the below criteria;
- a) it is additional to a kitchen, living space and dining space
  - b) it meets the SAP definition of a habitable room<sup>119</sup>
  - c) it can accommodate a standard sized single bed horizontally, and
  - d) it is not a conservatory.
- 7.15. For clarity, the following are some examples of rooms that would not be considered as bedrooms:
- a) any room without a window, and
  - b) any room that is intended for use as a lounge, kitchen, dining room, kitchen-diner, conservatory, sunroom, utility room, bathroom, en-suite, cloakroom, hallway, stairs, landing or garage.
- 7.16. Suppliers should be satisfied that the number of bedrooms selected is correct. If there are situations where it is unclear whether a room should be considered a bedroom, suppliers should contact us prior to notification of the measure.

## Identification of the pre-main heating source for the property

- 7.17. The pre-main heating source must be identified to select the correct deemed

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<sup>119</sup> SAP 2012, S9.1, pp. 141: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf).

score for the measure being installed. The pre-main heating source should reflect the system that is in place in the property, even where it is not functioning efficiently or has broken down.

- 7.18. When installing a heating measure, the pre-main heating source is always based on the heating system that is being replaced. In the case of heating controls, this is the heating system that will be affected by the controls being installed.
- 7.19. When installing an insulation measure, the pre-main heating source is the heating system which is heating the largest proportion of the property prior to the installation.
- 7.20. The Deemed Scores Matrix provides scores for common heating sources used in the Great British housing stock. The pre-main heating sources used for the deemed scores are:
- a. gas boiler
  - b. electric storage heaters
  - c. oil boiler
  - d. LPG boiler
  - e. solid fossil fuel boiler
  - f. electric boiler
  - g. electric room heaters
  - h. gas room heaters, and
  - i. solid fossil fuel room heaters
- 7.21. For heating measures the following pre-main heating sources are also used:
- gas fire with back boiler, and
  - gas back boiler to radiators
- 7.22. For park home insulation measures the following pre-main heating sources are also used:
- bottled LPG boiler, and
  - bottled LPG room heaters
- 7.23. Where multiple heating systems are replaced or installed in a property, multiple measures should be claimed.
- 7.24. Where a supplier installs a measure and the pre-main heating source is not reflected in the Deemed Scores Matrix. Table 5 should be used to determine which heating source to use as a proxy for the actual heating source.

**Table 5 – Deemed scores proxy heating sources**

<b>Pre-main heating source</b>	<b>Proxy for carbon savings (CERO)</b>	<b>Proxy for cost savings (HHCRO)</b>
Air/ground/water heat pump central heating	Gas boiler	Oil boiler
Air-oil hybrid heat pump	Gas boiler	Oil boiler
Biomass district heating system	0 (N/A)	Gas boiler
Biomass/wood central heating <sup>120</sup>	0 (N/A)	Solid fossil fuel boiler
Biomass/wood room heating	0 (N/A)	Solid fossil fuel boiler
Bottled LPG back boiler to radiators	Oil boiler	Electric room heaters
Bottled LPG central heating**	LPG boiler	LPG boiler
Bottled LPG fire with back boiler	Electric room heaters	Electric room heaters
Bottled LPG range cooker boiler	Oil boiler	Electric room heaters
Bottled LPG room heater**	Oil boiler	Electric room heaters
Electric ceiling heaters	Electric room heaters	Electric room heaters
Electric underfloor heating	Electric storage heaters	Electric storage heaters
Electric warm air system	Electric boiler	Electric boiler
Gas back boiler to radiators*	Gas room heaters	Gas room heaters
Gas district heating system	Gas boiler	Gas boiler
Gas fire with back boiler*	Gas room heaters	Gas room heaters
Gas range cooker boiler	Gas room heaters	Gas room heaters
Gas warm air systems	Gas boiler	Gas boiler
GSHP district heating system	Gas boiler	Gas boiler
LPG back boiler to radiators	Oil boiler	Electric room heaters
LPG boiler - Special Condition 18***	LPG boiler	Gas boiler
LPG district heating system	LPG boiler	Gas boiler
LPG fire with back boiler	Electric room heaters	Electric room heaters
LPG range cooker boiler	Oil boiler	Electric room heaters
LPG room heaters	Oil boiler	Electric room heaters
LPG warm air system	LPG boiler	LPG boiler
No heating present	Electric room heaters	Electric room heaters
Oil district heating system	Oil boiler	Gas boiler
Oil range cooker boiler	Oil boiler	Gas room heaters
Oil room heaters	Electric room heaters	LPG boiler
Oil warm air systems	Oil boiler	Oil boiler
Solid fossil fuel back boiler to radiators	Solid fossil boiler	Solid fossil boiler
Solid fossil fuel fire with back boiler	Solid fossil fuel room heaters	Solid fossil fuel room heaters

\*where the measure being installed is not a heating measure

\*\*where the measure being installed is not a heating measure in to a park home

\*\*\*Special Condition 18 applies only if the property receives LPG at mains gas prices<sup>121</sup>

<sup>120</sup> Properties with wood heating (either central, room, or district heating) do not have carbon savings, as wood is assumed to be carbon-neutral.

<sup>121</sup> See: <https://www.ofgem.gov.uk/ofgem-publications/50140/7940-independentnetworksopenletterpdf>

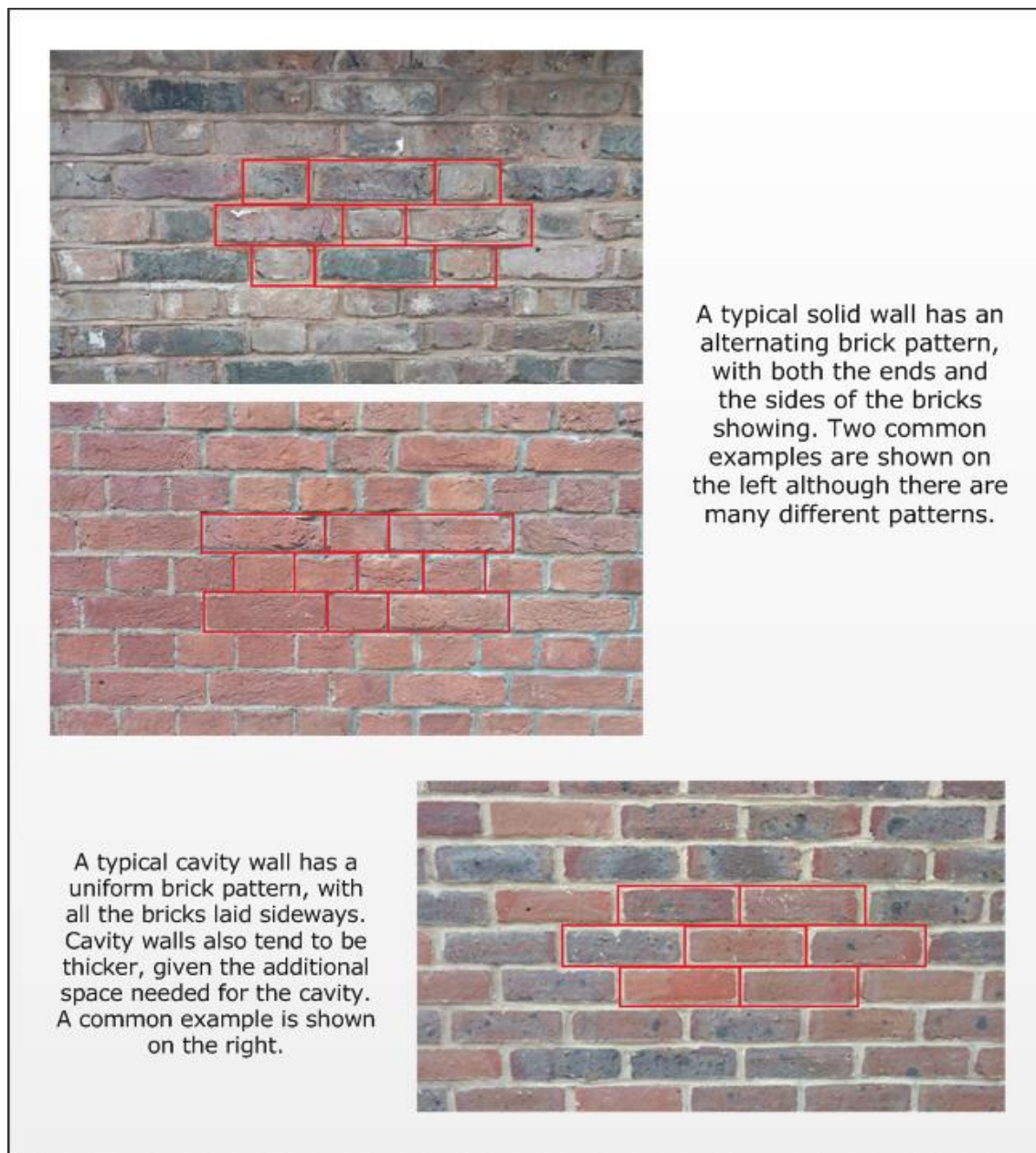
- 7.25. Where a heating source is identified which is not included in either the Deemed Scores Matrix or Table 5, suppliers should contact us to determine the most appropriate course of action.
- 7.26. When notifying an ECO measure which has used a heating source proxy, suppliers must communicate this as part of the measure notification. Please reference the data dictionary for guidance on notifying measures that use a proxy for the pre-main heating source.<sup>122</sup>
- 7.27. Only certain heating sources are eligible for First Time Central Heating (FTCH), please see Chapter 5 for more information.

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<sup>122</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-data-dictionary>

## Identification of wall type for heating measures

- 7.28. For heating measures, the wall type of the property must be identified to select the correct deemed score, specifically whether the house is predominantly made up of cavity or solid walls.
- 7.29. The identification and evidencing of the main wall type of the property is simple in many cases as it can be identified from the brick pattern of the walls. Figure 1 shows typical brick patterns for cavity and solid walls.



**Figure 1** Example cavity wall and solid wall brick patterns

- 7.30. A solid wall can also be non-brick. Examples of what we consider a solid wall are outlined in Chapter 3.

- 7.31. Where a property is made up of multiple wall types, the wall type that makes up the greatest proportion of the external wall area should be used when selecting the deemed score. For example, for a heating measure installation where the total external wall area is 100m<sup>2</sup>, with 60m<sup>2</sup> made up of cavity wall and 40m<sup>2</sup> made up of solid wall, the cavity wall variant of the deemed score should be selected.
- 7.32. Where the wall type is difficult to identify suppliers should seek expert advice prior to notifying the measure.
- 7.33. Please note that a more detailed identification is necessary for selecting deemed scores for the installation of solid wall insulation. Please see paragraph 7.65 for more information.

### **Percentage of measure installed and percentage of property treated**

- 7.34. The deemed scores assume that the measure type installed treats 100% of the property. For instance a cavity wall insulation (CWI) score assumes that all the heat loss walls of the property are cavity walls and all of them are insulated. A gas boiler replacement score assumes that the entire property will be heated by the gas boiler.
- 7.35. There may be occasions where 100% of a measure is installed, but 100% of the property has not been treated. For example, when insulating all cavity walls in a property which is made up of both cavity and solid walls.
- 7.36. The percentage of property treated (POPT) should be used to adjust the deemed score to reflect what was actually installed. For measures with a date of completed installation on or after 1 February 2018, suppliers should notify POPT to the nearest 20% increment.<sup>123</sup> Prior to the 1 February 2018, this percentage should be rounded to the nearest 10% increment.
- 7.37. Percentage of measure installed (POMI) and POPT need to be determined and notified for each ECO measure scored using a deemed score. The formulae below show how POMI and POPT should be calculated and the difference between the two.

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<sup>123</sup> See the POPT review for more information: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-percentage-property-treated-popt-review>



### **Percentage of Measure Installed (POMI)**

$$\text{POMI} = (A \div B) \times 100$$

Where:

'A' is the area that the measure is installed to

'B' is the total area that the measure could be installed to

### **Percentage of Property Treated (POPT)**

$$\text{POPT} = (A \div C) \times 100$$

Where:

'A' is the area that the measure is installed to

'C' is the total 'similar' area of the property:

- For SWI and CWI this is the total heat loss wall area.
- For party wall insulation this is the total party wall area.
- For roof insulation, loft insulation and room-in-roof insulation this is the total roof area.
- For heating measures this is the total floor area of the property that should be heated.

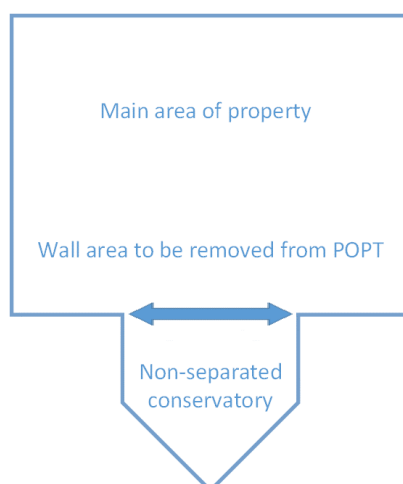
7.38. When calculating POPT there are some general measure-specific principles which should be taken into account. These principles are outlined in the following sections, along with examples.

## **Wall insulation POPT principles**

7.39. For wall insulation, POPT is 100% when the total external heat loss wall area of the property is insulated as part of the measure. If the measure does not insulate all external heat loss wall areas, the POPT, and hence the deemed score, should be adjusted to reflect the percentage of the property that has been treated as part of the measure installation. Note that the wall(s) of a flat which are adjacent to a corridor may be considered as an external heat loss wall for

the purposes of determining the POPT.<sup>124</sup>

- 7.40. Where some of the external heat loss wall area is already fully insulated prior to the installation of an ECO wall insulation measure, the percentage of the previously insulated wall should be removed from the POPT.
- 7.41. Where some of the external heat loss wall cannot be insulated as part of the installation, the percentage of that wall area should be removed from the POPT. This includes external heat loss wall areas of a different wall type. For example, when installing a cavity wall insulation measure, any solid wall area of the property should be removed from POPT. It also includes areas relating to chimneys, where the chimney forms part of the external heat loss wall area, and alternative wall areas such as tile hung areas.
- 7.42. When installing additional insulation to a heat loss wall which is already partially insulated, where the existing insulation does not meet the relevant standards, the POPT does not need to be reduced.
- 7.43. The wall area of separated conservatories (those which are accessible via an external quality door) is not included in this determination as the wall area between the main area of the property and the conservatory is considered to be the external heat loss wall.
- 7.44. Where a property has a non-separated conservatory, the wall area between the main part of the property and the non-separated conservatory should be removed from the POPT. This is shown in Figure 2.



**Figure 2** Non-separated conservatory diagram for calculating POPT

<sup>124</sup> Walls adjacent to corridors should not be counted when selecting the appropriate property type, as outlined in paragraph 7.10

- 7.45. There may be cases where there is some wall area, such as a dwarf wall, which is a part of the conservatory which could be insulated. We have received advice that the savings are likely to be negligible in such cases. We therefore do not require that dwarf walls of conservatories are considered when calculating POPT. Where a property has a conservatory with dwarf walls, the guidance in paragraph 7.44 should be followed.
- 7.46. Below are some examples of how to calculate POMI and POPT for wall insulation in certain scenarios.

#### **Wall insulation: examples of calculating POMI and POPT**

- Where all external heat loss walls are the same type and all are treated with the same measure, both the percentage of measure installed (POMI) and the percentage of property treated (POPT) is 100%.
- For instance if all external heat loss walls are cavity walls and they are all treated with CWI then 100% of the measure has been installed, and 100% of the property has been treated. Therefore, 100% of the relevant cavity wall score should be claimed.
- Where the external heat loss walls are of different construction types this will result in the POPT being less than 100%. The POPT should reflect the proportion of the total external heat loss wall area of the property which is treated by the measure.
- As an example, consider a property which has a total heat loss wall area of 50m<sup>2</sup>, of which 20m<sup>2</sup> is of cavity wall construction and 30m<sup>2</sup> is solid wall:
  - If the total external heat loss cavity wall area is treated with CWI, the POMI is 100% and the POPT is 40%. Therefore, 40% of the CWI deemed score should be claimed.
  - If only 10m<sup>2</sup> of the cavity walls were insulated of the available 20m<sup>2</sup>, the POMI is 50%. The POPT is 20%. Therefore, 20% of the CWI deemed score should be claimed.
  - If all of the heat loss walls are treated, both the CWI and SWI measure should have a POMI of 100%. The POPT for the CWI measure is 40%, and hence 40% of the relevant CWI deemed score should be claimed. The POPT for the SWI measure is 60%, and 60% of the relevant SWI deemed score should be claimed.

#### **Roof insulation POPT principles**

- 7.47. For roof insulation, POPT is 100% when the entire roof area of a property is insulated as part of the measure. If the measure does not insulate some area of

the roof, the POPT, and hence the deemed score, should be adjusted to reflect only the percentage of the property that is treated as part of the measure.

- 7.48. When calculating POPT for a roof insulation measure, the plan area (ie the footprint) of the roof should be used. Where a property has multiple roof types (eg a pitched roof and a flat roof) the area of all roof types should be taken into account when calculating POPT.
- 7.49. When installing additional insulation to a roof area which is already partially insulated, where the existing insulation does not meet the relevant standards, the POPT does not need to be reduced.
- 7.50. The roof area of conservatories (separated or non-separated) should not be included in the determination of POPT.
- 7.51. Note that where a property has a mansard roof, the sloped area should be considered as roof area if the slope is at an angle of less than 70°. If the angle is more than 70° it is considered to be a wall and shouldn't be considered as part of the roof area.
- 7.52. Calculating POPT for room-in-roof insulation (RIRI) is more complex than other roof insulation measures and involves two separate considerations:
- a) if a property has a single roof space containing a room-in-roof (RIR), the maximum POPT would be 100%. If a property has multiple roof spaces, the percentage of the roof area which is made up of the roof containing the RIR should be considered. In these cases the maximum POPT for a RIRI measure is less than 100%.
  - b) the percentage of the RIR insulated, not including the residual loft area (the POMI). Where this is less than 100%, the POPT calculated in a) should be scaled down. Paragraph 7.82 explains what is considered to be 100% of a RIRI measure.
- 7.53. The residual area of a RIR is considered as the residual loft area contained within the same roof as a RIR. To be considered as being in the same roof, it should share the same continuous air space. Generally, a stud wall, rather than a masonry wall, would separate the RIR from the residual loft areas. Roof areas separated by masonry walls are considered to be separate roofs for this determination.
- 7.54. The determination of the residual area is the same regardless of whether the RIRI 'residual area insulated' score or the RIRI 'residual area uninsulated' score is being claimed. To claim the 'residual area insulated' score, the entire residual area must be insulated.
- 7.55. If there is no residual loft area surrounding the RIR, the 'residual area insulated'

score should be claimed.

**Roof insulation: examples of calculating POMI and POPT for dwellings with different roof constructions\***

- Where the total heat loss roof area is of one type and is fully insulated using one measure (eg loft insulation or flat roof insulation), both the POMI and the POPT is 100%.
- Where a property has multiple roof types (eg a flat roof and a pitched roof) all roof areas should be taken into account when calculating POPT.
  - For example, a property has a total roof area of 100m<sup>2</sup>, where 47m<sup>2</sup> is flat roof and 53m<sup>2</sup> is pitched roof. If the entire flat roof was insulated, the POMI would be 100% and the POPT would be 40%. Therefore, 40% of the flat roof insulation deemed score should be claimed.
  - In the above example, the loft area within the pitched roof is 53m<sup>2</sup> of the total 100m<sup>2</sup> roof area. In this case, if the loft is fully insulated, the POMI will be 100% and the POPT will be 60%. Therefore, 60% of the relevant loft insulation deemed score should be claimed.
- A property with a single pitched roof of 80m<sup>2</sup> containing a RIR with a floor area of 20m<sup>2</sup>. If a supplier insulates only the loft area surrounding the RIR (ie not as part of a RIRI measure), the POMI is 100%. The POPT would relate to the loft area insulated, which is 60m<sup>2</sup> of the total 80m<sup>2</sup>, 75% of the overall roof. Therefore, 75% of the loft insulation measure should be claimed (rounded to 80%). This situation should only apply where the supplier is carrying out loft insulation only and is not insulating the RIR as well.

\* The above examples are based on the decision that for measures with a date of completed installation on or after 1 February 2018, suppliers should notify POPT to the nearest 20% increment.

### **Room-in-roof insulation: examples of calculating POMI and POPT for dwellings with different roof constructions\***

- A property has a single pitched roof containing a RIR. If all elements of the RIR are insulated the POMI is 100%. If the residual area is not insulated, the deemed score for 'room-in-roof insulation - residual area uninsulated' should be selected, and the POPT is 100%. Therefore 100% of the deemed score should be claimed.
    - If in the above example the residual area is insulated, the deemed score for 'room-in-roof insulation - residual area insulated' should be selected and the POPT is 100%. Therefore 100% of the deemed score should be claimed.
    - If, in either of the above examples, only 80% of the RIR is insulated, then the POMI is 80%, and therefore the POPT is 80%. Therefore, 80% of the deemed score should be claimed.
  - A property has two roofs, where one is a pitched roof containing a RIR and the other is a flat roof. The total roof area is 100m<sup>2</sup>, of which the pitched roof containing the RIR has a plan area of 64m<sup>2</sup> (this includes any residual areas) and the flat roof has a plan area of 36m<sup>2</sup>. If a supplier installs a RIRI measure, POPT should be calculated by first considering the percentage of the overall roof area which is taken up by the roof containing the RIR – in this case 64%. Then, if any element of the RIR is not insulated, the POPT should be adjusted by that percentage.
    - If in the above example, all elements of the RIR are insulated but the residual area is not insulated, the POMI is 100% and the deemed score for 'room-in-roof insulation – residual area uninsulated' should be selected. As above, the POPT is the percentage of the overall roof area containing the RIR, which is 64%. Therefore 60% of the deemed score should be claimed.
    - If in the above example, the residual area is insulated and all elements of the RIR are insulated, the POMI is 100% and the deemed score for 'room-in-roof insulation – residual area insulated' should be selected. The POPT is 64%, therefore 60% of the deemed score should be claimed.
    - If, in either of the above examples, only 80% of the RIR is insulated, the POMI is 80%. Therefore the POPT is 80% of 64%, which is 51.2% (rounded up to 60%).
- \* The above examples are based on the decision that for measures with a date of completed installation on or after 1 February 2018, suppliers should notify POPT to the nearest 20% increment.

## Heating measure POPT principles

- 7.56. For heating measures, POPT is 100% when the entire property is heated by the new heating measure. If the heating measure does not heat the entire property, the POPT should be adjusted to reflect this.
- 7.57. The percentage determination should be considered in terms of the floor area of the entire property. We expect the property to be adequately heated in line with the relevant standards following the installation of a heating measure.
- 7.58. Multiple main heating systems heating different areas of the property should be considered in the calculation of POPT. 'Secondary heating' of a room which is already heated by a main heating system (eg a gas fireplace in a room primarily heated by radiators connected to a gas boiler) should not be considered.
- 7.59. 100% of the score for a heating measure may only be claimed where the installation provides heating for the entire property.
- 7.60. Where a heating system is being replaced in a property with multiple main heating systems, the score should be calculated by identifying the proportion of the floor area of the property that is being heated by the new system.
- 7.61. If the measure supplies radiator(s) or heater(s) for a room, the measure can be counted as heating the entire room.
- 7.62. Percentage of property treated is not a consideration for heating controls. Suppliers can claim 100% of the score by bringing the property up to standard. A full set of heating controls should include (as a minimum) a timer, a room thermostat and thermostatic radiator valves (TRVs) on all radiators outside of the room that contains the thermostat. Alternatively the requirement can be met with a timer and individual networked radiator controls in each room.

### Examples of calculating POMI and POPT for installation of heating measures

- A mains gas boiler is replaced where 60% of the dwelling is heated by mains gas and 40% is heated by electric storage heaters (ESHs). In this example the percentage of measure installed is 100% and the percentage of property treated is 60%. Therefore, 60% of the gas boiler installation deemed score should be claimed.
- In the above example, if all ESHs are replaced, the percentage of measure installed is 100% and the percentage of property treated is 40%. Therefore 40% of the ESH deemed score should be claimed.

- 7.63. The deemed scores for boiler measures (including heat pumps) assume that

they provide 80% space heating and 20% water heating. In some cases a boiler measure may be installed that is capable of heating the hot water but only provides space heating. In such cases the Percentage of Property Treated must be reduced by 20%.

- 7.64. Where a boiler measure is installed and there are multiple existing heating systems that provide a combination of space and water heating, the supplier should contact us prior to notification to determine the correct Percentage of Property Treated.

## Measure specific guidance

### Solid wall insulation (SWI)

- 7.65. Due to the substantial differences in the thermal conductivity of different solid walls and differences in solid wall insulation installations there are more deemed score options for solid wall insulation than for other ECO measures.
- 7.66. The SWI variants are expressed in terms of U-value change (for example a change in U-value from 2.1 to 0.3 or from 1.7 to 0.55). All of the variants are listed in Table 5. The assumed starting wall U-values are shown in the left hand column and the assumed finishing U-values are shown in the columns on the right. Table 6 shows the thickness of insulation necessary for each finishing U-value to be met.

**Table 5** SWI U-value variants for deemed scores

Starting wall U-value (W/m <sup>2</sup> )	Finishing wall U-value (W/m <sup>2</sup> )				
<b>2.1</b>	0.6	0.35	0.3	0.25	0.18
<b>1.7</b>	0.55	0.35	0.3	0.25	0.18
<b>1.0</b>	0.45	0.32	0.3	0.21	0.17
<b>0.6</b>	0.35	0.3	0.24	0.18	0.15
<b>0.45</b>	0.3	0.21	0.17	0.14	

- 7.67. To select the correct SWI score the starting wall U-value should be determined, using the wall type and approximate age of the property. The correct wall type can be identified in line with paragraph 7.29.



- 7.68. The finishing wall U-value should be determined using the thickness of solid wall insulation installed. Each SWI score in the Deemed Scores Matrix assumes a certain thickness of mineral fibre insulation. However, the thickness required to achieve a specified level of thermal improvement will vary depending on the insulation material used.
- 7.69. Table 6 below outlines the thickness of insulation required to claim the SWI deemed score for different materials. Values have been generated using typical thermal conductivities for each material and rounded up to the nearest 10mm in thickness.
- 7.70. The intention of Table 6 is to show that higher performing materials may not require the same depth of insulation as those outlined in the Deemed Scores Matrix. As such it is not intended to be a definitive guide and the list of materials in this table is non-exhaustive. However, this information should remove the need for bespoke U-value calculations in the majority of cases.

**Table 6** Insulation thickness required to achieve each U-value change (and associated deemed score)

Deemed Score (U-value change)	Minimum thickness (mm) required to achieve U-value change				
	EPS 70, 100, 150	EPS 200	Graphite Enhanced EPS	PIR	Phenolic
<b>2.1 -&gt; 0.6</b>	50	50	40	40	30
<b>2.1 -&gt; 0.35</b>	100	90	80	70	50
<b>2.1 -&gt; 0.3</b>	110	100	90	80	60
<b>2.1 -&gt; 0.25</b>	140	120	110	100	80
<b>2.1 -&gt; 0.18</b>	200	180	160	140	110
<b>1.7 -&gt; 0.55</b>	50	50	40	40	30
<b>1.7 -&gt; 0.35</b>	90	80	70	60	50
<b>1.7 -&gt; 0.3</b>	110	100	90	80	60
<b>1.7 -&gt; 0.25</b>	130	120	110	90	80
<b>1.7 -&gt; 0.18</b>	190	170	150	130	110
<b>1.0 -&gt; 0.45</b>	50	50	40	40	30
<b>1.0 -&gt; 0.32</b>	90	80	70	60	50
<b>1.0 -&gt; 0.3</b>	90	80	70	70	50
<b>1.0 -&gt; 0.21</b>	150	130	120	100	80
<b>1.0 -&gt; 0.17</b>	190	170	150	130	110
<b>0.6 -&gt; 0.35</b>	50	50	40	40	30
<b>0.6 -&gt; 0.3</b>	70	60	50	50	40
<b>0.6 -&gt; 0.24</b>	100	90	80	70	50
<b>0.6 -&gt; 0.18</b>	150	140	120	110	90

<b>0.6 -&gt; 0.15</b>	190	170	150	130	110
<b>0.45 -&gt; 0.3</b>	50	40	40	30	30
<b>0.45 -&gt;0.21</b>	100	90	80	70	60
<b>0.45 -&gt;0.17</b>	140	130	110	100	80
<b>0.45 -&gt;0.14</b>	190	170	150	130	110

- 7.71. The minimum thickness values in Table 7 relate to the insulation product alone. We are aware that the entire insulation system is likely to require additional elements, such as render finish and so the final thickness of the system may be greater than the associated value in the table.
- 7.72. In certain situations, suppliers may wish to calculate the U-value of the wall following the installation (rather than using the insulation thickness) to select the appropriate deemed score. Where the post-installation U-value is different to the U-values in the Deemed Scores Matrix, the score can be selected based on the nearest U-value to that achieved by the installation. For example where the starting U-value is 1.8 and the finishing U-value is 0.5 the value for a U-value change of 1.7 to 0.55 should be selected. Suppliers should contact us prior to using this approach.
- 7.73. Where the property has multiple types of wall that are treated by solid wall insulation these should be notified as separate measures. For example if the entire property is treated with SWI, but half is brick and half is non-brick, this should be notified as two separate measures with different percentages of property treated and both with 100% percentage of measure installed. The total percentage of property treated should not exceed 100%.

### Cavity wall insulation (CWI)

- 7.74. There are currently three variants for CWI measures, which are shown in Table 8. For each CWI product the correct thermal conductivity should be selected. This information should be available on the product's test certificate.
- 7.75. Where the thermal conductivity does not match one of the three given variants the variant type is selected using Table 7.

**Table 7** Thermal conductivity for CWI





<b>Cavity Wall Insulation – All values given in units of W/mK</b>	
<u>Thermal conductivity deemed scores input value</u>	<u>Associated range of thermal conductivity for products</u>
0.04	0.045 - 0.035
0.033	0.034 - 0.029
0.027	= < 0.028

### Party cavity wall insulation (PCWI)

- 7.76. A party wall measure can be claimed for each property adjacent to any walls that are treated, as long as all other eligibility criteria are met for all premises. The installer must obtain the necessary consent from all properties adjacent to the wall before the measure is carried out.
- 7.77. As with all measures, 100% of the measure should be installed unless there are reasonable grounds for not doing so. When claiming for multiple adjacent party wall measures, suppliers should ensure that all the party walls in each property are treated, unless there are reasonable grounds for not doing so. For clarity, if consent cannot be obtained this would be reasonable grounds for not completing 100% of the measure.
- 7.78. If all the party walls in a property are treated this counts as both 100% for percentage of measure installed as well as 100% of property treated.
- 7.79. The below examples of PCWI installations show how the percentage of measure installed changes depending on the number of party walls which have been insulated. This determination impacts the scoring of the measure. If suppliers are unsure as to how much of the score to claim they should contact us prior to notification of the measure.

Examples of calculating the percentage of property treated for ECO PCWI measures:

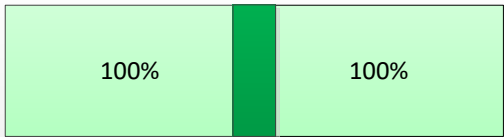
Key:

	= Property with PCWI installed		= Property that does not have PCWI installed		= Insulated Party Wall		= Not Insulated Party Wall
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% = The percentages represent the POMI and (unrounded) POPT that would be claimed for each property


Where the coloured blocks meet the grey background these represent external walls

Example 1:



If there is a property either side of the party wall, then a PCWI measure can be claimed for each property.

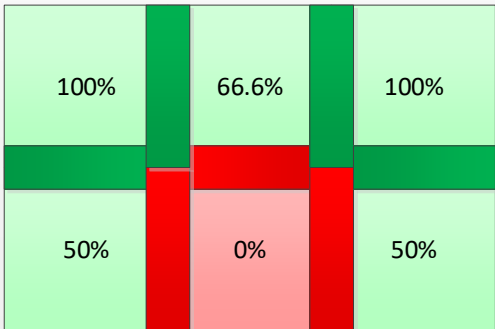
Example 2:

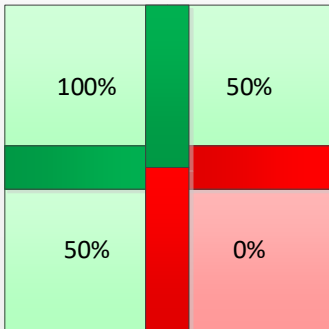


For multiple connected properties, if one property does not have party wall insulation installed, the surrounding properties can still claim a part of a PCWI measure.

POMI and POPT are the same value for the different properties in these three scenarios.

For ease, all party wall areas shown here are assumed to be equal



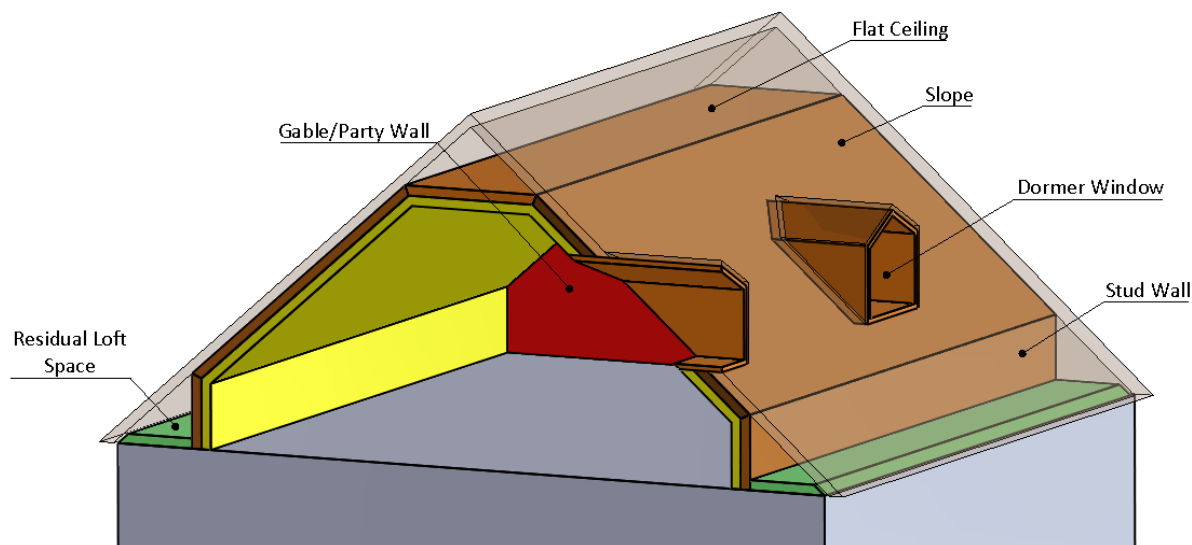


### Room-in-Roof insulation (RIRI)

- 7.80. The RdSAP convention on 'Roof room/Attics' should be used to determine whether an area is a room-in-roof or a separate storey.<sup>125</sup> This states that for a room-in-roof to be classed as such and not as a separate storey, the height of the common wall must be less than 1.8m for at least 50% of the common wall (excluding gable ends and party walls).
- 7.81. Where a flat is entirely contained within a room-in-roof, a RIRI measure can be claimed for insulating the relevant elements.
- 7.82. 100% of a RIRI measure includes, where present, the stud wall, sloping ceiling, flat ceiling, dormer windows, party walls and gable walls. As with all measures, 100% of the measure must be installed unless there are reasonable grounds for not doing so.
- 7.83. The party wall always counts towards the POMI and POPT. However, where it is a solid wall adjacent to a heated space, this would be accepted as reasonable grounds for not completing 100% of the measure (ie it could be left uninsulated, but the POMI and POPT would need to be reduced accordingly).
- 7.84. Room-in-roof insulation has two measure variants relating to residual loft space: residual area insulated and residual area uninsulated. The residual area is defined as the loft area in the same continuous air space as the room-in-roof. In Figure 3, it is the area highlighted green, behind the stud walls.
- 7.85. For clarity, insulation of the residual loft area should be completed to the same building regulations standards as a typical loft insulation measure.
- 7.86. Any pipework in the residual area should always be insulated where appropriate and this will be checked during a technical monitoring inspection.

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<sup>125</sup> See topic 2.06 in <https://www.bre.co.uk/filelibrary/SAP/2012/RdSAP-Conventions.pdf>



**Figure 3** Areas in a room-in-roof

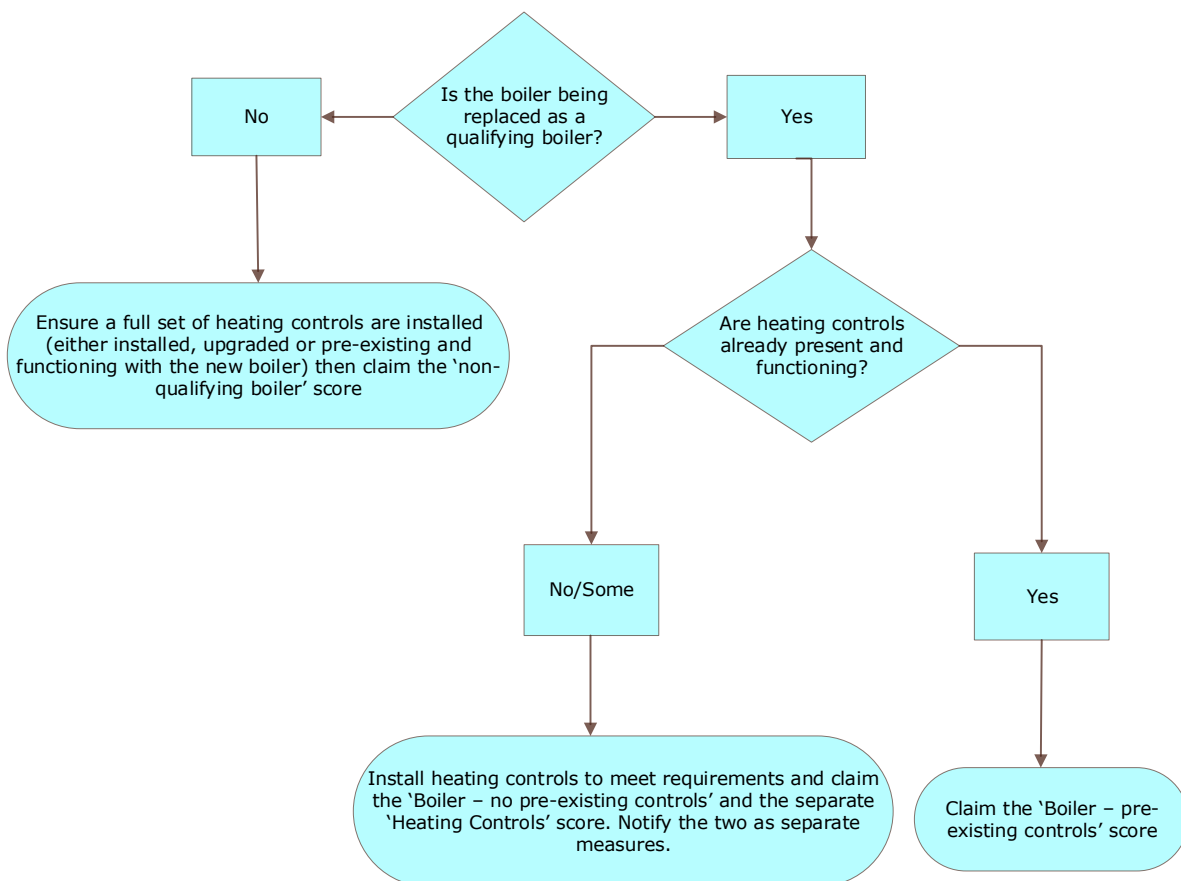
### Boilers and heating controls

- 7.87. There should always be a full set of functioning heating controls in the property following a boiler installation. The requirement for heating controls is that they should include (as a minimum) a timer, a room thermostat and thermostatic radiator valves (TRVs) on all radiators outside of the room that contains the thermostat. Alternatively the requirement can be met with a timer and individual networked radiator controls in each room.
- 7.88. In some cases it may not be necessary for a TRV to be fitted to a heated towel rail in a bathroom. A suitably qualified operative should determine this on a case by case basis. In such cases, a full set of heating controls can still be claimed subject to all other relevant standards being met.
- 7.89. The method for selecting the appropriate score(s) for different scenarios is listed below. The selection process is additionally shown in a flowchart in Figure 4.
- a) **Where a full set of heating controls is installed but no boiler is replaced or repaired**, suppliers should claim the heating controls score.
  - b) **Where a qualifying boiler replacement or repair is carried out and a full set of heating controls are already present** and functioning before the work and remain present and functioning after the work, suppliers should claim the 'Boiler – pre-existing controls' score.
  - c) **Where a qualifying boiler replacement or repair is carried out, there are no heating controls present, and a full set of heating controls are installed** and functioning, suppliers should claim the 'Boiler – no pre-existing controls' score for the boiler measure **and** the Heating Controls score, and notify these as separate measures.
  - d) **Where a qualifying boiler replacement or repair is carried out and**

**heating controls that do not meet the requirement are already present** and the supplier installs further heating controls to meet the requirement, suppliers should claim the 'Boiler – no pre-existing controls' score for the boiler installation **and** the Heating Controls score, and notify these as separate measures.

- e) **Where a non-qualifying boiler replacement is carried out**, suppliers should only claim the non-qualifying boiler score in all cases, regardless of whether there are pre-existing heating controls or not. The required heating controls must be either pre-existing or must be installed in line with our requirements. For clarification, where heating controls are installed they cannot be claimed as a separate measure, as they are already accounted for within the boiler score.

7.90. The flowchart in Figure 4 below demonstrates how the correct boiler and heating controls score should be selected for boiler replacements.



**Figure 4** Flowchart for selecting boiler and heating controls scores

#### Electric Storage Heaters (ESH/QESH)

7.91. To claim 100% of an electric storage heater (ESH) or qualifying electric storage heater (QESH) score, all electric storage heaters in a property must be replaced or removed and the entire property should be adequately heated. ESHs may not

always need to be replaced on a one-for-one basis, or on a one per room basis. The number, size and placement of the electric storage heaters should be selected based on the heating requirements of the specific property. This may mean installing more or fewer electric storage heaters than were previously present, to adequately heat the entire property. A suitably qualified operative should use the appropriate industry and manufacturer guidelines to determine if the installation will adequately heat the entire property.

- 7.92. Where an ESH being repaired or replaced meets the definition of a 'qualifying electric storage heater' (QESH)<sup>126</sup> and, in the case of the replacement, is being replaced by an ESH, the relevant QESH score can be claimed.
- 7.93. Where there are multiple electric storage heaters and only some are qualifying (for example because some have a responsiveness over 0.2), two separate measures should be claimed. Both measures should have a reduced POPT. In a scenario where 3 out of 5 ESHs (all of which heat an equal area of the property) are qualifying and all 5 are replaced, the POPT for the QESH measure would be 60% and the POPT for the ESH measure would be 40%.
- 7.94. There are three categories of electric storage heaters (ESH) in the deemed scores: slimline, fan storage, and high heat retention. Where there is uncertainty as to which category a certain ESH falls into then the manufacturer should be contacted to ensure that the correct score is claimed.
- 7.95. 'Slimline' electric storage heaters cover all the basic slimline ESH models; SAP codes: 402, 403, 405, 406<sup>127</sup>.
- 7.96. 'Fan storage' electric storage heaters, also known as fan-assisted storage heaters, contain a fan-assisted heat emitter. This enables greater control over the release of the heat stored. This category also includes 'integrated storage+directing-acting' heaters; SAP codes: 404, 407, 408.
- 7.97. 'High heat retention' electric storage heaters deliver the highest savings. To claim this score, suppliers should ensure that the heater meets the current SAP definition; SAP code: 409.

### Solar photovoltaics (Solar PV)

- 7.98. Many variables can have an effect on the efficiency of the solar PV measure, such as the kilowatts peak (kWp) of the system installed. Suppliers must contact us prior to the delivery of solar PV measure to ensure that the deemed score is adjusted appropriately.

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<sup>126</sup> See Appendix 3 for information on qualifying electric storage heaters.

<sup>127</sup> Listed in table 4a (page 204) of SAP 2012: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf)



## Extensions

- 7.99. ECO measures cannot be delivered to unfinished extensions. If a measure is installed to a property that has an unfinished extension then the measure can only be claimed for the existing part of the property. The percentage of property treated must be reduced accordingly.
- 7.100. As an example, where flat roof insulation is installed to a property with a flat roof, but 20% of the roof area is part of unfinished extension, the percentage of property treated must be reduced by 20%.

## Delivery of multiple measures to a single property

- 7.101. For the majority of measures scored using the Deemed Scores Matrix, measures always have the same score regardless of the order in which measures are installed.
- 7.102. However, some heating measure installations may result in a change to the main heating source of the property. The variables selected for calculating savings should always account for the likely performance of the measure. Therefore where the main heating source is changed and one or more insulation measures are also installed as part of a single project, the score for the insulation measure(s) should reflect the new heating source.
- 7.103. As an example, during a single project where loft insulation is installed and an existing oil boiler is replaced with a gas boiler, the gas boiler score should reflect that it is replacing an oil boiler. However the loft insulation score should reflect that it is being installed in to a property with a gas boiler, as this is the new heating source which will be present during the lifetime of the loft insulation. This example applies regardless of the order in which the measures were installed.

## 8. SAP/RdSAP and other scoring information

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- 8.1. This chapter provides background information which shows how the lifetime deemed scores have been calculated. Additionally it provides information on the Standard Assessment Procedure (SAP) and the Reduced Data Standard Assessment Procedure (RdSAP) which must be used to score District Heating System (DHS) measures. DHS measures can also be scored using an appropriate methodology.<sup>128</sup> This chapter covers:
- a) SAP/RdSAP
  - b) district heating systems (DHS)
  - c) Energy Performance Certificates
  - d) calculating carbon savings, and
  - e) calculating cost scores.

### SAP and RdSAP

- 8.2. SAP is a methodology developed by the BRE, on behalf of the government, to calculate the energy and environmental performance of dwellings. RdSAP is a simplified version of SAP that requires fewer data inputs. These methodologies were used to calculate the deemed scores and should be used to calculate the scores for District Heating System (DHS) measures.
- 8.3. When calculating savings using SAP or RdSAP, software must be approved by the Department for Communities and Local Government (in England and Wales) or the Building Standards Division (in Scotland). A list of approved software is available on the BRE website.<sup>129</sup>
- 8.4. To calculate savings for a measure through SAP or RdSAP, a supplier must first assess the performance of the premises without the measure ('before'), and then assess the performance of the premises with the measure ('after'). The savings are the difference between the before and after cases.
- 8.5. When using SAP or RdSAP to calculate savings, suppliers must follow the guidelines for the use of those methodologies unless our guidance specifically states otherwise. When using SAP and RdSAP, suppliers must ensure they take the following into account:
- a) **Location** – savings must be calculated using the appropriate weather region, where the methodology allows
  - a. **Occupancy assessment** – suppliers should not calculate savings for

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<sup>128</sup> See paragraphs 6.29-6.33 of this guidance

<sup>129</sup> For SAP/RdSAP 2012: <http://www.bre.co.uk/sap2012/page.jsp?id=2759>.

measures in the 'occupancy assessment' mode

- b. **Product Characteristics Database (PCDB)**<sup>130</sup> – this is updated every month and contains information such as up-to-date boiler efficiencies and fuel prices for use in conjunction with SAP or RdSAP. Fuel prices in the PCDB change every six months and savings must be calculated using the PCDB which was valid at the time of either initial assessment or installation. When 'before' and 'after' cases are used to calculate savings, they must both use the same PCDB, and
- c. **Percentage of the measure installed** – calculations for partial installations can be carried out using any method that forms part of SAP/RdSAP standard practices.

## District heating systems (DHS)

- 8.6. A district heating system (DHS) is a system that delivers heat through pipes or conduits to two or more domestic premises.<sup>131</sup> Please refer to Chapter 3 for more information relating to DHS, including the pre-conditions, before proceeding with DHS scoring.
- 8.7. Savings for DHS measures should be calculated using SAP/RdSAP.
- 8.8. When installing DHS measures under CERO and HHCRO Social E, F or G, the insulation pre-conditions must be satisfied prior to installation.<sup>132</sup> When calculating savings for a DHS measure, the calculations should take account of the pre-existing insulation.
- 8.9. Where multiple measures are installed alongside a DHS measure only the DHS measure should be scored using SAP/RdSAP. For all other measures the appropriate deemed score should be selected. Refer to paragraph 7.101 for more information on multiple measures.

## Calculating the lifetime for a multi-fuel upgrade to a DHS connection

- 8.10. Where a multi-fuel upgrade of a district heating system (DHS) connection consists of heat generating technologies with different lifetimes, the formula below should be used to calculate the lifetime of the upgrade.
- 8.11. The formula takes into account the proportion of heat supplied by each heat

<sup>130</sup> See: <http://www.ncm-pcdb.org.uk/sap/searchpod.jsp?id=17>.

<sup>131</sup> Article 2(1) of the ECO2 Order.

<sup>132</sup> For more information on DHS preconditions see , paragraph 3.26 - 3.53.

generator to calculate a weighted lifetime.

$$L = (A * X) + (B * Y)$$

Where:

'L' is the weighted lifetime for the district heating system

'A' is the upgrade lifetime for heat generator A

'X' is the proportion of heat supplied by heat generator A

'B' is the upgrade lifetime for heat generator B

'Y' is the proportion of heat supplied by heat generator B

8.12. An alternative approach that weights the lifetime according to the proportion of carbon savings each heat generator is responsible for is also available. Where a supplier would prefer to use this approach they should contact us for more information.

## Scoring using Energy Performance Certificates

8.13. Suppliers may choose to use the inputs used to produce an Energy Performance Certificate (EPC) as the basis of the SAP or RdSAP savings calculation for a DHS measure.

8.14. However, suppliers will not be able to use the estimated savings identified on an EPC. This is because the savings do not meet one or more of our requirements, which are:

- a) to calculate savings to a specified number of decimal places
- b) to provide measure-by-measure savings, and
- c) to calculate savings for measures in the order they are installed.

8.15. If score monitoring or an audit of a premises shows that information derived from an EPC and entered into a SAP or RdSAP calculation was inaccurate (with respect to the actual characteristics of the premises), we will treat this as a score monitoring or audit fail.

8.16. We are aware that there are existing guidelines in England and Wales for using a sample of EPC assessments to create EPCs for dwellings of a similar type and construction ('sampling' or 'cloning'). When deciding whether or not to use sampling, suppliers should note that, as above, if score monitoring or an audit of premises shows that information derived from sampling and entered into a SAP or RdSAP calculation was inaccurate, we will treat this as a score monitoring or

audit fail.

- 8.17. Where the inputs to a lodged EPC have been used for the RdSAP calculation, this will provide additional assurance that the savings have been calculated using accurate input data. Where the EPC has not been lodged or where a calculation is not done by an accredited SAP/RdSAP assessor, we may increase the size of the sample monitored. Therefore we encourage suppliers to use accredited SAP/RdSAP assessors to do calculations and to lodge EPCs where the inputs are used to calculate savings.

## Carbon savings

- 8.18. When notifying CERO measures, suppliers must provide the carbon saving for each measure. The carbon saving is the tonnes of carbon dioxide (tCO<sub>2</sub>) saved at domestic premises over the expected lifetime of a measure. Various multipliers are applied, as outlined below.
- 8.19. Lifetime carbon scores for most measure types are provided in the Deemed Scores Matrix. These include the multipliers outlined below. The sections in this chapter are provided for information and demonstrate the formulae that were used to calculate the deemed scores. There are instances where suppliers must use SAP or RdSAP to calculate scores for measures (such as for DHS measures). In these instances suppliers should follow this guidance to calculate measure savings.
- 8.20. To calculate a lifetime score, the annual carbon saving should be determined and then the weighted average factor, the lifetime and relevant in use factor (IUF) should be applied.

## Weighted average factor

- 8.21. The ECO scheme's carbon reduction targets are measured in CO<sub>2</sub>; however, SAP and RdSAP 2012 provide emissions in terms of carbon dioxide equivalent (CO<sub>2</sub>e). It is therefore necessary to convert CO<sub>2</sub>e to CO<sub>2</sub> when calculating savings using SAP or RdSAP.
- 8.22. This conversion is done by applying a weighted average factor of 0.925<sup>133</sup> to the annual carbon saving calculated; it is not applied to cost savings.
- 8.23. At notification, suppliers should only provide the carbon saving in CO<sub>2</sub>. We do not require suppliers to notify the CO<sub>2</sub>e saving to us.

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<sup>133</sup> DECC's response to the discussion paper on converting SAP/RdSAP 2012 CO<sub>2</sub>e to SAP/RdSAP 2009 CO<sub>2</sub>:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/359744/Government\\_Response\\_on\\_ECO\\_Conversion\\_Factor.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/359744/Government_Response_on_ECO_Conversion_Factor.pdf).

## In-use factors

- 8.24. An in-use factor (IUF) is the percentage by which annual savings determined using SAP/RdSAP should be reduced to reflect the likely in-situ performance (as opposed to theoretical performance) of an energy efficiency measure.<sup>134</sup> This factor is already applied in the lifetime deemed scores but should be applied to any savings calculated using SAP/RdSAP (eg district heating system measures). IUFs are only applied to carbon savings.
- 8.25. The IUFs for most measures are shown in Appendix 5. Any measure not listed in this table has an IUF of 15%.
- 8.26. The IUF for solid wall insulation depends on the age and construction type of the building.

## Formula for calculating a lifetime carbon saving

- 8.27. The formula below shows how to calculate the lifetime savings for carbon scores calculated using SAP/RdSAP:

The following formula is used to calculate a lifetime carbon saving using SAP/RdSAP 2012:

$$(A - (A \times B)) \times 0.925 = \text{lifetime carbon saving (tCO}_2\text{)}$$

Where:

'A' is the lifetime CO<sub>2</sub>e saving (ie the annual saving multiplied by the measure lifetime, in years);

'B' is the in-use factor of the measure (by percentage)

AND

**0.925** is the weighted average factor

- 8.28. Rounding should occur in line with paragraph 6.51.

## Cost scores

- 8.29. When notifying HHCRO measures, suppliers must provide the lifetime cost score for each measure. The lifetime cost score is the total contribution that a measure makes towards a supplier's HHCRO.
- 8.30. Lifetime cost scores for most measure types are provided in the Deemed Scores

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<sup>134</sup> Variable such as comfort taking by the household (ie where some households may choose to heat their homes to a higher temperature), and obstructions to the installation are not taken into account in the ECO in-use factors.

Matrix. The sections in this chapter are provided for information and demonstrate the formulae that were used to calculate the deemed scores. There may be instances where we instruct suppliers to use SAP or RdSAP to calculate scores for measures (such as for DHS measures). In these instances suppliers should follow this guidance to calculate savings.

- 8.31. To calculate a lifetime score a supplier must first take the annual cost saving and then apply the lifetime and the relevant HHCRO multiplier, where applicable, for that measure.

## General cost score methodology

- 8.32. This methodology has been used to calculate the lifetime deemed cost scores for all HHCRO measures except qualifying boilers<sup>135</sup> and qualifying electric storage heaters.<sup>136</sup>

### Methodology 1: General cost score methodology

The following formula is used to calculate a lifetime cost saving using SAP/RdSAP 2012:

$$(S \times L) \times RHM = \text{lifetime cost score (£)}$$

Where:

'S' is the deemed score annual cost saving

AND

'L' is the lifetime of the measure

AND

'RHM' is the relevant HHCRO multiplier<sup>137</sup>

- 8.33. Rounding should occur in line with paragraph 6.51.

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<sup>135</sup> See Appendix 3.

<sup>136</sup> See Appendix 4.

<sup>137</sup> Articles 19 and Article 23 of the ECO2 Order.

## Relevant HHCRO multipliers (RHMs)

8.34. For certain HHCRO measures a relevant HHCRO multiplier (RHM) has been applied as part of the cost score calculation. Depending on the type of measure and/or the type of premises, the RHM may result in an increased or reduced cost score. There are two types of RHMs:

- a. **the non-gas uplift:** where a measure is installed at non-gas fuelled premises, the measure may receive an increased cost score.<sup>138</sup>
- b. **the qualifying boiler deflator:** where a mains gas fuelled qualifying boiler is being replaced by another mains gas fuelled boiler, the cost score for that measure is reduced by 20%.<sup>139</sup> The RHM for such a measure is 0.80.

8.35. Measures which receive an RHM are outlined in Table 8 below.

8.36. Further information on identifying and evidencing non-gas fuelled premises is provided in Chapter 5.

**Table 8** Relevant HHCRO multipliers (RHMs)

Measure	RHM
Insulation measures (installed at a non-gas property)	1.35
Repairs of qualifying boilers (installed at a non-gas property)	1.45
Replacements of qualifying boilers by heating measures other than ESHs (installed at a non-gas property)	1.45
The replacement of a mains gas fuelled qualifying boiler with another mains gas fuelled boiler	0.8

<sup>138</sup> Article 23 of the ECO2 Order.

<sup>139</sup> Article 21 of the ECO2 Order.



## 9. Notification of completed measures

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- 9.1. For a supplier to achieve its obligations, once a measure is installed it must be notified to us by that supplier. We use the information provided at notification to determine whether or not we will approve a measure. This chapter explains the following:
- a) when measures must be notified to us
  - b) how measures should be notified
  - c) what information must be notified for each measure
  - d) what happens when a successful notification contains errors
  - e) our approach to late measures, and
  - f) information processing.
- 9.2. A simple overview of the pathway an ECO measure follows, from installation to approval, can be found on our website.<sup>140</sup>

### When a supplier must notify us of completed measures

- 9.3. Suppliers must notify us of completed measures by the end of the month following the month in which installation of a measure was completed. For example, if a measure is completed in August 2017, its notification deadline is 30 September 2017.<sup>141</sup>

### When is installation of a measure complete?

- 9.4. The installation of a measure is deemed to be complete on the date it can deliver savings at a level expected for that measure. This will normally be the date on which the installer finishes work on the measure.
- 9.5. However, for the purpose of monthly notification we will generally consider the measure to be complete on the date on which it is effectively handed over to the occupant of the premises or, if unoccupied at the time of handover, to the landlord.

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<sup>140</sup> See:

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-eco2t-toolkit>.

<sup>141</sup> Article 17 of the ECO2 Order.

- 9.6. For measures installed in accordance with PAS 2030<sup>142</sup>, the meaning of handover is defined within that specification.<sup>143</sup> The date of handover must be specified in the Declaration of Conformity.<sup>144</sup>
- 9.7. For measures that do not need to be installed in accordance with PAS, or if no Declaration of Conformity is produced, the date of handover will be the date on which:
- a) work on the installation of the measure is finished, and
  - b) any relevant information or documents relating to operating and maintaining the measure are provided to the consumer.
- 9.8. In this case, a declaration of completed installation should be obtained instead.<sup>145</sup> We expect handover to take place within four calendar weeks of the installer finishing work on each measure. However, we understand this may not be feasible where a particular type of measure is installed in multiple premises, where those premises are owned by the same landlord. For example, a block of flats, a row of houses, or where flats and/or houses are on the same estate.
- 9.9. In these circumstances the installer may hand over to the landlord or its agent (rather than to the tenants of the premises) and may do a single handover for all measures installed of that type. Therefore, all the measures of that type can be notified in the same monthly notification because all the measures will have the same handover date. We expect handover to take place within four weeks of the installer finishing work on the last measure.
- 9.10. Suppliers must be able to evidence the date on which a measure was completed. The documentation a supplier must be able to make available on request to do this is explained in Appendix 1.

## Notifying a completed measure

- 9.11. Suppliers must use the notification template<sup>146</sup>, in accordance with the formatting prescribed in the data dictionary, when notifying us of a completed measure. Installers can familiarise themselves with the format and type of data required in the notification template to ensure they understand what we require of suppliers for notifications to be successful. The data dictionary is a reference tool for completing the notification template.<sup>147</sup>

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<sup>142</sup> See paragraphs 2.45 to 2.46 for information on which version of PAS to refer to.

<sup>143</sup> Paragraph 4.12 of PAS 2030:2014 and paragraph 4.2.6 and 5.8.1 of PAS 2030:2017.

<sup>144</sup> Chapter 7, PAS 2030:2014 and Chapter 8 of PAS 2030:2017.

<sup>145</sup> The declaration must be signed by the occupant, or if unoccupied, the landlord, to confirm the date on which the installer finished work on the installation of the measure as well as the date the measure was handed over.

<sup>146</sup> See <https://www.ofgem.gov.uk/publications-and-updates/eco2t-notification-template>.

<sup>147</sup> See <https://www.ofgem.gov.uk/publications-and-updates/eco2t-data-dictionary>.

- 9.12. Suppliers must include all the information as listed in the notification template. Suppliers provide this information to us securely through the ECO Register<sup>148</sup>, which is used to notify measures.
- 9.13. If the information in the notification template is incomplete, the measure can still be notified. However, we are unable to process that measure until the information is complete and, in some cases, we may refuse or revoke approval of a measure if the supplier is not able to provide the required information.
- 9.14. We will review each measure that is successfully notified to us and will inform suppliers of our decision to approve or refuse the savings for that measure.<sup>149</sup> We may require a supplier to clarify the information notified, or provide further information for a notification, before we can make a decision regarding the notified measure.
- 9.15. We intend to process notified measures in a reasonable timeframe (usually one month). Suppliers can use the ECO Register to check the status of a measure, including which measures are being processed, which are on hold and which have been approved or had approval refused or revoked. Our ability to process measures will depend on the quality and completeness of the information provided at notification.
- 9.16. Once we are satisfied that the information notified is correct, all relevant fields of the notification template are complete and the eligibility criteria are met, we will approve the measure in the ECO Register.
- 9.17. Where a measure does not meet the relevant eligibility criteria we will refuse to approve or revoke approval of that measure.
- 9.18. It is the responsibility of each supplier to ensure that the information contained in all notifications is true and to manage any third parties involved in the delivery of ECO measures.
- 9.19. Errors in the notification of a completed measure may lead us to refuse or revoke approval of a measure and may lead to enforcement action.
- 9.20. Where the results of any of our checks show that completed measures are not eligible ECO measures we may refuse or revoke approval of those measures. To demonstrate the eligibility of these measures suppliers may need to collect more data from the supply chain. Suppliers should ensure that they can readily access the relevant data and documents and provide them within a reasonable timeframe. Once suitable evidence of sufficient quality is provided we will process these measures within a reasonable timeframe. Where such evidence is

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<sup>148</sup> See: <https://eco.ofgem.gov.uk/Logon/LogOn?ReturnUrl=%2f>. Please note, only obligated suppliers have login access to the ECO Register.

<sup>149</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-notifying-supplier-decision-refuse-or-revoke-approval-measure>.

not provided we may refuse or revoke approval of those measures.

- 9.21. Where we revoke or refuse approval of a measure, we will inform the supplier in writing. Our decision notice will provide details, including the measure reference numbers and reason, for our decision.

## **Notifying late measures**

- 9.22. Where a supplier notifies measures after the notification deadline, these can be resolved in two ways:

- a) for a maximum of 5% of measures, the notification deadline can be automatically extended for up to three months, or
- b) a supplier can apply for an extension to the notification deadline.

### **Automatic extensions for 5% of measures**

- 9.23. Up to 5% of the number of measures installed in a particular calendar month, and notified on time, can 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 are given this automatic extension.
- 9.24. Where the number of late measures notified exceeds the 5% threshold, these measures will be flagged and an extension request must be submitted.
- 9.25. Where a supplier exceeds the 5% automatic extension quota in a single month's notification (ie where there is no distinction between which measures were notified before or after the 5% threshold) these measures will be flagged to the supplier. The supplier must provide us with an initial indication of which measures they wish to be included in the automatic 5% and which will be subject to an extension request within 15 working days of the measures being returned to them.

### Determining if measures fall within a supplier's 5% automatic extension quota

- 9.26. Below is the formula for determining whether measures can be notified within a supplier's automatic extension quota. A late measure falls within a supplier's quota if at the time the measure is notified, the result of the following calculation is less than or equal to 0.05. The calculation uses figures for measures installed in the same month, and is calculated on a group company level.

$$\frac{A - B}{C}$$

Where:

**A** is the total number of late measures notified

**B** is the number of measures included in an approved extension request that were notified after the original deadline but within the agreed extended period.

**C** is the number of measures which were notified by the supplier on time

- 9.27. Where a supplier notifies a late measure that is included in an approved extension request, the measure would not be included in the automatic 5% allowance for that particular month.

#### *Example*

Supplier A notifies 3,000 measures with a notification month of October 2017 on time. This would allow supplier A to notify 150 measures in the three months from November 2017 up to (but not including) February 2018, without needing an extension request

In November 2017, Supplier A submits 140 measures with a notification month of October 2017. These measures are included in the automatic 5% and processed as normal.

In December 2017, Supplier A submits a further 50 measures with a notification month of October 2017. As these take supplier A over its automatic extension quota, all 50 of these measures are returned to the supplier.

Supplier A then decides which of these 50 measures it wants to include in the automatic 5% (a maximum of 10) and for which it will submit an extension request. Any subsequent measures notified with a notification deadline of October 2017 will require an extension request.

- 9.28. The 5% calculation is undertaken at the time of monthly measure processing by Ofgem.

- 9.29. Late measures are attributed to the supplier that originally notified the measure, and will continue to form part of that supplier's automatic extension quota. Where a supplier accepts a transfer containing late measures without an extension request, these measures will not be included in the receiving supplier's automatic extension quota for the relevant notification period. Transferring measures does not affect the automatic extension quota for the original supplier that notified the measure.
- 9.30. The 5% automatic extension quota is calculated on a group company level (ie not a licence level).
- 9.31. For measures to be included in a supplier's automatic extension quota they must be notified by the earlier of:
- a) the end of the fourth calendar month after the calendar month the measure was completed, or
  - b) the end of December 2018.

### **Applications for an extension to the notification deadline**

- 9.32. Suppliers can apply to us for an extension to the notification deadline for a completed measure. The application must be in writing and must explain why the extension is being requested. The reason should be supported by evidence.
- 9.33. Once a supplier becomes aware that it has, or will, fail to notify a measure by the notification deadline it should take all reasonable steps to ensure that the measure is notified as soon as possible. We cannot guarantee that an extension request will be approved.
- 9.34. Suppliers seeking an extension should submit a request using the 'Application for Extension' template.<sup>150</sup> Any relevant supporting evidence, such as emails, screenshots or other correspondence should be sent to us at the same time as the extension request. We will process extension requests within a reasonable timeframe, where sufficient evidence is provided.
- 9.35. We are not obliged to grant an extension to suppliers and we will consider each application on an individual basis. We will grant an extension to the notification deadline if a supplier satisfies us that there is a reasonable excuse for missing the notification deadline. Further information about what is a 'reasonable excuse' is provided below.

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<sup>150</sup> Suppliers can obtain this template on request. Please contact the ECO Team: [eco@ofgem.gov.uk](mailto:eco@ofgem.gov.uk).

## Reasons for an extension request

9.36. A reasonable excuse is an unexpected or unusual event that:

- a. is either unforeseeable or beyond the supplier's control, and
- b. prevents the supplier from notifying a measure by the notification deadline.

9.37. We will judge the actions of a supplier from the perspective of a prudent supplier exercising reasonable foresight and due diligence, and having proper regard for its responsibility under the ECO2 Order.

9.38. If a supplier relies on a third party to provide the information needed to notify a completed measure, the supplier is responsible for ensuring that party carries out its task correctly. We expect the supplier to take reasonable care to explain to the third party what it requires them to do and to set deadlines for the task. We expect the supplier to have processes in place for eliminating or mitigating any risk of the third party failing to carry out its task correctly or within the agreed deadlines.

9.39. Where similar issues are raised more than once by the supplier as a reason for a delay in measure notification, this may not satisfy our requirements for granting an extension. A supplier is expected to make the necessary updates to its processes to ensure issues are not repeated.

9.40. As each extension request is considered on a case-by-case basis, we do not intend to provide an exhaustive list of eligible reasons for extension.

## Determining the period of extension

9.41. If we are satisfied that an event occurred that gives a supplier reasonable excuse for failing to notify a measure by the notification deadline, we will expect the supplier to take all reasonable steps to submit the notification at the earliest possible time. We will grant an extension to this point in time.

## Fair processing

9.42. When fulfilling its ECO2 obligations, a supplier may obtain information about the occupant or landlord of the premises. Some of this information will need to be provided to us either as part of the monthly notification or in the course of our audits. In addition, in the course of the transfer of a qualifying action, one supplier will disclose this information to another supplier.

9.43. A supplier should ensure that its processing of this information complies with all applicable data protection laws. A supplier should also ensure that any member

of the supply chain acting on its behalf complies with the data protection laws.

- 9.44. In particular, it is the responsibility of a supplier to ensure the person who lives at the premises (or if it is vacant, the landlord) where the ECO measure is delivered knows how and why their information will be processed, including who the information will be disclosed to and for what purpose. This includes telling them that their data will be shared with us.
- 9.45. In general, the Data Protection Act 1998, or the General Data Protection Regulation, (when in force) requires anyone collecting personal data to give the data subject (ie in the case of ECO the occupant or the landlord) a Notice of Fair Processing, also known as a Privacy Notice.
- 9.46. So that we are able to process the data that suppliers provide, we require suppliers to provide the occupant or landlord under ECO2 with the ECO2t Consent Statement and Privacy Notice Document, available on our website.<sup>151</sup> Please note that this is an ECO Reporting Working Group document and not an Ofgem document.
- 9.47. The Privacy Notice will be subject to review as part of Ofgem's preparation for the General Data Protection Regulation (GDPR) coming into force. Full details of Ofgem's ECO Privacy Policy can be found on our website.<sup>152</sup>
- 9.48. The wording in the Privacy Notice is intended to discharge some of our obligations under the Data Protection Act 1998, or the GDPR (when in force). It is not intended, and should not be relied on, to discharge suppliers' obligations for that legislation or other data protection laws. Further guidance on what information Fair Processing Notices should contain can be found on the Information Commissioner's Office website.<sup>153</sup>

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<sup>151</sup> The Privacy Notice is included in the ECO2t consent and privacy notice, which is published as an ECO Reporting Working Group Document: <https://www.ofgem.gov.uk/publications-and-updates/eco-reporting-working-group-eco2t-standardised-templates>.

<sup>152</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-privacy-policy>

<sup>153</sup> See: <http://ico.org.uk/>



## 10. Technical monitoring, score monitoring, audit and fraud prevention

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- 10.1. We carry out various checks to ensure that the relevant eligibility requirements have been met and that the savings reported by suppliers are accurate. These include monitoring the quality of installation and the accuracy of scores (technical and score monitoring respectively). We also conduct audits of the measures notified to us by suppliers and have a counter fraud team that works to detect, prevent and deter fraudulent activity.
- 10.2. Technical monitoring verifies whether a measure has been installed to the relevant installation standards by a person of appropriate qualification and expertise.
- 10.3. Score monitoring verifies that the installer has selected the correct deemed score based on the characteristics of the property where the measure was installed. Where we refer to *scoring* and *re-scoring* in this chapter it covers both the carbon saving and cost score, as applicable, for a measure.
- 10.4. Auditing verifies whether the processes and requirements we outline in our guidance documents have been followed. This includes, for example, documentation to prove that a person is a member of the help to heat group.
- 10.5. This chapter outlines the following:
  - a) the monitoring requirement
  - b) the monitoring process
  - c) the monitoring timelines
  - d) how to deal with monitoring fails
  - e) our response to poor performance
  - f) audit requirements, and
  - g) our approach to fraud.

### The monitoring requirement

- 10.6. By the end of the first month following a quarter, a supplier must report the results of monitoring conducted on at least 5% of each measure type for both technical and score monitoring.
- 10.7. The 5% monitoring requirement for a quarter is determined with reference to

measures that either:

- a) have a notification deadline within the quarter AND are notified before the end of the quarter, OR
- b) have a notification deadline in a previous quarter, but were notified in the current quarter (ie 'late measures').

10.8. Monitoring must be conducted on the measures described in paragraph 10.7. Where a measure fails monitoring, and as a result the supplier chooses not to notify that measure, that inspection must be included in the supplier's monitoring report and will still contribute to its monitoring requirement.

10.9. A supplier's overall monitoring sample (ie all measures monitored in relation to a quarter) must also be representative of the installers that installed the measures notified by that supplier in a quarter. Generally we will deem the overall monitoring sample representative if it includes at least 3% of the measures installed by each installer, and notified by the relevant supplier, in that quarter. To ensure representativeness, we require that the supplier monitor:

- a) at least 3% of all measures notified by installers who have notified 100 or more measures in the quarter ('large installers'), and
- b) at least 1 measure of installers who have notified fewer than 100 measures in the quarter ('small installers').

10.10. Technical monitoring and score monitoring can, but do not have to, be conducted on the same measure. Both must be conducted through site audits and can be carried out during the same visit by the same agent, provided the agent has appropriate qualifications.

10.11. Where several suppliers are members of the same group of companies ('energy group') we will be satisfied that each supplier within the group has met the monitoring requirement if the group as a whole met the monitoring requirement.

10.12. The monitoring requirement applies irrespective of how a supplier acquires the measure (eg through a bilateral contract, Brokerage or an in-house installer).

10.13. The monitoring requirement does not apply to measure types that do not have monitoring questions. We have published a questionnaire with all the monitoring questions on our website.<sup>154</sup>

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<sup>154</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-monitoring-0> for information on technical monitoring questions.

## The monitoring process

### Who conducts monitoring?

10.14. Monitoring inspections must be conducted by a suitably qualified monitoring agent who is independent from:

- a) the supplier
- b) the installer
- c) any party involved in the installation of the measure
- d) any party involved in the assessment of the measure, and
- e) any party that has control or ownership of the premises.

10.15. We will be satisfied that a monitoring agent is independent if he or she is not an employee of any of the parties listed above.<sup>155</sup>

10.16. For technical monitoring, the monitoring agent must be suitably qualified. We may audit the due diligence processes a supplier has in place to ensure that its monitoring agents are suitably qualified.

10.17. For score monitoring, the agent must either be:

- a) in England and Wales, a qualified Domestic Energy Assessor (DEA) or a Green Deal Advisor (GDA), or
- b) in Scotland, members of Approved Organisations.<sup>156</sup>

10.18. Where a supplier would like to use an agent with a different/equivalent qualification it should contact us before commissioning this agent to conduct score monitoring.

### How is monitoring conducted?

10.19. We provide a list of monitoring questions which must be used by the monitoring agent. These questions can be found on our website.<sup>157</sup>

10.20. The required technical monitoring rate is split between mid- and post-installation inspections, depending on the type of measure being monitored. For measures

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<sup>155</sup> This may be subject to audit.

<sup>156</sup> Approved Organisations are those that have entered into protocols with Scottish Government to deliver Energy Performance Certificates. See <http://www.gov.scot/Topics/Built-Environment/Building/Building-standards/enerperfor/epcorgprg> for a list of approved organisations

<sup>157</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-monitoring>

that require both post- and mid-installation inspections, at least 2% of the relevant measures should be inspected at mid-installation stage and 2% at post-installation stage. We will publish information on which measures require both mid-installation and post-installation inspections on our website.

10.21. Score monitoring is only carried out post installation.

10.22. Monitoring agents must select a random sample of measures for monitoring by measure type and installer. They must not choose measures that have been recommended to them by the installer or supplier.

10.23. Monitoring agents should submit inspection results, including answers to all relevant monitoring questions, directly and unaltered to the supplier.

### The monitoring reports

10.24. Suppliers should collate the inspection results submitted by monitoring agents in the technical and score monitoring templates we provide.

10.25. Once completed, the templates, known as 'monitoring reports', will contain the required information on the monitoring carried out on the measures notified in the previous quarter. This information should include details of any fails from that quarter that have been overturned, remediated or re-scored (discussed in *Monitoring fails* below).

10.26. Monitoring reports must be submitted to us by the end of the first month following the end of the quarter in which the measures monitored were notified (the 'submission deadline').

### Monitoring timelines

10.27. This section illustrates the timelines suppliers should keep to when conducting technical and score monitoring.

#### EXAMPLE

10.28. The third quarter of monitoring for ECO2t measures relates to measures:

- a) that have a notification deadline<sup>158</sup> in November 2017, December 2017 or January 2018 AND were notified at any time on or before 31 January 2018

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<sup>158</sup> The notification deadline is the date by which the supplier must notify the completed measure, ie the end of the calendar month after the month in which installation of the measure was completed.

OR

- b) with a notification deadline in a previous quarter AND were notified in November 2017, December 2017 or January 2018

10.29. A measure installed on 14 October 2017 would have a notification deadline of 31 November 2017 and is notified to us on 24 October 2017. As such, this measure is counted as part of the third quarter's monitoring requirement. Post-installation monitoring of this measure can take place at any time between the installation date and the report submission deadline, ie 28 February 2018.

## Monitoring fails

10.30. If a measure fails monitoring, this suggests that the measure has not been installed in accordance with the relevant standards of installation for that measure (technical monitoring fail) or that the deemed score is incorrect (score monitoring fail). This will mean that we are unable to attribute savings unless the supplier is able to demonstrate that the measure is generating savings and/or that it has been scored correctly.

10.31. We expect measures to be remediated or re-scored within three months of the last day of the month in which the failure was identified by the monitoring agent.

10.32. If a measure is not remediated or re-scored, and in the case of technical monitoring re-inspected, within six months of the last day of the month in which the failure was identified by a monitoring agent, we will revoke an earlier decision to attribute savings to the measure or refuse to attribute savings to the measure.<sup>159</sup>

## Remediating technical monitoring fails

10.33. To avoid losing the savings for a measure, a supplier must ensure that remedial works are carried out to address the areas where that measure failed technical monitoring. A supplier should re-inspect the installation after remedial work is completed and confirm to us that the remedial work is complete and that the measure now meets the relevant standards of installation.

10.34. Re-inspections must be carried out by suitably qualified monitoring agents.<sup>160</sup> The re-inspection should establish that the fail that caused the measure to fail technical monitoring has been remediated and that the measure has now passed technical monitoring.

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<sup>159</sup> During the phase three closedown period, new monitoring deadlines may be introduced. We will communicate these to suppliers closer to the time.

<sup>160</sup> Re-inspections can be carried out by the same monitoring agent that conducted the original monitoring inspection.

- 10.35. Monitoring agents should submit the results of re-inspection, detailing that remediation work has successfully addressed the fail, directly and unaltered to the supplier.
- 10.36. If a measure fails re-inspection, a supplier may continue to attempt remedial works until the measure is successfully remediated as long as this is within the timelines outlined in paragraph 10.32.
- 10.37. Re-inspections are in addition to the normal technical monitoring process and do not contribute to a supplier's monitoring requirement.
- 10.38. We expect a supplier to make reasonable efforts to contact the occupant in order to conduct remedial work or re-inspection. If this is not completed within six months then we will revoke or refuse savings for a measure (see paragraph 10.32). However, in some instances a supplier may be unable to access premises ('non-access').
- 10.39. If non-access (supported by sufficient evidence) prevents a supplier from remediating a fail and the measure fails to meet a standard of installation that affects the ability of the measure to generate savings, it will not be eligible and we will refuse or revoke approval for that measure.
- 10.40. Where non-access (supported by sufficient evidence) prevents a supplier from re-inspecting a measure, that measure will be awarded the carbon savings or cost score as notified to Ofgem, assuming the measure is eligible in all other respects.
- 10.41. More details of how a supplier can evidence instances of non-access and our response to these instances can be found in our supplementary 'ECO2t Monitoring Guidance note' document.<sup>161</sup>

### Re-scoring score monitoring fails

- 10.42. Where a potential error in the inputs used to determine the deemed score of a measure is identified through score monitoring, a supplier must correct and/or verify the score to avoid losing savings for that measure. A supplier may do this by:
- a) using evidence provided by the score monitoring agent
  - b) using additional documentary evidence provided by the original assessor, and/or
  - c) conducting an additional inspection of the premises to establish the correct inputs (using a score monitoring agent).

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<sup>161</sup> This will published on our ECO publications page: <https://www.ofgem.gov.uk/environmental-programmes/eco/contacts-references-and-resources/eco-publications-library>.

10.43. A supplier may re-determine the score of the measure in-house or by a third party. The supplier must be satisfied that the score it re-submits is correct.

### Challenging a monitoring fail

10.44. A supplier may challenge the outcome of a monitoring inspection with the monitoring agent. If the monitoring agent accepts that a measure should not have failed, this will be deemed an 'overturn'. A supplier should retain written evidence from the monitoring agent detailing why the result of an inspection has been overturned. We may require such evidence at audit.

10.45. Overturned monitoring fails will no longer be considered a fail and, therefore, do not require remediation or re-scoring.

10.46. At the end of each month we will issue suppliers with a 'failed measures report' that lists all failed measures that have not yet been successfully remediated or re-scored. Suppliers should use the failed measures report to update us on the progress they have made remediating, re-inspecting and re-scoring failed measures, or indicate where a fail has been overturned.

10.47. A supplier should return the updated failed measures report to us when it submits its monitoring reports for the subsequent quarter.

10.48. Any failed inspection that has been successfully overturned prior to the inspection being notified to Ofgem, can be submitted as a pass in the first instance.

### Our response to poor performance

10.49. The following paragraphs outline our response to poor performance. All of the following requirements apply on a supplier basis. Each installer will be considered separately in respect of each supplier.

10.50. For further information on our response to poor performance please refer to our 'ECO2t Monitoring Guidance Note' document.

### Where a supplier fails to achieve the monitoring requirement

- 10.51. Where a supplier fails to meet the monitoring requirement for a particular quarter, we will not have sufficient confidence in the quality or accuracy of all the measures installed by the supplier in that quarter. This may lead us to refuse or revoke approval of these measures. In addition, the supplier will have breached the monitoring requirement and we may consider taking enforcement action.
- 10.52. When this occurs, the supplier will in the first instance be given the opportunity to address the monitoring deficiency by conducting further monitoring on the measures notified within this quarter.

### Where the technical monitoring failure rate is high

- 10.53. If, for any one quarter, the technical monitoring failure rate for a particular installer is higher than 10% we will consider one or more of the following actions on that subset of measures notified in that quarter:
- a) require the supplier to conduct additional monitoring, and/or
  - b) require the supplier to provide us with additional assurance.
- 10.54. While the supplier is still in the process of providing additional monitoring or additional assurances, we will suspend approval of all measures in that subset and may initiate an audit.
- 10.55. If, as a result of any of the actions listed in paragraph 10.53 above, we remain concerned that the measures under consideration are not eligible ECO measures, we will continue to take one or more of the actions listed above until we have sufficient confidence in the quality of these measures.

### Where the score monitoring failure rate is high

- 10.56. If, for any one quarter, the score monitoring failure rate for a particular installer is higher than 10%, we will consider one or more of the actions listed in paragraph 10.53 until we have sufficient confidence in the accuracy of the scores of these measures.



## Audit

10.57. We may audit a qualifying action promoted by a supplier, and that audit may relate to any of the requirements in our guidance, including our ECO2t Guidance: Administration. The documents and data that a supplier must make available to us are detailed in Appendix 1 and Appendix 2.<sup>162</sup>

10.58. We do not require suppliers to hold or retain these documents and data. A supplier may choose to enter into an arrangement with a third party (such as an installer), under which the third party agrees to hold these documents and data and make them available to the supplier on request. It is for each supplier to choose how it will ensure that it is in a position to make the documents and data available, within the required timeframes, to an auditor.

## Fraud prevention

10.59. Ofgem takes a zero tolerance approach to fraud and scheme abuse. A dedicated Counter Fraud Team undertakes activities to detect, prevent and deter fraudulent activity across ECO. All suppliers are expected to work closely with the Counter Fraud Team to ensure a collaborative and targeted approach. In the context of ECO, fraudulent activity is any dishonesty or misrepresentation in relation to the ECO2 Order or our guidance, that undermines the government's policy intent or our administration.

10.60. A supplier is expected to mitigate the risk of fraud within its ECO activity. This should include, but is not exclusive to:

- a) identifying and mitigating fraud risks
- b) controls to ensure savings determined using deemed scores, SAP/RdSAP or alternative/appropriate methodologies are correct
- c) sufficient requirements within third party contracts to ensure that work is completed in accordance with the ECO2 Order and our guidance. This must include the activity of the whole supply chain, including all sub-contractors
- d) robust processes for getting regular, reflective activity reports from in-house installers and third parties
- e) the continued scrutiny of in-house and third party activity to ensure compliance with the ECO2 Order and our guidance
- f) suitable, senior manager oversight of activity and reporting

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<sup>162</sup> In certain circumstances, for example where we suspect scheme abuse, fraud, or misreporting, we may require a supplier to provide other information not listed in Appendix 1, as per Article 32(1) of the ECO2 Order.

- g) processes to ensure accurate and reflective reporting to us, and
- h) processes for handling, investigating and reporting suspected fraud cases.

10.61. A suppliers is required to submit its fraud prevention strategies to us on an annual basis.

10.62. We will work closely with a supplier to ensure that its fraud prevention strategies are appropriate, effective and robust. A supplier should be able to demonstrate the steps it has taken, and is taking, to eliminate fraud and should provide sufficient evidence to us to demonstrate those steps.

10.63. All suppliers are invited to attend the ECO Industry Fraud Prevention and Compliance Committee<sup>163</sup>, a forum for discussing common fraud risks and issues across the industry and to drive best practice.

10.64. Suppliers should, in all instances, promptly report any instances of suspected fraud to the Ofgem E-Serve Counter Fraud team at:  
[counterfraud@ofgem.gov.uk](mailto:counterfraud@ofgem.gov.uk).

10.65. A supplier must ensure its own investigations into suspected fraud cases are thorough and completed in a timely manner. A supplier should contact us if they have any questions regarding its investigation plan, approach or results.

10.66. During the investigation of suspected fraud cases we may suspend approval of the subset of measures to which the fraud relates while we establish if it is an isolated incident or if further ECO measures are involved. Depending on the nature of the investigation, we may also suspend similar measures installed by that installer or third party. Where evidence of fraud is found we may refuse or revoke approval of the fraudulent ECO measures.

10.67. In addition, where evidence of fraud is found this should be reported by the obligated supplier to Action Fraud<sup>164</sup> or the Police.<sup>165</sup> We will also refuse or revoke approval of fraudulent ECO measures.

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<sup>163</sup> The ECO Industry Fraud Prevention & Compliance Committee (EIFPCC) provides a forum for the ECO suppliers, together with Ofgem and other representatives agreed by the group, to discuss fraud and compliance risks relating to instances of fraud within the ECO programme and to agree mitigating actions encompassing prevention, detection and response.

<sup>164</sup> Action Fraud provide a central point of contact for reporting fraud in the UK. See: <http://www.actionfraud.police.uk/> for more information.

<sup>165</sup> If the fraud is ongoing it should be reported directly to the Police.

## Appendix 1 – Documents and data to be made available on request

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In this appendix we set out the documents and data which a supplier must be able to make available for the purpose of an audit or other compliance check, at any time before 31 March 2019.

The information in this appendix is presented in Table 9, which is laid out as follows:

- a) the first column refers to the relevant ECO requirement
- b) the second column refers to the documents (if any) that a supplier will need to make available to demonstrate compliance with that requirement, and
- c) the third column refers to the data (if any) that a supplier will need to make available to demonstrate compliance with that requirement.

**Table 9** Documents and data to be made available on request

ECO requirement		Documents to be made available on request	Data to be made available on request
1.	<b>Promotion of the measure</b>	<p>Documentation sufficient to establish 'promotion'.</p> <p>For example, in the case where a supplier contracts a person to install a measure at premises, a supplier should produce:</p> <ul style="list-style-type: none"> <li>the contract(s) or other document(s) which establish the relationship between the supplier and the installer, under which the installation was performed (this includes documents which demonstrate that the installation was completed under an oral contract)</li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li>where appropriate, evidence of the supplier's payment of, or contribution towards, the fees and other costs of the installation. For example, an invoice and a payment slip.</li> </ul>	-
2.	<b>Specification of the measure</b>	Documentation which includes the relevant measure data.	<p>To include:</p> <ul style="list-style-type: none"> <li>measure type</li> <li>manufacturer name</li> <li>product name</li> <li>product serial number (where available)</li> </ul>

<b>3.</b>	<b>Installation in accordance with PAS/PAS certification and installation by a person of appropriate skill and experience</b>	<p>The contractual agreement or equivalent (containing the requirement to cooperate with an Ofgem auditor).</p> <p>Suppliers must notify the PAS certification number that relates to the relevant annex for the measure installed. Where multiple annexes are involved in the installation of a measure, for example room-in-roof insulation, suppliers must notify the PAS certification number for the annex that represents the majority of the measure. Suppliers must retain supporting evidence for the other relevant annexes.</p>	<ul style="list-style-type: none"> <li>• PAS certification number and/or certificate where relevant</li> <li>• Version of PAS installed in accordance with</li> </ul>
<b>4.</b>	<b>Installation in accordance with building regulations</b>	<p>Documentation that demonstrates that a product or system used in installation is compliant with building regulations including:</p> <ul style="list-style-type: none"> <li>• United Kingdom Accreditation Service (UKAS) accredited product approval</li> <li>• European Technical Approval with additional documentation to show compliance with building regulations</li> <li>• approval by a building control body, or</li> <li>• self-certification schemes.</li> </ul>	-
<b>5.</b>	<b>Address where the measure is installed</b>	Documentation which includes the relevant address data.	<p>To include:</p> <ul style="list-style-type: none"> <li>• house/flat number</li> <li>• street</li> <li>• town/city</li> <li>• country</li> <li>• postcode</li> <li>• unique property reference number</li> </ul>

6.	Date of completion	<p>Either:</p> <ul style="list-style-type: none"> <li>a copy of the <i>declaration of conformity</i> described at clause 7.2 of PAS 2030:2014 and Chapter 8 of PAS 2030:2017, where such declaration has been produced and signed by the installer</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>a declaration including the details listed below.</li> </ul> <p>Either declaration must be signed by the occupant, or if unoccupied, the landlord, to confirm the date on which the installer finished work on the installation of the measure as well as the date the measure was handed over. This can be in an electronic form (we understand that some suppliers will capture this information electronically).</p> <p>We recommend the following wording is included in the declaration for the purpose of obtaining confirmation from the occupant or landlord, as applicable:</p> <p><b><i>For completion by the occupant, or if unoccupied, the landlord:</i></b></p> <ul style="list-style-type: none"> <li><i>Confirmation that information provided by the installer is accurate</i></li> <li><i>Date the installer finished work on the measure</i></li> <li><i>Date of handover of all information relating to the measure</i></li> <li><i>Occupant/landlord (print)</i></li> <li><i>Occupant/landlord signature</i></li> <li><i>Date</i></li> </ul> <p>The declaration can be signed by someone acting on behalf of the occupant or landlord as long as they are not the installer, supplier or any other party in</p>	<ul style="list-style-type: none"> <li>date of completion</li> </ul>
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		the supply chain.	
<b>7.</b>	<b>Percentage of installation that must be completed</b>	<p>Where less than 100% of a measure has been installed, documentation which supports the reasons for judging that 100% cannot be installed.</p> <p>For example, if lack of consent from the occupant or landlord of the premises is the reason why 100% of a measure is not installed, a signed declaration from the occupier or landlord (as applicable) stating this.</p>	<ul style="list-style-type: none"> <li>percentage of measure installed</li> <li>if less than 100% of the measure was installed, the reasons why</li> </ul>
<b>8.</b>	<b>Insulation of a solid wall</b>	-	<ul style="list-style-type: none"> <li>age of the building</li> <li>the type of walls treated (ie brick or non-brick)</li> </ul>
<b>9.</b>	<b>Evidencing pre-existing loft insulation</b>	<p>Documentation that demonstrates that the loft was accessed and that no pre-existing insulation was present at that time.</p> <ul style="list-style-type: none"> <li>The declaration of conformity and completed installation recording the level of pre-existing insulation.</li> </ul> <p>A declaration signed by the installer, operative or assessor, and the consumer, confirming that the level of pre-existing insulation was <math>\leq 100\text{mm}</math> and that no loft insulation was recently removed, before the ECO loft insulation is installed.</p>	-

<b>10.</b>	<b>Connection to a district heating system (CERO and HHCRO)</b>	Documentation which includes the relevant DHS data.	<p>To include:</p> <ul style="list-style-type: none"> <li>• specification of the existing heating system – fuel type, supply, controls, efficiency</li> <li>• specification of the replacement system – fuel type, supply, controls, efficiency, and</li> <li>• heat load before and after installation.</li> </ul>
<b>11.</b>	<b>Relevant district heating connection (CERO and HHCRO social housing E, F or G) – insulation pre-conditions</b>	<p><u>For pre-condition 1:</u></p> <p>Where less than 100% of the wall or roof area of premises has been insulated, documentation which supports the reasons for judging the uninsulated area 'cannot be insulated'.</p>	<ul style="list-style-type: none"> <li>• percentage of the total exterior-facing walls or total roof area of the premises that is insulated</li> <li>• reason(s) the wall or roof area of the premises cannot be insulated (if applicable).</li> </ul>



<b>12.</b>		<p><u>For pre-condition 2:</u></p> <p>Where a wall of a multi-storey building has not been insulated, documentation which supports the reasons for judging the wall area 'cannot be insulated'.</p> <p>Where there is a technical reason for not insulating a cavity wall, a report from a suitably qualified chartered surveyor or structural engineer confirming that the cavity cannot be filled for technical reasons.</p>	<ul style="list-style-type: none"> <li>• reason(s) the wall of the building cannot be insulated (if applicable).</li> </ul>
<b>13.</b>	<b>Relevant district heating connection (CERO and HHCRO Social E, F, or G) – pre-existing insulation</b>	<p>Documentation that shows that any pre-existing insulation in place meets the required standards to meet the relevant insulation pre-condition.</p> <p>Suppliers may demonstrate the age of the premises using:</p> <ul style="list-style-type: none"> <li>• an EPC, or</li> <li>• a SAP assessment report.</li> </ul> <p>Suppliers may demonstrate the relevant U-values using:</p> <ul style="list-style-type: none"> <li>• relevant building control approval, which both correctly defines the construction in question and states the calculated U-value, or</li> <li>• a U-value calculation produced or verified by a suitably qualified person.<sup>166</sup></li> </ul>	-

<sup>166</sup> See page 130 of SAP for more information on suitable qualifications: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf).

<b>14.</b>	<b>Secondary measures (CERO only)</b>	Documentation which includes the relevant measure data.	<p>To include:</p> <ul style="list-style-type: none"> <li>• date of completion of secondary measure</li> <li>• date of completion of related primary measure(s)</li> <li>• percentage of roof or wall area, as applicable, insulated by the related primary measure(s), and in the case of loft insulation, the depth of insulation.</li> </ul>
<b>15.</b>	<b>Repair and replacement of qualifying boilers (HHCRO)</b>	<p>The accurate, complete and signed Boiler Assessment Checklist.</p> <p>In the case of the replacement of a qualifying boiler with another boiler, a copy of the qualifying warranty and the occupier declaration.</p> <p>In the case of the repair of a qualifying boiler, a copy of the warranty.</p>	<ul style="list-style-type: none"> <li>• information relating to operative competency (see <b>Error! Reference source not found.3</b>)</li> </ul>
<b>16.</b>	<b>Boiler installations (HHCRO)</b>	A copy of the qualifying warranty and the occupier declaration.	<ul style="list-style-type: none"> <li>• information relating to operative competency (see <b>Error! Reference source not found.3</b>)</li> </ul>

<b>17.</b>	<b>Repair and replacement of qualifying electric storage heaters (HHCRO)</b>	The accurate, complete and signed Electric Storage Heater Assessment Checklist.  A copy of the warranty.	<ul style="list-style-type: none"> <li>information relating to operative competency (see Appendix 4)</li> </ul>
<b>18.</b>	<b>Electric storage heater installations (HHCRO)</b>	A copy of the warranty.	<ul style="list-style-type: none"> <li>information relating to operative competency (see Appendix 4)</li> </ul>
<b>19.</b>	<b>Help to heat group (HHCRO)</b>	See Appendix 2- <i>Evidencing the HHCRO premises and occupant requirements.</i>	-
<b>20.</b>	<b>Private domestic premises (HHCRO)</b>	See Appendix 2- <i>Evidencing the HHCRO premises and occupant requirements.</i>  <i>Only required where the measure is being delivered to someone in the help to heat group or where the household is listed in a local authority declaration.</i>	-
<b>21.</b>	<b>Insulation measures receiving a non-gas uplift (HHCRO)</b>	<p>Documentation that shows that the premises where the insulation measure is installed are 'non-gas fuelled':</p> <ul style="list-style-type: none"> <li>the pre or post installation SAP or RdSAP assessment used to demonstrate the fuel type(s) of the main space heating system(s), provided the assessment was conducted by an accredited SAP or RdSAP assessor. This assessment should take the form of a lodged EPC.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>The declaration of conformity and completed installation form.</li> </ul>	<ul style="list-style-type: none"> <li>pre-installation fuel type,</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>post installation fuel type.</li> </ul>

22.	<b>Qualifying boiler measures receiving a non-gas uplift (HHCRO)</b>	<p>Documentation showing that premises where qualifying boiler repairs and replacements are installed are 'non-gas fuelled' before and after installation:</p> <ul style="list-style-type: none"> <li>the Boiler Assessment Checklist demonstrating the fuel type(s) of the main space heating system(s) where the operative has recorded the fuel type(s) before and after the measure has been completed</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>the pre and post installation SAP or RdSAP assessment demonstrating the fuel type(s) of the main space heating system(s), provided the assessment was conducted by an accredited SAP or RdSAP assessor. Both of these assessments should be lodged EPCs.</li> </ul>	<ul style="list-style-type: none"> <li>pre-installation fuel type,</li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li>post installation fuel type.</li> </ul>
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<p><b>23.</b></p>	<p><b>The carbon saving or cost score of a measure (if a deemed score cannot be applied)</b></p>	<p>1) SAP/RdSAP (including bespoke systems that use a SAP/RdSAP engine)</p> <p>Report(s) or screen shots showing:</p> <ul style="list-style-type: none"> <li>• Input data</li> <li>• Output data (including 'before' and 'after' cases where relevant)</li> <li>• Cost score and/or carbon saving</li> <li>• Software information (name of the software organisation, software name, version)</li> <li>• Name of assessor, assessor number (where applicable) and company</li> <li>• Documentation of additional calculations (lifetime, in-use factor)</li> </ul> <p>2) Appropriate methodology</p> <ul style="list-style-type: none"> <li>• Input data</li> <li>• Output data</li> <li>• Cost score and/or carbon saving</li> <li>• Appropriate methodology ID</li> <li>• Documentation of additional calculations (lifetime, in use factor)</li> <li>• Independent report on the methodology</li> <li>• Ofgem approval for appropriate methodology</li> </ul> <p>3) Alternative methodology</p> <ul style="list-style-type: none"> <li>• Input data</li> <li>• Output data</li> <li>• Cost score and/or carbon saving</li> <li>• Alternative methodology ID</li> <li>• Documentation of additional calculations (lifetime, in use factor)</li> <li>• Independent report on the methodology</li> </ul>	<p>-</p>
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<p><b>24.</b></p>	<p><b>Flexible eligibility (HHCRO)</b></p>	<p>1) A signed copy of the Local Authority declaration listing the relevant households and confirming that each household is either:</p> <ul style="list-style-type: none"> <li>a) living in fuel poverty</li> <li>b) low income and vulnerable to the effects of living in a cold home, or</li> <li>c) SWI in-fill.</li> </ul> <p>The LA declaration must:</p> <ul style="list-style-type: none"> <li>• be dated on or after the date of publication of the LA’s statement of intent (SoI)</li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li>• contain a valid URN</li> </ul> <p>In-fill properties should be listed on the same LA declaration as the households living in fuel poverty or low income and vulnerable to the effects of living in a cold home, which allow them to be eligible.</p> <p>2) A publically available statement of intent (SoI). Suppliers can provide evidence by either producing a hardcopy of the SoI, a screenshot of a published and dated SoI, or any other means agreed with Ofgem.</p> <p>The SoI must:</p> <ul style="list-style-type: none"> <li>• be published and dated prior to any declarations being made by that LA</li> </ul> <p>AND</p> <ul style="list-style-type: none"> <li>• include a methodology on how the LA intends to target households in FP or LIVC.</li> </ul>	<ul style="list-style-type: none"> <li>• Whether the household is: <ul style="list-style-type: none"> <li>a) Living in fuel poverty</li> <li>b) Low income and vulnerable to the effects of living in a cold home</li> <li>c) SWI in-fill</li> </ul> </li> <li>• The URN on the declaration</li> </ul>
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<b>25.</b>	<b>Social housing E, F or G (HHCRO)</b>	<p>In England and Wales, documentation evidencing that the relevant interest is registered on the Land Registry as belonging to a social housing landlord.</p> <p>In Scotland, documentation evidencing that the relevant interest is registered on the Land Register of Scotland or recorded in the Register of Sasines as belonging to a social housing landlord.</p> <p>A declaration signed by the social landlord confirming the following:</p> <ul style="list-style-type: none"> <li>• where a pre-installation EPC is used, that no improvements have been made to the property which would improve the property to a D or above.</li> <li>• where a pre-installation EPC is used and where multiple measures are to be installed, that the energy efficiency rating of the premises will not increase to a band D or above before installation of the final measure listed on the declaration.</li> <li>• the property is let at below market rate, and if unoccupied, has previously been and will be let at below market rate.</li> </ul>	<ul style="list-style-type: none"> <li>• The pre- or post-installation EPC RRN</li> </ul>
<b>26.</b>	<b>First time central heating (FTCH) (HHCRO)</b>	<p>A document signed by the social landlord declaring that at no point prior to the installation of the first time central heating measure did the social housing premises have a central heating system, district heating connection, or electric storage heater.</p>	

<p><b>27.</b></p>	<p><b>New build properties</b></p>	<p><b>Where the property is erected prior to 1 April 2017:</b></p> <p>A declaration of conformity and completed installation (DOCC) confirming that the building was pre-existing before 1 April 2017.</p> <p>Where the above is not completed in the DOCC, evidence of occupancy or evidence that the building is pre-existing must be available. Such evidence may include:</p> <ul style="list-style-type: none"> <li>• In England and Wales, a Land Registry search, where a title has been registered prior to 1 April, 2017</li> <li>• In Scotland, a search of the Land Register of Scotland or Register of Sasines, where a title has been registered prior to 1 April, 2017</li> <li>• Certificate of title or deeds dated prior to 1 April 2017</li> <li>• EPC listed on the Landmark EPC register dated prior to 1 April 2017</li> <li>• Building control completion certificate.</li> </ul> <p><b>Where a measure is delivered to properties erected post April 2017:</b></p> <p>Occupancy must be evidenced. This can be through either</p> <ul style="list-style-type: none"> <li>• confirmation of a help to heat group member at the premises.</li> <li>• a declaration on the DOCC to be completed and signed by the occupant.</li> </ul> <p>Where unoccupied, a declaration from a landlord or non-resident owner must be signed on the DOCC to confirm that premises were previously occupied.</p>	
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		<p>If the DOCC is signed by a landlord or non-resident owner, additional evidence must be collected to demonstrate date of building completion, as well as current or previous occupancy.</p> <p>Evidence to confirm the date of building completion can include:</p> <ul style="list-style-type: none"><li>i. A building control completion certificate, or</li><li>ii. in Scotland, notification from a local authority of acceptance of a completion certificate.</li></ul>	
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## Appendix 2 – Evidencing the HHCRO premises and occupant requirements

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### Introduction

This appendix supports Chapter 5, outlining the documents and data that a supplier must be able to make available to us to demonstrate that the premises and occupant requirements have been met for all HHCRO measures.

#### **1. The premises requirement**

This section of this appendix provides an overview of the evidence which can be used to demonstrate that the premises are private domestic premises. It provides information on:

1.1	Registered relevant interest	page 131
1.2	Unregistered relevant interest	Page 132
1.3	Identifying social landlords	Page 135
1.4	Determining market rate	Page 136
1.5	Evidence for mobile homes	page 137
1.6	Online Verification Service	

#### **2. The occupant requirements**

This section provides an overview of the evidence which can be used to demonstrate a person is a member of the help to heat group, and that that person is an occupant of the premises. It provides information on:

2.1	Evidencing each of the eligible help to heat group benefit types	page 137
2.2	Other official documents which can evidence occupancy	Page 141
2.3	Documents relating to a change of name	page 142

## 1. Premises requirement

Private domestic premises are domestic premises that, in general, do not belong to, or are not let by, a social landlord. The evidence required to demonstrate that premises are private domestic premises depends on:

- a) whether or not a 'relevant interest' in the premises is registered
- b) who the premises belong to, or are let by, and
- c) where applicable, the financial rate at which the premises are let (ie rent).

The 'relevant interest' is the legal interest granting the current right to occupy those premises. In England and Wales, the relevant interest may belong to a freeholder, leaseholder or sub-leaseholder. In Scotland, the relevant interest may belong to the person holding the owner's interest or right, the person holding the lessee's interest, or the sub-leaseholder.

Where premises are subject to a shared ownership arrangement between a private individual and a social landlord, we consider the premises to be private domestic premises as the private individual is one of the owners of the premises.

Evidence demonstrating who premises belong to, or are let by, must relate to the person to whom the relevant interest belongs.

### 1.1. Registered relevant interest

A supplier must provide evidence that the relevant interest does not belong to a social landlord by providing the full title register extract from one of the following:

- a. the Land Register maintained by Her Majesty's Land Registry for England and Wales, or
- b. the Land Register of Scotland or the Register of Sasines for Scotland.

Where it is not possible to download a copy of the full title register on the Land Register of Scotland, the supplier must provide a screenshot of the search results.

Where the registry states that the premises have been leased or sub-leased, further evidence will be required to demonstrate that the premises is not let by a social landlord.

The extract must be dated no more than 18 months prior to the date of completion of the measure.

The extract may be dated after the measure was completed where it shows that the date on which the relevant interest was acquired was prior to the completion of the measure. We will assume that the person to whom the relevant interest belongs had not changed in the period in between.

Generally, where the relevant interest is registered as belonging to an individual person, we will be satisfied the premises are private domestic premises. If the search results prove inconclusive, ie the registered relevant interest belongs to a corporation and not an individual, the supplier must use other means to ensure that that entity is not a social landlord (see section 1.3).

Where the registered relevant interest belongs to a social landlord, the premises may still be eligible as private domestic premises if they are rented at market rate or above. See section 1.4 for more information on determining market rate.

## **1.2. Unregistered relevant interest**

Where the relevant interest is not registered, the supplier must prove this by providing a snapshot of the land registry search. The supplier must then prove that the relevant interest does not belong to a social landlord, or that the premises are leased under the 'Right to Buy', 'Right to Purchase' or 'Right to Acquire' schemes.<sup>167</sup>

Where the relevant interest is not registered, the supplier must provide different evidence depending on whether:

- a. the person who owns the relevant interest occupies the premises ('the owner occupier'), or
- b. the person who owns the relevant interest lets the premises to a tenant ('the owner landlord').

### **Owner occupiers**

For owner occupiers, the supplier must provide evidence of the relevant interest in the premises and, where applicable, proof of residence<sup>168</sup> to demonstrate that the owner occupier has the current right to occupy the premises (ie the premises have not been leased to another person). The supplier will need to provide a copy of one of the following:

#### **1. title deeds**

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<sup>167</sup> The leases for these premises, which show they are under either 'Right to Buy', 'Right to Purchase' or 'Right to Acquire' schemes, can be used as evidence that the premises are private domestic premises.

<sup>168</sup> Proof of residence can be in the form of a benefit letter, or the list of official documents referenced in Section 2.2

*(We will accept other deeds and legal declarations that explicitly state that the person owns the premises.)<sup>169</sup>*

OR

**2. a mortgage statement for the premises which is addressed to the owner occupier**

*(The mortgage statement must be dated within 18 months prior to the date of completion of the measure. Where the mortgage statement is older or is not addressed to the owner occupier, it must be accompanied by proof of residence dated within 18 months prior to the completion of the measure)*

OR

**3. a completed Ofgem template<sup>170</sup> and evidence proving that the owner occupier resides at the premises which:**

- a. provides a declaration from a professional third party confirming they hold the title deeds for the premises and those deeds name the occupier as the freeholder/ the person holding the owner's interest or right

OR

- b. provides a declaration from a professional third party confirming that, following an investigation, the title deeds have been lost or destroyed and he/she is satisfied that the occupier is the freeholder/ the person holding the owner's interest or right.

## Owner landlords

In the case of owner landlords, the supplier must provide information on the tenancy in order to demonstrate that the tenant has the current right to occupy the premises.

Evidence proving the tenant resides in that premises is required to show that the tenancy agreement is still valid. The supplier will need to provide a copy of one of the following:

**1. a written tenancy agreement between the owner landlord and the tenant**

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<sup>169</sup> Examples of documents that can prove ownership include title deeds, deeds of conveyance, deeds of gift, conveyance documents, or a grant of admission, where they explicitly state that the person owns the premises. Where suppliers are not certain whether a document is eligible they should contact us before installing a measure.

<sup>170</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-hhcro-templates-evidence-private-domestic-premises>.

***demonstrating that the named tenant resides there***

Where an extract from a written tenancy agreement is provided, the extract must show the:

- a. address of the premises
- b. term of the tenancy, and
- c. names and signatures of the tenant and landlord.

OR

***2. a completed Ofgem template<sup>171</sup> and evidence proving that the named tenant resides there.***

These templates are:

- a. in the case where the written tenancy agreement has expired, signed by both landlord and tenant confirming the occupancy agreement

OR

- b. in the case where no written tenancy agreement exists, signed by both landlord and tenant confirming the occupancy agreement.

OR

- c. in the case where there is no tenancy agreement, an occupancy agreement signed by the executor/administrator of the estate and the occupier.

**Supporting information for demonstrating the relevant interest**

If the documentation listed proves inconclusive, ie the relevant interest belongs to a corporation, the supplier must ensure the entity is not a social landlord (see Section 1.3).

If the owner occupier or the tenant is the help to heat group member, benefit letters addressed to the premises will be sufficient to demonstrate that the help to heat group member resides at the premises. If the owner occupier or the tenant is not the help to heat group member, a supplier will need to produce evidence to demonstrate that the help to heat group member resides at the relevant domestic premise (see Section 2.2).

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<sup>171</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/home-heating-cost-reduction-obligation-hhcro-templates-evidence-private-domestic-premises>

### 1.3. Identifying social landlords

A social landlord means, in respect of premises in **England and Wales**:

- a. a local housing authority, within the meaning of section 1 of the Housing Act 1985
- b. a housing association, within the meaning of section 5 of the Housing Act 1985
- c. a housing trust, within the meaning of section 6 of the Housing Act 1985
- d. a charity, within the meaning of section 1 of the Charities Act 2011
- e. a person listed in section 80(1) of the Housing Act 1985 (*Wales only*), or
- f. a body registered as a social landlord under Chapter 1 of Part 1 of the Housing Act 1996 (*Wales only*).

A social landlord means, in respect of premises in **Scotland**, a person so described in section 165 of the Housing (Scotland) Act 2010.

A supplier may use one of the registers below to establish whether a corporate body falls under one of the above definitions of a social landlord. These registers do not contain an exhaustive list of social landlords and suppliers should be aware that these registers may not be completely up to date.

#### England:

- The Homes and Communities Agency provide a list of registered providers of social housing. This can be accessed at:  
<https://www.gov.uk/government/publications/current-registered-providers-of-social-housing>.
- The Charity Commission holds a register of organisations that have been recognised as charitable in law. Not all charities must register. The register can be accessed at:  
<http://www.charitycommission.gov.uk/showcharity/registerofcharities/registerhome.aspx?&=&>.

#### Wales:

- The Welsh Ministers maintain a public register of social landlords. The register can be accessed at:  
<http://wales.gov.uk/topics/housing-and-regeneration/publications/registered-social-landlords-in-wales/?lang=en>.

## Scotland:

- The Scottish Housing Regulator maintains a register of social landlords. The register can be accessed at: <https://www.scottishhousingregulator.gov.uk/find-and-compare-landlords/directory-social-landlords>

Where it is established that the relevant interest belongs to a social landlord, but a supplier wishes to establish HHCRO eligibility, the supplier must demonstrate that the premises were let at or above market rate. In order to do this it must produce:

- a. a tenancy agreement, and
- b. statistics showing the premises were rented at or above market rate. See below for more information on demonstrating rent above market rate.

### 1.4. Determining market rate

In instances where the relevant interest belongs to a social landlord, the supplier must provide evidence that the rent paid is not below the market rate, or where the premises are currently void, has not previously and will not be let at below market rate.

## England:

We consider market rate to be any monthly rent that is equal to or greater than the 'lower quartile value' for premises with the same number of bedrooms for the administrative area that the premises are located in. These statistics should be taken from the most recent table of VOA Private Rental Market Statistics at the time of completion of the measure. These statistics can be found here:

<https://www.gov.uk/government/statistics?departments%5B%5D=valuation-office-agency>.

## Scotland and Wales

We consider market rate to be any monthly rent that is equal to or lower than the 30th percentile market rent for premises with the same number of bedrooms in the Broad Rental Market area the premises are located in. The supplier must use the most recent statistics at the completion of the measure. The 30th percentile for an area can be found on the following pages:<sup>172</sup>

- **Scotland:** The 30th percentile of market rents can be found in column 3 of the Local Housing Allowance methodology table found at the bottom of the following page: <http://www.gov.scot/Topics/Built->

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<sup>172</sup> The 30th percentile is a mathematical value which represents the level of rent where around 3 in 10 properties are let at or below LHA. The list of rents is a representative sample of private sector rents paid across the BRMA, including those from the lower end through to the upper ends of each rental market.



[Environment/Housing/privaterent/tenants/Local-Housing-Allowance/figures.](#)

- **Wales:** The 30th percentile of market rents can be found in column 2 of the LHA table available at: <http://gov.wales/topics/housing-and-regeneration/welfare-reform/rentofficers/publications/?lang=en>.

In instances where the rent paid is below these figures and a supplier believes that this rent is market rate, a supplier may provide us with alternative statistics in writing for consideration. Suppliers should get alternative statistics approved by us before delivering a measure to that tenant.

### 1.5. Evidence for mobile homes

It is our understanding that, generally speaking, mobile homes are not provided by social landlords as social housing. As a result, we do not require proof of ownership to determine whether or not the premises are private domestic premises. Therefore, for mobile homes, only evidence demonstrating that an eligible person resides at the premises is required (ie a help to heat group member or a household identified as eligible by a local authority etc). See below for more information on how to evidence this.

Where the supplier is aware that the mobile home is provided as social housing, these measures should not be notified to Ofgem.

### 1.6. Online Verification Service (for premises in England and Wales)

The Energy Saving Trust (EST) has developed a service allowing users to verify that a premises is a private domestic premises through a data-matching process with the Land Registry.

EST will provide the following categories against these verifications:

- a) Matched
- b) Unmatched
- c) Not checked

Where EST verifies a premises as 'matched', we consider that the premises is a private domestic premises. Where the premises are 'unmatched' or 'not checked', alternative evidence will be required.

## 2. Occupant requirements

### 2.1. Evidence to demonstrate each of the eligible help to heat group benefit types

Documents must establish that an occupant of the premises was a help to heat group member at some point during the course of the promotion of the measure.

There are several ways to show the customer is a help to heat group member. The supplier can produce one of the following:

- a) a WHD Core Group notice
- b) a matched ESAS reference number
- c) a matched DWP reference number
- d) a help to heat group benefit letter

Further information on the WHD Core Group notice, and the ESAS and DWP match eligibility routes can be found in Chapter 5.

If using benefit letters to prove help to heat group eligibility, the letters must show that the person received the benefit (and any qualifying components) within 18 months prior to the date of completion of the measure. Suppliers can use either the date the letter was sent or the start or end date of the benefit, if stated on the letter.

If the benefit letter confirms the end of entitlement, it can only evidence help to heat group eligibility when either the date of the letter or the end date of the benefit is within 18 months prior to the date of completion of the measure.

For help to heat group benefits, only official HMRC, DWP/Jobcentre Plus, Pensions Service and HM Government documents are deemed acceptable. However, we also accept bank statements to prove receipt of Child Benefit<sup>173</sup> or official identification to prove that someone is 60 years or older. Use of any other documents must be agreed in writing with us before installing a measure.

The following information must be clearly visible on all benefit letters proving help to heat group eligibility:

- a) official letter headed paper
- b) name and address matching where the measure was installed. Where the address is different, official documents proving they resided at the premises where the measure was installed

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<sup>173</sup> See <https://www.gov.uk/child-benefit-number> for further guidance on how to evidence child benefit.

- c) relevant date (either of the letter, start or end of the benefit)
- d) confirmation that a customer receives a qualifying benefit
- e) confirmation of relevant income (where applicable), and

The help to heat group benefit types for the purposes of ECO<sup>174</sup> are:

- a) income-related employment and support allowance (ESA)
- b) income-based jobseeker's allowance (JSA)
- c) income support
- d) pension guarantee credit
- e) tax credits, and
- f) universal credit.

The eligibility criteria for each of these are detailed below:

- 1. Income-related employment and support allowance (ESA)**
- 2. Income-based jobseeker's allowance (JSA)**
- 3. Income support**

**The following documents should be made available on request:**

- A HMRC award notice<sup>175</sup> or a DWP/Jobcentre Plus 'proof of benefit' letter confirming receipt of one of the benefits above.
- A Tax Credit, Working Tax Credit or Child Tax Credit award notice confirming receipt of one of the benefits mentioned above.

- 4. Pension guarantee credit**

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<sup>174</sup> Provided that all applicable criteria laid out in Schedule 4B to the ECO2 Order are met.

<sup>175</sup> An HMRC award notice can also include annual review award notices, amended award notices and provisional award notices. Provisional letters must state they will receive the benefit within 18 months prior to the measure being installed See our help to heat guidance note for further information.

**One of the following documents should be made available on request:**

- pension credit award notice or 'proof of benefit' letter from DWP/Jobcentre Plus or The Pension Service confirming receipt of pension guarantee credit

OR

- Warm Home Discount (WHD) core group 'matched' or 'deceased matched' notice from HM Government. The reference number on this notice should start with 'M' or 'DM'.

## **5. Tax credits**

**The following documents should be made available on request:**

i)

- An HMRC Child Tax Credit, Working Tax Credit, or Tax Credit award notice showing receipt of a Tax Credit and have a relevant income that does not exceed the appropriate income threshold for that household composition.
- A DWP/Jobcentre Plus 'proof of benefit' letter showing that they receive a Tax Credit and have a relevant income that does not exceed the appropriate income threshold for the household composition.
- A confirmation from the HMRC online service showing that they receive a Tax Credit and have a relevant income that does not exceed the appropriate income threshold for the household composition. For the rest of the chapter HMRC online notifications are included in references to award notifications.

In cases where the benefit letter is dated within 18 months and does not show relevant income, it must be accompanied by the most recent benefit letter that does show the relevant income.

- ii) Where appropriate, a Child Tax Credit or Child Benefit award notice is evidence of a responsibility of children or qualifying young persons. No further evidence will be required. Receipt of Child Tax Credit should also appear on the document evidencing Working Tax Credit. In some cases suppliers may have other documents that are evidence of responsibility for a child or qualifying young person.
- iii) An HMRC Child Tax Credit, Working Tax Credit, or Tax Credit award notice notification confirming whether the benefit claim is a single or joint claim.

## **6. Universal Credit (UC)**

**The following documents should be made available on request:**

***Evidence of the following criteria from a Universal Credit award notification:***

- Confirmation of receipt of Universal Credit (UC) through a DWP/Jobcentre Plus letter, UC live service award notification or UC full service statement. This should show that the recipient had a monthly earned income that does not exceed the appropriate income threshold for the household composition in any one of the 12 months before the point when they are assessed as eligible for the HTHG. A customer can also receive a confirmation of their benefits on the UC live service or the UC full service.
- Where appropriate, confirmation from a UC live service award notification, UC full service statement, a child tax credit, or a child benefit letter confirming the number of children or qualifying young persons the benefit recipient has responsibility for.
- Universal Credit live service award notification or UC full service confirming whether the benefit claim is a single or joint claim.

The document(s) that should be made available to us on request should contain a minimum amount of information to demonstrate help to heat group eligibility. For more information on our requirements see the help to heat group guidance note.<sup>176</sup>

## **2.2. Other official documents which can evidence occupancy**

Where the above benefit documentation is not addressed to the private domestic premises, further evidence showing that the help to heat group member resides there will be required.

Any of the following official documents can be used to evidence occupancy:

- a. an extract from the electoral register
- b. a utility bill or phone bill
- c. a Council Tax letter or letter from the council
- d. a mortgage statement or bank statement, or
- e. other official documentation as agreed with Ofgem.

**The documents must be dated within 18 months prior to the date of completion**

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<sup>176</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-help-heat-group-guidance-note>.

**of the measure.**<sup>177</sup>

### **2.3. Documents relating to a change of name**

There are cases where a person changes their name, with the result that:

- a. the person's old name appears on the title deeds or the mortgage statement if the person is a freeholder/leaseholder/owner or the tenancy agreement if the person is a tenant,

AND

- b. the person's new name appears on help to heat group benefit documents or other official correspondence (described above).

In such cases, a supplier will need to produce a signed declaration from the person that their name has changed. The declaration should be prepared using the template provided on our website.<sup>178</sup>

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<sup>177</sup> For more information on the date of completion see paragraphs 9.4 to 9.9.

<sup>178</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-hhcro-templates-evidence-private-domestic-premises>.

## Appendix 3 - Boiler information pack

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### Introduction

This information pack provides an overview of the different eligible boiler measures in ECO. It also details when a boiler is considered to be a 'qualifying boiler', how to assess boilers and outlines the warranty requirements for the repair and replacement of boilers. This appendix should be read in conjunction with Chapter 5.

This appendix provides information on the following:

1. Defining boilers and heating systems	Page 143
2. Replacement boilers	Page 144
3. Eligible boiler measures in ECO	Page 145
4. Determining whether a boiler is a qualifying boiler for repair or replacement	Page 146
5. Carrying out boiler assessments	Page 149
6. Warranty requirements for boiler measures	Page 150

### 1. Defining boilers and heating systems

#### Boilers

A boiler is defined as a gas, liquid, solid fuelled or electric appliance designed to provide hot water for space heating through a heat distribution system. It may (but does not need to) be designed to provide domestic hot water as well. A boiler may comprise some or all of the following components:

- a) heat exchanger
- b) the fuel supply system
- c) boiler and burner control system
- d) air supply and exhaust fans
- e) flue connections within the boiler case
- f) expansion vessel and/or fill and expansion header tanks
- g) programmer/timer (one that is integral to the boiler)
- h) circulation pump

- i) condensate drain system
- j) burner assembly
- k) ancillary equipment and any connections within the case necessary to supply central heating and/or instantaneous hot water.

### Heating systems

A heating system is a central heating system, which will normally comprise some or all of the following components:

- a) radiator circuit
- b) heating circuit
- c) heat emitters (radiators as well as underfloor)
- d) flue
- e) room thermostats and thermostatic radiator valves (TRVs)
- f) mains boiler
- g) cold water tank
- h) expansion tank
- i) hot water storage tank
- j) control valves
- k) heating system pump.

## 2. Replacement boilers

A replacement boiler is a boiler, connected to a working heating system, that has been installed and which replaces a previous heating source.<sup>179</sup>

Where there is no heating system present prior to installation we consider that the replacement boiler replaces direct-acting portable electric heaters, as this is the assumed main space heating system.

Replacement boilers must be installed in accordance with the Publicly Available Specification 2030:2017 (PAS) and as per the boiler manufacturer's instructions.

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<sup>179</sup> Such as a qualifying boiler, a non-qualifying boiler, fixed room heaters or an electric storage heater.



### 3. Eligible boiler measures in ECO

The cost scores achieved through replacing, and in some cases repairing, boilers can be credited against a supplier's HHCRO.<sup>180</sup>

There are three eligible boiler measures in HHCRO. The way in which a boiler measure is categorised depends on the heating source present in the premises before the measure is installed.

The three eligible boiler measures are:

- a) Non-qualifying boiler installations
- b) Qualifying boiler replacements, and
- c) Qualifying boiler repairs.

The scoring methodology that should be used to calculate the cost score for the installation, replacement or repair of a boiler depends on the type of heating source already present at the premises and/or the measure being installed.

#### Non-qualifying boiler installations

Where a boiler is installed and it is not replacing a qualifying boiler, it may still be an eligible HHCRO measure where it makes a saving in the cost of heating the premises and, where applicable, heating the hot water.

#### Replacement of a qualifying boiler

The 'replacement of a qualifying boiler' is where a boiler being replaced meets the definition of a 'qualifying boiler', and it is being replaced either with a boiler or a different heating measure.

In the case of a boiler being replaced, a qualifying boiler is one that we are satisfied is not functioning efficiently or has broken down and:

- a) has a seasonal energy efficiency value of < 86%, or
- b) has a seasonal energy efficiency<sup>181</sup> value of ≥ 86% and cannot be economically repaired.

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<sup>180</sup> See Chapter 5 for more information on HHCRO.

<sup>181</sup> When assessing the efficiency of the boiler, the operative should use the annual efficiency from the Product Characteristics Database (PCDB) as used in SAP. If the boiler is not included in the PCDB, then the assessor should use winter efficiency from table 4b of SAP 2012.

### Repair of a qualifying boiler

The repair of a boiler is only an eligible measure where the boiler being repaired is a qualifying boiler.

In the case of a boiler being repaired, a qualifying boiler is one that we are satisfied:

- a) is not functioning efficiently or has broken down, and
- b) has a seasonal energy efficiency value of 86% or more when assessed against the Standard Assessment Procedure (SAP).<sup>182</sup>

## 4. Determining whether a boiler is a qualifying boiler for replacement or repair

This section provides information on:

- a) the criteria a boiler must meet to be judged as a qualifying boiler, and
- b) how to determine whether a boiler should be repaired or replaced.

### The criteria a boiler must meet to be judged as a qualifying boiler

A boiler must meet certain criteria to be considered a qualifying boiler for repair or replacement.

The first step in assessing whether a boiler is a qualifying boiler, for both repairs and replacements, is to determine whether the boiler is 'broken down' or 'not functioning efficiently'. The boiler must be assessed by a person of appropriate skill and experience ('the operative').

Once the operative has determined that the boiler is either 'broken down' or 'not functioning efficiently', they must then assess whether the boiler should be repaired or replaced.

Boilers which have been determined to be either 'broken down' or 'not functioning efficiently' and which have a seasonal energy efficiency value of less than 86% when assessed against Standard Assessment Procedure (SAP) are not required to be repaired and therefore, can be **replaced**. In these cases, no assessment of whether the boiler can be economically repaired is required.

Boilers which have been determined to be either 'broken down' or 'not functioning efficiently' and which have a seasonal energy efficiency value of 86% or more when

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<sup>182</sup> See Chapter 8 for more information on the Standard Assessment Procedure (SAP).

assessed against SAP must be assessed to determine whether or not they can be 'economically repaired'. Where such a boiler can be economically repaired it must be **repaired**. Where a boiler cannot be economically repaired it can be **replaced**.

This section provides the definitions of when a boiler is broken down, how to determine whether or not it is functioning efficiently, and whether or not it can be economically repaired.

### Broken down

A boiler is 'broken down' if, when connected to electric and fuel supplies, it does not respond appropriately to any demand for heat as required by the central heating or domestic hot water system.

The operative must list the symptoms observed and state the steps taken to reach his/her conclusion in the *Energy Company Obligation (ECO): Boiler Assessment Checklist* ('the boiler checklist')<sup>183</sup>. See Section 5 below for more information on the boiler checklist.

### Not functioning efficiently

A boiler is 'not functioning efficiently' if its condition is such that its performance in the delivery of water for central heating or the provision of domestic hot water is significantly worse than when the product was new.

The boiler checklist sets out a list of faults which can be used to determine whether or not the boiler is functioning efficiently. All faults with the boiler should be recorded during the assessment. In all cases, the operative must state the steps taken to reach his/her conclusion in the boiler checklist. This may include documenting the test results, symptoms observed or any other method used to identify the faults.

The operative must use their expertise to assess whether the faults identified have resulted in a 'significant' deterioration in boiler performance.

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<sup>183</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-boiler-assessment-checklist>.

### Cannot be economically repaired

Boilers which have a seasonal energy efficiency value of less than 86% (when assessed against the Product Characteristics Database (PCDB/SAP)<sup>184</sup> 'cannot be economically repaired'. This means that, subject to being broken down or not functioning efficiently, all such boilers can be replaced as qualifying boilers. No assessment of the cost of repair versus replacement is required for these boilers.

Boilers which have a seasonal energy efficiency value of 86% or more can only be replaced as qualifying boilers where, through an assessment of the cost of repair versus replacement, it is determined that they 'cannot be economically repaired' (in addition to being broken down or not functioning efficiently). The cost of repair of these boilers will usually be much lower than the cost of replacement. Such boilers will only be eligible for replacement as qualifying boilers where:

- a) the required replacement parts for the boiler are not available (ie unavailable for purchase at a reasonable cost or within a reasonable timeframe. What is considered a reasonable timeframe and cost will depend on all the circumstances including the nature of the repair required)

OR

- b) the actual cost of repair is greater than the cost of replacing the boiler

OR

- c) the actual cost of repair is greater than the relevant threshold on the Boiler Economic Repair Cost Comparison Tables.

### Boiler Economic Repair Cost Comparison Tables

As described above in option c, a boiler with a seasonal energy efficiency value of 86% or more cannot be economically repaired where the actual cost of repair is greater than the relevant threshold on the Boiler Economic Repair Cost Comparison Tables.

These tables can be found in the boiler checklist. There is also a guide to using the tables at the end of the checklist.

The tables display the maximum cost of repair for boilers of varying ages and conditions for it to be considered economic for the boiler to be repaired rather than replaced. If the actual cost of repair, as calculated by the operative, is higher than the maximum cost of repair outlined in the table, the boiler cannot be economically repaired and can therefore be replaced. The maximum cost of repair depends on the boiler type, age and condition. See 'Assessing boiler condition' below for more information.

When assessing the condition of the boiler, the operative should make this assessment based on what they would reasonably expect the condition of a boiler of that age and

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<sup>184</sup> When assessed against PCDB/SAP 2012. If the PCDB does not provide a seasonal energy efficiency operatives may use table 4b of SAP 2012.

type to be.

The maximum cost of repair for each boiler type is based on the estimated replacement cost of a boiler and depreciation over time. The estimated replacement cost includes, but is not limited to, the cost of the boiler, extras (eg flue), fittings, water treatment inhibitor, central heating controls, sub-contract electrician, quotation, re-connecting and commissioning the boiler, and labour.

The costs that are taken into account by the operative when calculating the actual cost of repair should, where applicable, include those listed above, plus the cost of a warranty of at least one year. The operative must specify the cost of the warranty provided for the boiler in the actual cost of repair. Where, in addition to the repair work itself, further boiler works are necessary at the time of repair to protect the boiler for the life of the warranty, the cost of these works should be included in the actual cost of repair (subject to those works being carried out).

### Assessing boiler condition

The operative should use the boiler fault details in 'Boiler Assessment Part 2' of the boiler checklist to determine the boiler condition, as follows:

- a) **Poor:** the apparent age of the boiler is a minimum of five years more than the actual age
- b) **Standard:** the apparent age of the boiler corresponds with the actual age
- c) **Good:** the apparent age of the boiler is a minimum of three years less than the actual age.

It should be noted that unless the boiler condition is demonstrably better or worse than expected for its age, the standard condition should be used.

## 5. Carrying out boiler assessments

The operative must complete the boiler checklist in order to demonstrate to us whether or not the boiler is qualifying and to assess whether the boiler should be repaired or replaced.

This section provides information on:

- a) who is considered to have appropriate skill and experience, and
- b) using the boiler checklist.

### Who is considered to have appropriate skill and experience?

For boilers that are replaced and referred to in PAS, the boiler must be assessed and replaced by operatives who meet the competency requirements listed in the boiler-specific annex to that specification. For boilers not in PAS, and for boiler repairs, the assessment and repair/replacement must be carried out by operatives who meet industry competency standards for that particular fuel type.

All operatives undertaking boiler repair/replacement work must also meet regulatory requirements to work with the relevant fuel type. For example, in the case of gas-fuelled boilers, operatives must be Gas Safe registered in accordance with regulation 3 of the Gas Safety (Installation and Use) Regulations 1998. There is no requirement for the assessment and repair/replacement to be carried out by the same person. Each appropriately qualified operative should sign the relevant section of the boiler checklist.

### Using the boiler checklist

As stated above, Ofgem has prepared a boiler checklist which should be completed, signed, and dated by the relevant operative(s), and made available by the supplier for subsequent audits by us. All steps taken by the operative in determining the boiler condition should be recorded in the boiler checklist, as well as the operative's recommendation as to whether the boiler should be repaired or replaced. The information provided in the boiler checklist will form the basis of our determination of whether the boiler is broken down, not functioning efficiently and can/cannot be economically repaired, as defined above.

A supplier may adapt the format of the checklist to match its own systems, as long as the content is not changed. Suppliers may submit adapted checklists to us before use for confirmation that the content is acceptable.

It is important to note that the operative's decision to repair or replace a boiler on the basis that they consider that it is broken down/not functioning efficiently and can/cannot be economically repaired does not necessarily mean that we will reach the same conclusion, particularly if we consider that an assessment has been incorrectly carried out. For this reason, suppliers should ensure that the operative, in assessing the boiler, accurately completes the boiler checklist.

Monitoring and auditing will be undertaken by us to ensure that boiler assessments are carried out in accordance with our requirements. To effectively protect against fraudulent activity, monitoring initiatives will include inspection of boiler repair and replacement measures.

## 6. Warranty requirement for boiler measures

All boilers repaired or installed in ECO must be accompanied by a warranty. The requirements that the warranty must meet are dependent on the boiler measure being delivered.

The repair of a boiler must be accompanied by warranty of at least one year.

The replacement of a boiler, irrespective of whether it is qualifying or non-qualifying boiler, must be accompanied by a 'qualifying warranty' of at least one year.

Where the supplier is aware that the repair or replacement of the existing boiler is covered by a guarantee or warranty provided under ECO or another government scheme (eg Warm Front), the savings from the measure cannot be claimed under ECO.

#### Warranties for the repair of a qualifying boiler

In the case of the repair of a qualifying boiler, the repair must be accompanied by a warranty of at least one year. The warranty must relate to the proper functioning of the entire boiler, and must not be limited to the part of the boiler that has been repaired or replaced. The cost of a warranty of at least one year should be included when calculating the cost of a boiler repair and must also be provided in the boiler checklist. The warranty should, as a minimum, provide cover for total repair works, during the life of the warranty, valued up to the greater of:

- a) the financial level indicated in the Boiler Economic Repair Cost Comparison Tables, for a boiler of that type, age and condition

OR

- b) £500 (excluding VAT).

Operatives will need to obtain the householder's written confirmation that they have been provided with a warranty and the operative has:

- i. informed them that the boiler is under a warranty from the date of repair, and the duration of that warranty, and
- ii. explained the nature of the warranty.

A copy of the warranty provided to the householder must be made available to us on request.

Where a supplier issues a warranty in respect of the repair of a qualifying boiler, any subsequent repair of the boiler under that warranty will not be eligible for savings.

#### Qualifying warranties for the replacement of a qualifying boiler and non-qualifying boiler installations

All replacement boilers installed under ECO2 must be accompanied by a 'qualifying warranty'.

A qualifying warranty is one that:

- a) provides for the rectification of problems notified to the person(s) providing the warranty within one year of the replacement boiler being installed
- b) accompanies the replacement boiler at the time the installation is complete. We will be satisfied that the warranty has been provided when the installation was completed if a one year qualifying warranty is in place at the date of handover<sup>185</sup>
- c) provides for the rectification, free of charge, of problems which affect the functioning of the boiler or heating system, and which relate to the replacement boiler's installation and/or design work carried out by the operative(s). Generally the scope of work required to install a boiler is as described in the manufacturer's instructions for installation. The design work is the suitability of the replacement boiler for the heating system it is intended to serve, including appropriate sizing, and
- d) is accompanied by a declaration by or on behalf of the occupier of the premises demonstrating that to the occupier's knowledge no one<sup>186</sup> has been charged for the warranty.

The warranty is not required to provide for the rectification of a problem which is covered by the manufacturer's warranty for the replacement boiler. Such warranties are likely to be limited to parts and manufacturing faults.

The warranty is not required to provide for the rectification of a problem which arises after the replacement boiler is installed where that problem arises from one or more of the following:

- a) negligence
- b) accident
- c) misuse of the replacement boiler
- d) repair of the replacement boiler

by a person other than the operative(s), warranty provider or person acting on behalf of the operative or warranty provider.

#### [Additional information for qualifying warranties for replacement boilers](#)

Where a qualifying warranty has been issued for the replacement boiler, any repair of the boiler under that warranty or under the manufacturer's warranty cannot be claimed under ECO as a heating qualifying action.

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<sup>185</sup> Please refer to Chapter 9 more information on 'date of handover'.

<sup>186</sup> This does not include the installer, supplier or any other party in the supply chain.



To demonstrate that a qualifying warranty has been provided to the occupier free of charge we will accept a copy of the qualifying warranty, marked with a signed declaration by the occupier which states:

“To my knowledge no one has been charged for this warranty. The person providing the warranty has explained what it does and does not cover”.

Signed .....

Date .....

The declaration must be on a copy of the qualifying warranty rather than on a separate document.

## Appendix 4 - Electric Storage Heaters (ESHs) Information Pack

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### Introduction

This information pack provides an overview of the different eligible electric storage heater (ESH) measures in ECO. It also details when an ESH is considered to be 'qualifying ESH', how to assess ESHs, and outlines the warranty requirements for the repair and replacement of ESHs. This appendix should be read in conjunction with Chapter 5.

This pack provides information on the following:

- |  |          |
|--|----------|
| 1. Replacement ESH   | Page 154 |
| 2. Eligible ESH measures in ECO  | Page 154 |
| 3. Determining whether an ESH is a qualifying ESH for repair and replacement | Page 156 |
| 4. Carrying out ESH assessments  | Page 158 |
| 5. Warranty requirements for ESH measures                                    | Page 159 |

### 1. Replacement electric storage heater (ESH)

A replacement ESH is an ESH that has been installed which replaces a previous heating source.<sup>187</sup>

Where there is no heating system present before installation we consider that the replacement ESH replaces direct acting portable electric heaters, as this is the assumed main space heating.

Replacement ESHs must be installed in accordance with Publicly Available Specification (PAS)<sup>188</sup> and as per the ESH manufacturer's instructions.

### 2. Eligible ESH measures in ECO

The cost scores achieved through replacing, and in some cases repairing ESHs, can be credited against a supplier's HHCR0.<sup>189</sup>

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<sup>187</sup> For example, a qualifying boiler, a non-qualifying boiler, fixed room heaters or an electric storage heater.

<sup>188</sup> See paragraphs 2.45 to 2.46 for information on which version of PAS to refer to.

<sup>189</sup> See Chapter 5 for more information on HHCR0.

There are three eligible ESH measures in HHCRO. The way in which an ESH measure is categorised depends on the heating source present in the premises before the measure is installed.

The three eligible ESH measures are:

- a. Installation of an ESH
- b. Qualifying ESH replacements, and
- c. Qualifying ESH repairs.

The scoring methodology that should be used to calculate the cost score for the installation, replacement or repair of an ESH depends on the type of heating source<sup>175</sup> already present at the premises.

#### Installation of electric storage heaters

Where an ESH is installed and it is not replacing a qualifying ESH (QESH), it may still be an eligible HHCRO measure where it makes a saving in the cost of heating the premises. The cost score for this measure should be calculated using the general cost score methodology.

#### Qualifying ESH replacements

There are two ways of demonstrating QESH replacements.

- a) Where an ESH has broken down

In this instance a QESH replacement is where an ESH being replaced:

- a. has broken down and cannot be economically repaired, and
- b. is being replaced with another ESH.

All sections of the ESH checklist, including sections B to F, must be completed for these measures.

- b) Where there are multiple ESH in one property

In this instance a QESH replacement is where an ESH:

- a. is located in the same property as a qualifying ESH replacement (which has broken down and cannot be economically repaired),
- b. has a responsiveness when assessed against SAP equal to or less than

0.2, and

- c. is being replaced by another ESH.

Section B to F of the ESH checklist do not need to be completed for these measures. However, all QESH must be recorded in sections H to J of the ESH checklist.

Replaced ESHs which do not meet all of the criteria in II above should be notified as an ESH replacement.

### QESH Repairs

The repair of an ESH is only an eligible measure where the ESH being repaired is a QESH.

A QESH repair is where an ESH:

- a. is broken down but can be economically repaired, and
- b. has a responsiveness of more than 0.2 when assessed against the SAP.<sup>190</sup>

## 3. Determining whether an ESH is a QESH for replacement or repair

This section provides information on:

- a) the criteria an ESH must meet to be judged as a QESH, and
- b) how to determine whether an ESH should be repaired or replaced.

### The criteria an ESH must meet to be judged as a QESH

An ESH must meet certain criteria to be considered a QESH for replacement or repair.

The first step in assessing whether an ESH is qualifying, for both replacements and repairs, is to determine whether the ESH is 'broken down'. Once the operative has determined that the ESH is 'broken down', they must then assess whether the ESH should be repaired or replaced.

This section provides the definition of when an ESH is broken down and whether or not it can be economically repaired.

### Broken down

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<sup>190</sup> Table 4a in the Government's Standard Assessment Procedure for Energy Rating of Dwellings (2012).

An ESH is 'broken down' if, when connected to an electric supply, it does not store heat or does not deliver any heat.

The operative should list the symptoms observed and the steps taken to reach his/her conclusion that the ESH is broken down in the *Energy Company Obligation (ECO): Electric Storage Heater Assessment Checklist* ('the ESH checklist').<sup>191</sup> See Section 4 below for more information on the ESH checklist.

### Cannot be economically repaired

An ESH which has a responsiveness of less than or equal to 0.2 (when assessed against SAP 2012) 'cannot be economically repaired'. This means that, subject to being broken down, all such ESHs can be replaced as QESHs. No assessment of the cost of repair versus replacement is required for these ESHs.

ESHs which have a responsiveness of more than 0.2 can be replaced as QESHs, but only where, through an assessment of the cost of repair versus replacement, it is determined that they 'cannot be economically repaired' (in addition to being broken down). An ESH cannot be economically repaired where:

- a. the required replacement parts for the ESH are not available (ie unavailable for purchase at a reasonable cost or within a reasonable timeframe. What is considered a reasonable timeframe and cost will depend on all the circumstances including the nature of the repair required)

OR

- b. the insulation in the ESH contains asbestos and therefore cannot be removed to access broken parts

OR

- c. the actual cost of repair is greater than the cost of replacing the ESH
- d. the actual cost of repair is greater than the relevant threshold on the ESH Economic Repair Cost Comparison Table.

### ESH Economic Repair Cost Comparison Table

When using option d. above to determine that an ESH with a responsiveness of 0.2 or more cannot be economically repaired, the ESH Economic Repair Cost Comparison Table should be used.

This table can be found in the ESH checklist.

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<sup>191</sup> See: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-electric-storage-heater-assessment-checklist>.

The table displays the maximum cost of repair for it to be considered economic for the ESH to be repaired rather than replaced. If the actual cost of repair, as calculated by the operative, is higher than the maximum cost of repair outlined in the table, the ESH cannot be economically repaired and can therefore be replaced. The maximum cost of repair depends on the type and age of the ESH.

The maximum cost of repair for each ESH type is based on the estimated replacement cost of an ESH and depreciation over time. The estimated replacement cost includes the cost of the ESH, fittings, quotation, cost of electric phase connection to match the load capacity required by the ESH, and labour.

The costs that are taken into account by the operative when calculating the actual cost of repair should, where applicable, include those listed above, plus the cost of a warranty of at least one year. Where, in addition to the repair work itself, further ESH works are necessary at the time of repair to protect the ESH for the life of the warranty (eg replacing damaged insulation), the cost of these works should be included in the actual cost of repair (subject to those works being carried out).

#### **4. Carrying out ESH assessments**

In order to determine whether an ESH is a QESH, for replacement or repair, the ESH must be assessed by a person of appropriate skill and experience ('the operative').

The operative must complete the ESH checklist to demonstrate to us whether the ESH is broken down and to assess whether the ESH can be repaired or whether it should be replaced.

This section provides information on:

- a. who is considered to have appropriate skill and experience, and
- b. using the ESH checklist.

##### **Who is considered to be have appropriate skill and experience**

The assessment and the repair or replacement of a qualifying ESH must be carried out by a person with the appropriate skill and experience (the 'operative'). Appropriate skill and experience can be demonstrated by the operative meeting the competency requirements for domestic electrical installation work listed in the 'measure specific requirements for electric storage heaters' in Annex D1 of PAS. There is no requirement for the assessment and repair/replacement to be carried out by the same person. Each appropriately qualified operative should sign the relevant section of the ESH checklist.

### Using the ESH checklist

As mentioned above, the ESH checklist should be completed, signed, and dated by the relevant operative(s), and must be made available to us on request. All steps taken by the operative in determining if the ESH is broken down should be recorded in the checklist, as well as the operative's recommendation as to whether the ESH should be repaired or replaced. The information in the checklist will form the basis of our determination of whether the ESH is broken down and whether it can/cannot be economically repaired.

A supplier may adapt the format of the ESH checklist to match its own systems, as long as the content is not changed. Suppliers may submit adapted checklists to us before use for confirmation that the content is acceptable.

It is important to note that the operative's decision to repair or replace an ESH on the basis that they consider that it is broken down and can/cannot be economically repaired does not necessarily mean that we will reach the same conclusion, particularly if we consider that an assessment has been incorrectly carried out. For this reason, suppliers should ensure that the operative, in assessing the ESH, accurately completes the ESH checklist.

Monitoring and auditing will be undertaken by us to ensure that ESH assessments are done in accordance with our requirements.

## 5. Warranty requirements for ESH measures

All ESHs repaired or installed in ECO must be accompanied by a warranty of at least one year. The requirements that the warranty must meet is dependent on the ESH measure being delivered.

### Warranties for replacement ESHs

All replacement ESHs installed under ECO must be accompanied by a warranty of at least one year. The requirements that the warranty must meet is dependent on the ESH measure being delivered.

The warranty that accompanies a replacement ESH must reflect the proper functioning of the entire ESH that has been installed.

This requirement can be met by a manufacturer's warranty and this can cover all ESHs installed in property as long as the details of the individual heaters, such as the serial numbers or any other unique identifier, are included in the warranty.

Installation of an ESH must adhere to the requirements in the manufacturer's instruction manual. If these are not met, the manufacturer's warranty may become invalid. In such cases, the ESH would be ineligible as there is no valid warranty in place.

One way that a supplier can assure themselves that an ESH has been installed to the manufacturer's requirements and therefore the warranty is valid, is through using an installer registered with a Competent Person Scheme.

If more than one ESH is installed in premises suppliers may choose to provide one warranty covering all replacement ESHs, as long as the details of the individual heaters (such as the heater serial number or any other unique detail to identify each heater) are included in the warranty.

A copy of the ESH warranty provided to the occupier must be made available to us on request.

Where a warranty has been issued for the replacement ESH, any repair of the ESH under that warranty will not be eligible for ECO savings.

#### Warranties for the repair of a QESH

The warranty must be for the proper functioning of the entire ESH, and must not be limited to the part of the ESH that has been repaired or replaced. The cost of a warranty of at least one year should be included when calculating the cost of an ESH repair and also must be provided in the ESH checklist.

A copy of the QESH repair warranty provided to the occupier must be made available to us on request.

Where a supplier issues a warranty in respect of the repair of the QESH, any subsequent repair of the ESH under that warranty will not be eligible for ECO savings.



## Appendix 5 – Relevant IUFs<sup>192</sup>

Measure	IUF (percentage)
Connection to a district heating system	10%
Draught proofing	15%
Flat roof insulation	15%
High performance external doors and passageway walkthrough doors	15%
Insulation of a cavity wall (not including party cavity wall insulation)	35%
Insulation of a party cavity wall	15%
Insulation of a mobile home	25%
Insulation of a solid brick wall built before: a) 1967, if situated in England or Wales; b) 1965, if situated in Scotland	33%
Insulation of: a) a solid wall which is not built of brick; b) a solid brick wall built in (i) 1967 or later, if situated in England or Wales; (ii) 1965 or later, if situated in Scotland	25%
Loft or rafter insulation (including loft hatch insulation)	35%
Pipework insulation	15%
Room-in-roof insulation	25%
Secondary or replacement glazing	15%
Under-floor insulation	15%

<sup>192</sup> Schedule 2 to the ECO2 Order.

## Appendix 6 - Qualifying boiler cost score methodology

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Where a boiler being replaced or repaired meets the definition of a 'qualifying boiler'<sup>193</sup>, the methodology in Formula 2.1 has been used to calculate the deemed cost score.

The deemed score for the repair or replacement of a qualifying boiler has been calculated from the starting position of 'no heating system present'. The RdSAP conventions for this situation, on which the deemed scores are based, are as follows:

- a. space heating system: direct-acting portable electric heaters throughout (ignore any secondary heating system which may be present)
- b. space heating controls: none
- c. hot water:
  - i. if actually from the broken boiler or from the (ignored) secondary heating system: enter as 'no water heating system', ie electric immersion heater (dual or single depending on the actual system installed or the type of electricity meter), or
  - ii. if from any other source (eg 'multipoint gas instantaneous', 'electric instantaneous') etc., enter as is.

Note that savings for other measures installed at the same premises as the qualifying boiler do not follow the above methodology (eg they are based on the assumption that the existing heating system is working).

The formula that has been used to calculate the deemed scores for the replacement or repair of qualifying boilers is provided below.

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<sup>193</sup> See Appendix 3 for information on qualifying boilers.

Use Formula 2.1 **OR** Formula 2.2 **OR** Formula 2.3, as appropriate.

**Formula 2.1:**<sup>194</sup>

The following formula has been used to calculate the deemed cost score for the repair or replacement of a qualifying boiler:

$$A \times N = \text{lifetime cost score (£)}$$

Where:

'A' is the deemed annual cost score.

In determining 'A' it is assumed electric room heaters are present.

AND

'N' is the lifetime of the boiler:

a. where the boiler has been *repaired*, the lifetime is:

- i. one, where a warranty of at least one year, but less than two years has been provided, or
- ii. two, where a warranty of two years or more has been provided.

b. where the boiler has been *replaced*, the lifetime is 12.

**Formula 2.2:**<sup>195</sup>

In a non-gas fuelled premises, where a qualifying boiler is repaired or is replaced by a heating measure other than an ESH, the following formula has been used to calculate the deemed cost score:

$$A \times N \times 1.45 = \text{lifetime cost score (£)}$$

**Formula 2.3:**<sup>196</sup>

Where a mains gas fuelled qualifying boiler is replaced by another mains gas fuelled boiler, the following formula has been used to calculate the lifetime deemed cost score:

$$A \times N \times 0.8 = \text{lifetime cost score (£)}$$

<sup>194</sup> Article 20 of the ECO2 Order.

<sup>195</sup> Article 23 of the ECO2 Order.

<sup>196</sup> Article 21 of the ECO2 Order.

## Appendix 7 - Qualifying electric storage heater cost score methodology

Where an ESH being repaired or replaced meets the definition of a 'qualifying electric storage heater' (QESH)<sup>197</sup> and, in the case of the replacement, is being replaced by an ESH, this methodology is used to calculate the cost score.

The score for the repair or replacement of QESHs is calculated from the starting position of 'no heating system present' for the part of the premises that is heated by the QESH to be repaired or replaced.

The RdSAP convention<sup>198</sup> for this situation, on which the deemed scores are based, is that the main space heating system is represented by direct-acting portable electric heaters throughout the dwelling. Any present secondary heating is ignored.

Note that savings for other measures installed at the same premises as the qualifying electric storage heater do not follow the above methodology (they also include the assumption that the existing heating system is working).

The formula that has been used to calculate deemed cost scores for the replacement or repair of QESHs is below.

Note that where more than one QESH is being repaired or replaced at the same premises, only one measure should be notified. The cost score for this measure should represent the cost savings related to all QESHs at the premises.

### Methodology 3: QESH cost score methodology

#### **Formula 3.1:**<sup>199</sup>

The following formula has been used to calculate the lifetime deemed score for the repair or replacement of all QESHs at the premises:

$$(A - B) \times N = \text{lifetime cost score (£)}$$

Where:

$$'A' = tA \times (tQESH / tESH)$$

$$'B' = tB \times (tQESH / tESH)$$

AND

'N' is the lifetime of the ESH:

a. where the ESH has been *repaired*, the lifetime is:

<sup>197</sup> See Appendix 4 for information on qualifying electric storage heaters.

<sup>198</sup> SAP 2012, Sections S10.1, S10.5, S10.6, Table 4a, Table 4e, Table S17 and Table S18  
: [http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012\\_9-92.pdf](http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf).

<sup>199</sup> Article 22 of the ECO2 Order.

- i. one, where a warranty of at least one year, but less than two years has been provided, or
- ii. two, where a warranty of two years or more has been provided.

b. where the ESH has been *replaced*, the lifetime is 20.

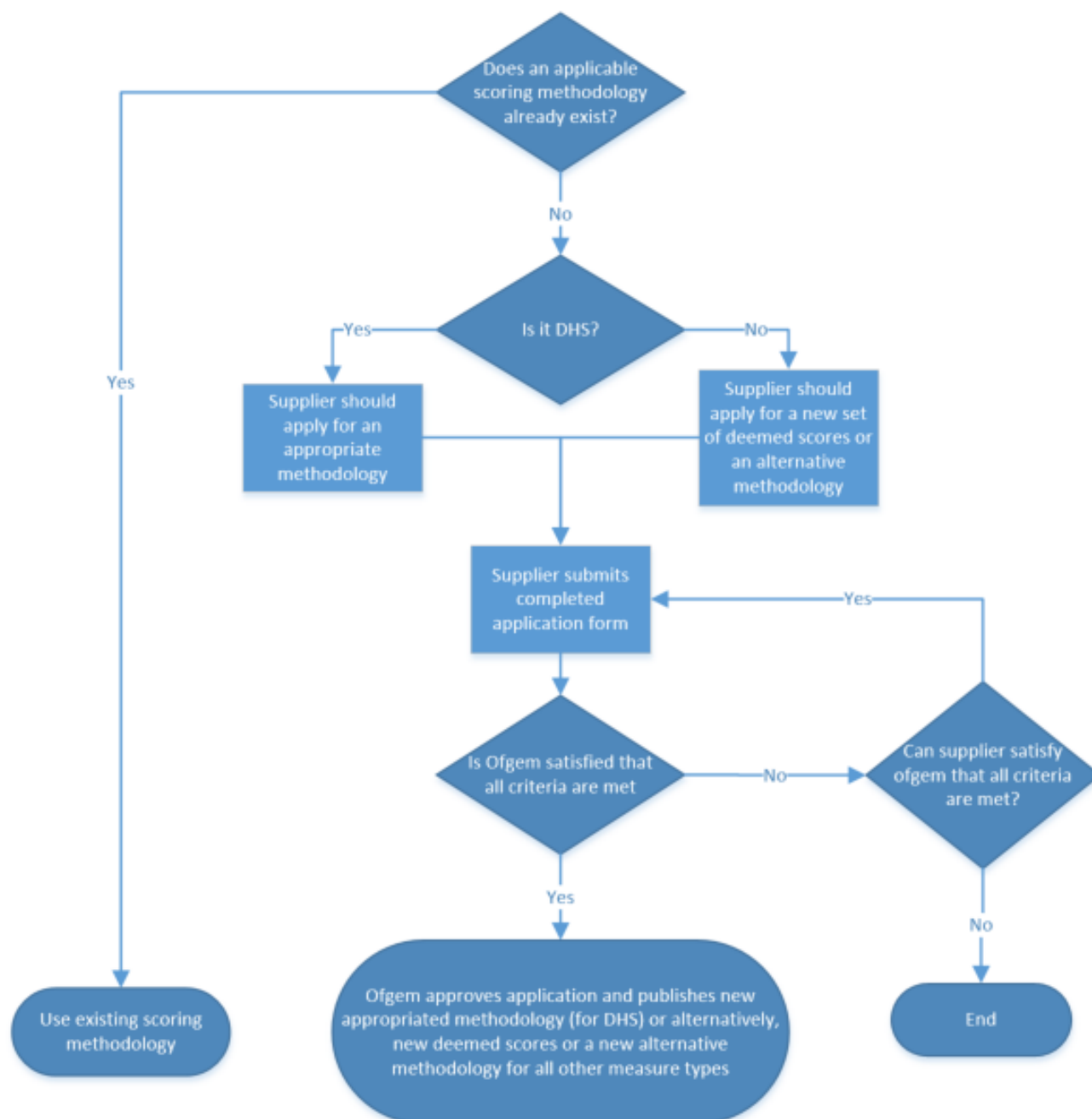
**'tESH'** is the total number of ESHs in the premises at the 'before' stage.

**'tQESH'** is the total number of QESHs in the premises at the 'before' stage.

**'tA'** is the cost of heating the premises where there is no working heating system present in the part of the premises heated by tESHs. To determine 'tA', suppliers should assume direct-acting portable electric heaters are present.

**'tB'** is the cost of heating the premises following the repair or replacement of tQESH.

## Appendix 8 – Process for new scores and alternative scoring methodologies



## Appendix 9 – Abbreviations

Abbreviation	Explanation
<b>AIStructE</b>	Associate of the Institution of Structural Engineers
<b>BEIS</b>	Department for Business, Energy and Industrial Strategy
<b>BRE</b>	Building Research Establishment
<b>CERO</b>	Carbon Emissions Reduction Obligation
<b>CSCO</b>	Carbon Saving Community Obligation
<b>CTC</b>	Child Tax Credit
<b>CWI</b>	Cavity Wall Insulation
<b>DEA</b>	Domestic Energy Assessor
<b>DHS</b>	District Heating System
<b>DWP</b>	Department for Work and Pensions
<b>ECO</b>	Energy Company Obligation
<b>EPC</b>	Energy Performance Certificate
<b>ESA</b>	Employment and Support Allowance
<b>ESAS</b>	Energy Saving Advice Service
<b>ESH</b>	Electric Storage Heater
<b>EST</b>	Energy Saving Trust
<b>EWI</b>	External Wall Insulation
<b>FIStructE</b>	Fellow of the Institution of Structural Engineers
<b>FP</b>	Fuel Poor
<b>FTCH</b>	First Time Central Heating
<b>GDA</b>	Green Deal Advisor
<b>HHCRO</b>	Home Heating Cost Reduction Obligation
<b>HHMR</b>	Home Heating Minimum Requirement
<b>HMRC</b>	Her Majesty's Revenue and Customs
<b>HTH</b>	Help to Heat
<b>IUF</b>	In-use Factor
<b>IWI</b>	Internal Wall Insulation
<b>JSA</b>	Jobseeker's Allowance
<b>LA</b>	Local Authority
<b>LSOA</b>	Lower Layer Super Output Area
<b>LIVC</b>	Low income and vulnerable to the effects of living in a cold home
<b>MCS</b>	Microgeneration Certification Scheme
<b>MIStructE</b>	Membership of the Institution of Structural Engineers
<b>OCDEA</b>	On Construction Domestic Energy Assessor
<b>PAS</b>	Publicly Available Specification
<b>PCDB</b>	Product Characteristics Database
<b>QESH</b>	Qualifying Electric Storage Heater
<b>RdSAP</b>	Reduced data Standard Assessment Procedure

<b>RHM</b>	Relevant HHCRO Multiplier
<b>RICS</b>	Royal Institution of Chartered Surveyors
<b>SAP</b>	Standard Assessment Procedure
<b>SWI</b>	Solid Wall Insulation
<b>tESH</b>	Total number of ESH
<b>TRV</b>	Thermostatic Radiator Valve
<b>UC</b>	Universal Credit
<b>UKAS</b>	United Kingdom Accredited Service
<b>WHD</b>	Warm Home Discount
<b>WTC</b>	Working Tax Credit



## Appendix 10 – Glossary

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### A

A wall insulation measure accompanied by **appropriate guarantee** receives the relevant standard lifetime. An appropriate guarantee must meet the criteria listed in our guidance. Appropriate guarantees which we have reviewed, and consider meet the criteria, are listed on our website.

### B

**Building regulations** covers the Building Regulations 2013 in England and Wales, and the Building (Scotland) Regulations 2004 in Scotland.

### C

A **caravan** means any structure designed or adapted for human habitation which can be moved from one place to another (whether by being towed, or by being transported on a motor vehicle or trailer) and any motor vehicle so designed or adapted, but does not include (a) any railway rolling stock which is for the time being on rails forming part of a railway system or (b) any tent.

The **Carbon Emissions Reduction Obligation (CERO)** is the installation of carbon qualifying actions, which are 'primary measures' (wall and roof insulation measures and connections to district heating systems (DHS)), and 'secondary' insulation measures.

A **carbon saving** refers to the tonnes of carbon dioxide (tCO<sub>2</sub>) saved at domestic premises over the expected lifetime of a measure.

The **Carbon Savings Community Obligation (CSCO)**, is the installation of carbon saving community qualifying actions, which are insulation measures and connections to DHS in areas of low income, deprived rural areas and (if promoted to people receiving certain benefits) rural areas.

A **chartered surveyor** is a RICS-qualified chartered surveyor.

**Cost saving**, in relation to a heating qualifying action, is the money saved over the expected lifetime of a measure in heating the premises and, where applicable, heating water at those premises.

A **cost score** is the contribution that a measure makes towards a supplier's total HHCR0 in pounds sterling (£). The cost score is calculated using the cost saving and the relevant HHCR0 multiplier, where applicable.

A **croft** is a relatively small piece of agricultural land, unique to the Scottish Highlands. Crofts are normally held in tenancy and may or may not have buildings associated with it. All crofts must be registered with the Crofting Commission and the occupant must comply with the legislative duties of Crofting. These include a duty to reside on or near the land and to cultivate the land. More information on crofts can be found on the Crofting Commission's website.

## D

**Date of completion** is the date on which installation of a measure was completed.

The **date of handover** is, for measures installed in accordance with PAS, the meaning of handover is defined within PAS. For measures that do not need to be installed in accordance with PAS 2030, or where no Declaration of Conformity is produced, the date of handover will be the date on which work on the installation of the measure is completed, and any relevant information or documents relating to the operation and maintenance of the measure have been provided to the consumer.

**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.

**Domestic customer** means a person living in domestic premises in Great Britain who is supplied with electricity or gas at those premises wholly or mainly for domestic purposes.

**Domestic premises** are separate and self-contained premises used wholly or mainly for domestic purposes. A mobile home is considered domestic premises if it is a caravan and is used as a dwelling.

## E

**ECO Brokerage** is an auction-based mechanism designed to enable suppliers to buy forward contracts delivering ECO measures by participating authorised sellers.

The **ECO Register** is our IT system which suppliers can use to notify and manage completed ECO measures, and submit applications for approval of transfers.

## G

A **Green Deal Advisor** (GDA) refers to an individual employed or contracted by an authorised Green Deal Assessor who visits the property to undertake an assessment and make recommendations for energy saving improvements.

## H

**The Home Heating Cost Reduction Obligation (HHCRO)** is the installation of heating qualifying actions, including insulation and the repair and replacement of boilers and electric storage heaters, to households deemed to be low income or living in fuel poverty. Measures can be delivered to premises that are occupied by someone in receipt of specific benefits (the help to heat group), listed in a local authority declaration, or social housing premises with an EPC energy efficiency rating of E, F or G.

**Help to heat group** means a group of people receiving at least one of the benefits outlined in Schedule 4B to the ECO2 Order.

The **home heating minimum requirement (HMMR)** requires a supplier to achieve at least 76% of its phase 3 HHCRO by delivering a minimum amount of measures other than the replacement of a qualifying boilers fuelled by mains gas. Where a supplier fails to meet this requirement it will fail to achieve its HHCRO.

## I

An **in-use factor (IUF)** is the percentage by which savings calculated under SAP or RdSAP should be reduced, to reflect the likely in-situ performance (as opposed to theoretical performance) of an energy efficiency measure. IUFs are only applied when calculating carbon savings.

## L

**Lifetime** is the estimated lifetime for measures. Standard lifetimes are available in the ECO2 Measures Table available on our website: <https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table>.

**Lifetime carbon saving** is the amount in tonnes of carbon dioxide that is expected to be saved over the lifetime of a measure.

**Loft insulation ≤ 100mm** is where there is less than or equal to 100mm pre-existing insulation, or

**Loft insulation > 100mm** is where there is greater than 100mm pre-existing insulation.<sup>200</sup>

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<sup>200</sup> In some instances, pre-existing insulation may be removed and new insulation installed. However, the pre-installation assessment accounts for the pre-existing insulation and so the measure should be notified as loft insulation > 100mm.

## M

A **measure** is a qualifying action, including adjoining installations.

The **minimum condition** refers to a requirement for primary CERO measures to be installed to at least 50% of the applicable area in order to support a secondary measure. In the case of loft insulation, the loft must also be insulated to a depth of no more than 150mm before insulation and insulated to a depth of at least 250mm after insulation.

A **mobile home** is considered to be domestic premises, if it is a caravan and is used as a dwelling.

## N

A '**new building**' is a building erected on or after 1st April 2017 where there is evidence that confirms that the premises were occupied or previously occupied before a measure was installed.

**Non-gas fuelled premises** are premises where the main space heating system(s) is not fuelled by mains gas or a district heating system. There may be more than one main space heating system in the premises.

A **non-gas uplift** relates to repairs or replacement of qualifying boilers and insulation measures at non-gas fuelled premises and results in an increased cost score.

The **notification deadline** is the end of the month following the month in which installation of the measure was completed.

The **notification template** describes the information that suppliers must include as part of the monthly notification for a particular type of completed measure.

## O

An **obligated supplier** is a 'supplier' as defined in this guidance.

The **occupant requirement** is a requirement for HHCRO where premises must be occupied by a member of the help to heat group.

The **overall obligation period** is the period from 1 April 2015 to 30 September 2018.

## P

**PAS** means Publicly Available Specification

**Phase** means one of the two phases of the scheme as follows:

- **Phase 1:** 1 April 2015 to 31 March 2016, and
- **Phase 2:** 1 April 2016 to 31 March 2017.
- **Phase 3:** 1 April 2017 to 30 March 2018

The **premises requirement** is a requirement for HHCRO where measures must be installed at private domestic premises.

A **'pre-existing building'** is a building erected before 1 April 2017

A **primary measure** under CERO is flat roof insulation, loft insulation, rafter insulation, room-in-roof insulation, wall insulation, insulation applied to the ceiling floor or walls of a mobile home, or a relevant district heating connection.

**Private domestic premises** are domestic premises that are, in general, not owned or let by a social landlord.

**Promotion** is where a supplier is a cause of a measure being installed. This is normally where a supplier funds all or part of the measure and funding is arranged prior to installation.

The **provisional solid wall minimum requirement (PSWMR)** is a requirement that means at least 5.4MtCO<sub>2</sub> savings must be achieved through the delivery of solid wall insulation (SWI) measures. The PSWMR is not in addition to the carbon savings to be achieved under CERO and HHCRO.

## Q

A **qualifying action** means a carbon qualifying action (CERO), a heating qualifying action (HHCRO), or a carbon saving community qualifying action (CSCO).

A **qualifying boiler** is a boiler that has broken down or is not functioning efficiently and meets the criteria explained in Chapter 5 and **Error! Reference source not found.**3 of the ECO2t Guidance: Delivery. The qualifying boiler must be assessed, as described in Appendix 3, to determine whether it should be repaired or replaced.

**Qualifying boiler deflator** relates to mains gas fuelled qualifying boilers replaced by mains gas fuelled boilers and results in a reduced cost score by 20%.

A **qualifying electric storage heater (QESH)** is an electric storage heater that has broken down and meets the criteria explained in Chapter 5 and Appendix 4 of the ECO2t Guidance: Delivery. The qualifying electric storage heater must be assessed, as described in Appendix 4, to determine whether it should be repaired or replaced.

All replacement boilers installed under ECO2 must be accompanied by a **qualifying warranty**. The requirements that a qualifying warranty must meet are explained in Appendix 3.

## R

The **Reduced data Standard Assessment Procedure (RdSAP)** is a simplified version of SAP that requires fewer data inputs. RdSAP 2012 should be used for all ECO2 measures, where RdSAP is used to calculate the score.

**Relevant district heating connection** means a connection of premises to a DHS where the premises meets one of two insulation pre-conditions, as applicable. These pre-conditions only apply to DHS connections notified under CERO and HHCRO Social E, F or G.

For HHCRO measures, a **relevant HHCRO multiplier (RHM)** may be applied as part of the cost score calculation. Depending on the type of measure and/or the type of premises, the RHM may result in an increased (the non-gas uplift) or reduced cost score (the qualifying boiler deflator).

**Roof area** means:

- for loft insulation, the area of the floor of the loft
- for rafter insulation, the area of the rafters (when measured from inside the roof)
- for flat roof insulation, the area of the roof, and
- for room-in-roof insulation, the area of the room-in-roof including the common walls, gable walls and ceiling.

**Roof insulation** refers to flat roof insulation, loft insulation, rafter insulation or room-in-roof insulation.

A **rural area** is an area in Great Britain which is described as a rural area in the *2014 low income and rural document*. See Chapter 4 for more information.

The **rural minimum requirement** requires a supplier to achieve at least 15% of its phase 3 CERO by delivering measures to domestic premises in a rural area. Where a supplier fails to meet this requirement, it will fail to achieve its CERO.

## S

**Savings** refers to both, carbon savings and cost scores.

**Score monitoring** verifies, through site visits, whether certain inputs used to calculate measure savings, relating to the characteristics of the premises or the measure, are accurate.

A **secondary measure** only applies under CERO and includes insulation measures other than primary measures. Secondary measures must be installed at the same premises as a primary measure. This includes measures such as glazing and draft proofing.

**Solid wall insulation (SWI)** means internal or external insulation of a solid wall (ie internal wall insulation (IWI) or external wall insulation (EWI)). It does not include insulation of a mobile home, which is a separate eligible ECO measure.

The **solid wall minimum requirement (SWMR)** is the proportion of a supplier's CERO that must be achieved through SWI measures. For a supplier to achieve its CERO, it must meet its SWMR.

The **Standard Assessment Procedure (SAP)** is a methodology developed by the Building Research Establishment (BRE) on behalf of the Government, to calculate the energy and environmental performance of dwellings. SAP 2012 should be used for ECO2 measures.

A **supplier** is a licence-holder where on 31 December any of the years 2014, 2015 or 2016:

- it was supplying more than 250,000 domestic customers, and
- had supplied more than 400GWh of electricity, or 2,000GWh of gas, to domestic customers during the year ending on that date.

A **surplus action** is a measure that:

- is an ECO1 qualifying action (ie is a notified ECO1 measure) and was achieved by the supplier applying for the surplus action
- is not required by that supplier to meet its obligations under the 2012 Order, and
- is an ECO1 qualifying action in respect of the ECO2 obligation it is intended to be credited towards.

## T

**Technical monitoring** verifies, through site visits, whether a measure has been installed to the relevant installation standards by a person of appropriate qualification and expertise, and whether it complies with the relevant ECO eligibility criteria.

## U

**U-value** means the measure in W/m<sup>2</sup>K of heat transmission through material.

**Used as a dwelling** means a structure being used as a home.

## W

**Wall insulation** means insulation of a cavity wall and solid wall insulation.

A **weighted average factor** is applied to savings calculated using SAP/RdSAP 2012 to convert CO<sub>2e</sub> to CO<sub>2</sub>. This conversion is done by applying a weighted average factor of 0.925 to the annual carbon saving calculated. It is not applied to cost savings.