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Energy Company Obligation 2017-2018 (ECO2t): ECO2t consultation Part one

Draft Guidance Update

Publication date: 10 February 2017

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Overview:

This draft guidance document is supplementary to our ECO2t consultation Part 1 response document. It outlines our administration for the extension to the ECO2 obligation period from 1 April 2017 to 30 September 2018.

This draft guidance includes updates that we have made to our policies and approach for the extension to ECO2 (ECO2t), based on the responses we received to our ECO2t consultation Part 1. It also accounts for changes confirmed in the government response to the ECO: Help to heat consultation.

Please send any queries to eco@ofgem.gov.uk

About this draft guidance

Background

The ECO2 Order 2014 sets out the requirements for the ECO2 obligation period, which was due to end on 31 March 2017. BEIS has confirmed an extension to the ECO2 scheme of 18 months to 30 September 2018. Details of the changes to the scheme can be found in the government response to the ECO: Help to heat consultation.[1]

In developing our guidance for the extension to ECO2 (ECO2t) we have run two separate consultations: ECO2t Part 1 and ECO2t Part 2. This updated draft guidance includes changes that we have made to our policies and approach for ECO2t, based on the responses we received to our ECO2t consultation Part 1. It also accounts for changes confirmed in the government response to the ECO: Help to heat consultation.

All changes to existing sections of the ECO2 guidance[2] are shown in red, including additional changes made as a result of the Part 1 consultation.

This draft guidance does not cover the following additions to the scheme which were confirmed in the government response to the ECO: Help to heat consultation:

- flexible eligibility – delivery to non-fuel poor private tenure homes to facilitate multi-property projects for solid wall insulation
- flexible eligibility – the requirement on local authorities to publish a statement of intent before making any declarations, and
- rural minimum requirement – a supplier must deliver 15% of its CERO to premises in rural areas.

We are consulting on these areas in our ECO2t Part 2 consultation. We are also publishing draft guidance to accompany our proposed administration of those provisions. Timelines for our ECO2t guidance development are summarised in Table 1, below.

[1] https://www.gov.uk/government/consultations/energy-company-obligation-eco-help-to-heat.

Table 1 ECO2t consultation process

	ECO2t Part 1	**ECO2t Part 2**
Consultation launch	12 October 2016	2 February 2017
Consultation close	23 November 2016	16 February 2017
Publications following our assessment of responses	Consultation response (ECO2t Part 1) Updated draft guidance (once the ECO2 amendment Order is laid before Parliament)	Consultation response (ECO2t Part 2) Final guidance (Administration and Delivery)
Publication date	30 January 2017	April 2017

ECO2t guidance

We will publish new versions of the Administration and Delivery guidance documents for ECO2t. These documents will contain all relevant information for measures installed from 1 April 2017.

The existing ECO2 guidance documents will remain live until we make our final determination for ECO2 by September 2018. However, the information and requirements within them will only apply to ECO measures installed from 1 April 2015 to 31 March 2017.

Draft contents pages for the ECO2t Administration and Delivery guidance documents can be found in Chapter 1. Each section of draft guidance is marked to show whether it will be included in the Administration or Delivery guidance. The draft guidance contains paragraph numbers for the purpose of referencing, however, please note that this is not a complete draft and so the paragraph numbers will change in the final version.

We expect to publish final versions of our ECO2t Administration and Delivery guidance documents as soon as we can, although this is likely to be after 1 April 2017.

Useful links

BEIS Help to Heat consultation document and response
https://www.gov.uk/government/consultations/energy-company-obligation-eco-help-to-heat

ECO2 Order
The Electricity and Gas (Energy Company Obligation) Order 2014[3]:
http://www.legislation.gov.uk/uksi/2014/3219/contents/made

ECO2 amendment Order (2017)
http://www.legislation.gov.uk/ukdsi/2017/9780111154175/pdfs/ukdsi_9780111154175_en.pdf

Ofgem Energy Company Obligation 2017-2018 (ECO2t): ECO2t consultation Part 1
https://www.ofgem.gov.uk/system/files/docs/2016/10/eco2t_consultation_part_1_2.pdf

Ofgem E Serve ECO2t Part I 2017-2018 (ECO2t): ECO2t consultation Response
https://www.ofgem.gov.uk/publications-and-updates/response-eco2t-consultation-part-one

Ofgem E Serve Deemed Scores Consultation Response and Scores
https://www.ofgem.gov.uk/publications-and-updates/response-eco-deemed-scores-consultation

Ofgem E Serve ECO2t Part II Consultation and Draft Guidance
https://www.ofgem.gov.uk/publications-and-updates/eco2t-consultation-part-two

ECO2 Guidance: Administration (V1.1)
https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-administration

ECO2 Guidance: Delivery (V1.1)
https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-delivery

[3] 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, (when in force).

Contents

1. Draft contents for ECO2t Guidance

The below contents pages are drafts for the Administration and Delivery guidance documents. This shows where we anticipate changes to affect the structure and content of the existing guidance documents.

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2. Structure of extension

The relevant dates and obligation sizes will be updated throughout the guidance documents to reflect the below.

ECO2 Guidance: Administration

Chapter 3: Notifying customer numbers and supply

2.1. Once a licence holder or group company has met the definition of a supplier for ECO2, ie is an obligated ECO2 supplier, it must notify us of its domestic customer numbers and supply. The information that must be notified to us, and how to calculate this information, is described below. We will use the information notified by a supplier to determine its obligations, ie the proportion of the overall ECO targets that it must achieve.

What suppliers must notify

2.2. Before each phase of ECO2 a supplier must notify us of the following:

a) the number of its domestic customers on 31 December of the previous year (see Table 2), and

b) the amount of gas or electricity (as applicable) supplied to its domestic customers between 1 January and 31 December of the previous year.

2.3. This information must be sent to us by a set notification date, using the template that we will email to suppliers before the notification date.[4]

2.4. Table 2 summarises the dates by which suppliers must notify us of their domestic customer numbers and supply, and the period of time that notification must relate to.

[4] We have already commenced this activity. Please refer to the letter sent to suppliers dated 23 December 2016.

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2.5. Where a supplier is a group company[5], it must notify us of the group's customer numbers and the amount of electricity or gas, as applicable, supplied by the group during the relevant notification period for all suppliers with the same type of supply.

2.6. In calculating group customer numbers and supply, suppliers should take into account the amount of electricity or gas supplied by the entire group during the notification period, including the supply of any licence-holders who entered the group during that notification period.

2.7. In addition, for all suppliers in the group with the same type of supply (ie gas or electricity) the supplier must also notify us of the following:

a) the names of all the suppliers in the group, and

b) the company registration number for each supplier within the group.

2.8. Where a supplier fails to provide the information specified above, or we consider that a notification is inaccurate, we may determine these figures ourselves.[6] We may also take enforcement action if appropriate.

2.9. Where a supplier which is a group company fails to provide the information specified above, or we consider any of the information to be inaccurate, we may determine the information ourselves. We may also take enforcement action if appropriate.

When suppliers must notify

2.10. Each supplier must notify us of their customer numbers and gas and/or electricity supply by a set notification date. This information must be sent to us using the template provided. We will email the template to suppliers before the notification date (see Table 2).

2.11. Table 2 summarises the dates by which suppliers must notify us of their domestic customer numbers and supply, and the period of time that notification must relate to.

[5] A 'group company' is a licence-holder that is a member of a group of companies that includes at least one other licence-holder.
[6] Articles 6(2) and (6) of the ECO2 Order.

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Table 2 Key dates for notifying domestic customer numbers and supply

Actions	Phase 1 (1 April 2015 to 31 March 2016)	Phase 2 (1 April 2016 to 31 March 2017)	Phase 3 (1 April 2017 to 30 September 2018)
Notification date	1 February 2015	1 February 2016	21 days after the commencement date of the ECO2 amendment Order (2017)
Relevant notification period	1 January to 31 December 2014	1 January to 31 December 2015	1 January to 31 December 2016

Calculating domestic customer numbers

2.12. The ECO2 Order defines a domestic customer[7] as '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'.

2.13. We recognise that suppliers cannot all use the same methodology to calculate their domestic customer numbers without significant system changes. However, suppliers must use a reasonable methodology to accurately calculate domestic customer numbers. We will audit suppliers to ensure the methodology used is reasonable after notification but before the start of each phase, as applicable.

Calculating electricity supply

2.14. To calculate the amount of electricity supply, suppliers should use the methodology below.

[7] Article 2 of the ECO2 Order.

Methodology for calculating the amount of electricity supply

ELEXON settlement data should be used for all notifications, given its acceptance for settlements data across the industry.

Suppliers should provide the total kilowatt hours (kWh) delivered to customers on Profile Classes 1 and 2. Suppliers should remove any unmetered supply from this data. This total kWh should be based on the settlement data available from 22 January of the year after the relevant year, split by licence, flow and provided to suppliers by ELEXON.

To identify the total kWh for each profile class, suppliers must use the D0030 'Non Half hourly Distribution Use of System Charges (DUoS) report' data provided to both suppliers and Licensed Distribution System Operators (LDSO). This D0030 flow contains both consumption and losses data, but only consumption data is required, as ECO only requires the volumes which have been delivered to customers. Therefore no adjustments to line losses need to be made for reporting supply amounts for ECO.

Calculating gas supply

2.15. To calculate the amount of gas supply, suppliers should use the methodology below.

Methodology for calculating the amount of gas supply

Aggregated Annual Quantity (AQ) is the estimated annual gas consumption of a customer over a year under seasonal normal conditions. AQs are set annually by Xoserve in consultation with Gas Shippers and should be used as an approximation of gas delivered to domestic customers during the notification period.

A supplier should complete the template, sent by us, to report the aggregated AQ of its domestic customers at the following five points in time, for the relevant year (ie 2016):

1 January
1 April
1 July
1 October
31 December

Suppliers should then calculate the mean of the five aggregated AQ values for a relevant year and include this in the template provided. The mean of the five AQ values is the amount of gas supply for that supplier.

Chapter 4: Setting supplier obligations

2.16. This chapter explains how we use the information provided by suppliers, to determine each supplier's obligations.

Obligations for each phase

2.17. The sum of a supplier's Carbon Emissions Reduction Obligation (CERO), Carbon Saving Community Obligation (CSCO) or Home Heating Cost Reduction Obligation (HHCRO) as applicable, over phases 1, 2 and 3 are referred to as its:

a) total carbon emissions reduction obligation

b) total carbon saving community obligation, and

c) total home heating cost reduction obligation.

2.18. A supplier must achieve its total CERO and HHCRO obligations by the end of the overall obligation period (ie by 30 September 2018). A supplier must achieve its total CSCO obligation by 31 March 2017. The obligations set for each phase of ECO2 are cumulative and do not need to be met individually. This means, for example, that a supplier is not required to meet its phase 1 CERO by the end of phase 1. Instead, a supplier's phase 1 CERO will be added to its phase 2 and phase 3 CERO, and its total CERO must be met by 30 September 2018.

2.19. In some cases we may determine that a supplier's obligation for a phase is zero. If we notify a supplier that it has a zero obligation for a phase, the supplier will still need to meet its obligations for the other phase(s).

2.20. Suppliers' obligations will be determined using the formulae described below, based on the customer numbers and amount of supply notified to us for each phase (as described in Chapter x). In addition, a supplier's CERO obligation could be subject to an increase if that supplier did not achieve its ECO1 CERO target (see paragraph x).

2.21. Suppliers are also required to deliver a total of 5.4MtCO_2 savings through the delivery of solid wall insulation measures. This is known as the provisional solid wall minimum requirement (PSWMR). PSWMR is not in addition to the overall obligations for CERO, CSCO and HHCRO, but forms part of them. We determine a supplier's PSWMR for each phase in the same way as the other obligations

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2.22. In phase 3 of ECO2 suppliers have two sub-obligations:

a. the 'home heating minimum requirement (HHMR). This requires suppliers to deliver a minimum amount of their HHCRO through measures that are not qualifying gas boiler replacements. A supplier's HHMR forms part of its HHCRO and for a supplier to achieve its HHCRO, it must meet its HHMR, and

b. the 'rural minimum requirement'. This requires suppliers to deliver a minimum amount of their CERO in rural areas. A supplier's rural minimum requirement forms part of its CERO and for a supplier to achieve its CERO it must meet its rural minimum requirement.

The overall targets for each phase of ECO2 are shown in Table 3.

Table 3 Summary of overall ECO2 targets for each obligation

Phase	CERO	CSCO	HHCRO	PSWMR
1	6.2MtCO_2	3MtCO_2	£1.85 billion	2MtCO_2
2	6.2MtCO_2	3MtCO_2	£1.85 billion	2MtCO_2
3	7.3MtCO_2	-	£2.76 billion	1.4MtCO_2

Determining supply

2.23. For the purposes of determining a supplier's or group's obligations, the amount of the electricity or gas supplied in the relevant notification period is required.

2.24. Where the amount of electricity supplied is equal to or more than 800GWh, or the amount of gas supplied is equal to or more than 4,000GWh, the amount of supply is as notified.

2.25. Where the amount of electricity supplied is more than 400 but less than 800GWh, or the amount of gas supplied is more than 2,000 but less than 4,000GWh, the amount of supply is calculated using the following formula[8]:

[8] Article 10 of the ECO2 Order.

$$(\text{A-B}) \times 2$$

Where:

'**A**' is the amount of electricity or gas notified by the supplier or group for the notification period.

'B' is in the case of an electricity supplier, 400GWh of electricity; or in the case of a gas supplier, 2,000GWh of gas.

Determining obligations for a supplier that *is not* a group company

2.26. For each obligation shown in Table 3, a supplier's obligation for a phase is calculated using the following formula[9]:

$$\frac{(\text{A} \times \text{T}_\text{X})}{\text{T}}$$

Where:

'**A**' is half of the value of the specific obligation given in Table 3.

'**Tx**' is the amount of electricity or gas supplied in the relevant notification period by the supplier, and calculated as described under *'Determining supply'*.

'**T**' is the total amount of electricity or gas (as applicable) supplied in the relevant notification period by all suppliers and calculated as described under *'Determining supply'*, excluding those suppliers whose obligation for the phase will be zero.

Determining obligations for a supplier that *is* a group company

2.27. For each obligation shown in Table 3, the supplier's obligation for a phase is calculated using the following formula[10]:

[9] Article 8 of the ECO2 Order.
[10] Article 9 of the ECO2 Order.

$$J \times \left(\frac{H}{K}\right)$$

Where:

'**J**' is calculated by applying the formula described in paragraph 2.26 above. However, in this instance '**Tx**' is the amount of electricity or gas supplied in the relevant notification period *by the group* to which that supplier belongs (where the amount of electricity or gas supplied is calculated as described under *'Determining supply'*).

'H' is the amount of electricity or gas notified by the supplier for the notification period.

'**K**' is the amount of electricity or gas supplied in the notification period by the group to which the supplier belongs.

When we will notify suppliers of their obligations for phase 3

2.28. Suppliers will be notified of their phase 3 ECO2 obligations no later than 28 days after the commencement date of the ECO2 amendment Order (2017).

Zero obligations

2.29. A supplier's obligations for a phase will be zero if, during the notification period for that phase, a supplier that is not a group company supplies equal to or less than:

a) 400GWh of electricity, or

b) 2,000GWh of gas.

2.30. A supplier's obligations for a phase will be zero if, during the notification period for that phase, a supplier is a group company and the group supplies equal to or less than:

a) 400GWh of electricity (where the supplier is an electricity supplier), or

b) 2,000GWh of gas (where the supplier is a gas supplier).

2.31. For a supplier that is obligated under ECO2 as a result of having an ECO1 CERO, but that does not meet the threshold described in Chapter x, that supplier's obligations for ECO2 will be set to zero.

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3. Final determination of CSCO

These sections are new and will be inserted into the relevant guidance chapters.

In addition to these changes, the CSCO chapter will not be included in the updated ECO2t guidance: Delivery.

ECO2 Guidance: Administration

Chapter 9: Re-elections and transfers

Re-election of CSCO measures during phase 3 of ECO2

3.1. Measures re-elected into CSCO must comply with all CSCO requirements, including the requirement to be installed before 1 April 2017.

3.2. Suppliers cannot apply to re-elect qualifying actions into CSCO after 30 June 2017.[11]

3.3. Suppliers can apply to re-elect measures out of CSCO to a different obligation until 31 December 2018.

3.4. If an application is made to re-elect CSCO measures after 30 June 2017 (after which measures cannot be re-elected or transferred into CSCO), we will only approve the re-election application if we are satisfied that the qualifying actions are not required by a supplier to meet its total CSCO.[12]

Transfer of CSCO measures during phase 3 of ECO2

3.5. Measures transferred into CSCO must comply with all CSCO requirements, including the requirement to be installed before 1 April 2017.

3.6. Suppliers cannot apply to transfer CSCO qualifying actions after 30 June 2017.[13]

3.7. However, after this date suppliers can still re-elect measures out of CSCO to a different obligation (subject to requirements above), and then transfer the measures to another supplier. To achieve this, a re-election application followed by a transfer application must be submitted before 31 December 2018.

[11] Article 31(3)(c) of the ECO2 Order.
[12] Article 31(3)(b) of the ECO2 Order.
[13] Article 26(3)(c) of the ECO2 Order.

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Chapter 10: End of the overall obligation period

Final determination of CSCO at the end of phase 2

3.8. A supplier must achieve its total ECO2 CSCO by 1 April 2017.

3.9. Suppliers must notify us of all CSCO measures completed in March 2017 by the end of April 2017, unless an extension is applied for and subsequently approved.

3.10. Extension requests for CSCO measures must follow the process for extensions in force up to and including 31 March 2017. Details of this process are available in Chapter x of the ECO2 Guidance: Administration (v1.1).

3.11. Suppliers may apply to re-elect measures into CSCO or transfer measures within CSCO up to and including 30 June 2017. Suppliers may apply to re-elect CSCO measures after this date, however we will only approve the re-election application if we are satisfied that the qualifying actions are not required by a supplier to meet its total CSCO.

3.12. We will make a final determination of whether a supplier has achieved its CSCO by 30 September 2017.

3.13. Where a supplier has not met its CSCO by 31 March 2017, we have powers to impose a penalty on that supplier. Please refer to our enforcement policy for further information.

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4. Home Heating Cost Reduction Obligation

ECO2 Guidance: Delivery

Chapter 6: Home Heating Cost Reduction Obligation

4.1. 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:

- private domestic premises occupied by someone in receipt of specific benefits (the help to heat group)
- private domestic premises listed in a local authority declaration, and
- social housing with an EPC energy efficiency rating of E, F or G.

4.2. 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).

4.3. Information on the specific documents which can be used to demonstrate that the premises and occupant requirements are met is provided in Appendix x. Additional guidance on boilers and electric storage heaters (ESHs) is provided in Appendix x and Appendix x respectively.

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Qualifying actions in HHCRO

4.4. 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 a measure where:

a) it is delivered

i. at private domestic premises occupied by a member of the 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.

4.5. 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.[14]

4.6. 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.[15]

4.7. 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*[16] of 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 one year, and

[14] More information on the requirements for PAS certification can be found in Chapter 10.
[15] See Chapter x for information on installation by a person of appropriate skill and experience.
[16] See Appendix X for information on qualifying warranties.

d) the repair of a qualifying electric storage heater (QESH). This measure must be accompanied by a warranty of at least one year.

4.8. Where both a heating measure[17] and insulation are being installed in the premises, the heating measure should be sized so that it is appropriate for the premises once the insulation has been installed.

Boilers

4.9. This section should be read in conjunction with Appendix x, 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

4.10. 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:

- has a seasonal energy efficiency[18] value of < 86%, or
- has a seasonal energy efficiency value of ≥ 86% and cannot be economically repaired.

4.11. Where a boiler being replaced meets the definition of a 'qualifying boiler' 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.

4.12. 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

4.13. Where a boiler is installed and it is not replacing a qualifying boiler, it may still be an eligible HHCRO measure. We refer to such measures as 'non-qualifying boiler installations'.

4.14. Where a replacement boiler replaces a previous heating source, it must be connected to a working heating system. If the heating system is

[17] For example, a boiler, micro generation or electric storage heaters.
[18] 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.

not working then savings will not be achieved and the boiler will not be a heating qualifying action.

The home heating minimum requirement

4.15. A supplier must meet its 'home heating minimum requirement' (HHMR), which is a sub-obligation of HHCRO. This requires suppliers to deliver a minimum amount of their HHCRO target through measures other than the replacement of a qualifying boiler fuelled by mains gas.

4.16. Other HHCRO eligible measures **except** those measure names[19] listed below can count towards a supplier's HHMR:

- QBgas_gas_[walltype]_nopreHCs
- QBgas_gas_[walltype]_preHCs
- QBgas_[walltype]_nopreHCs
- QBgas_[walltype]_preHCs

4.17. A supplier's HHMR is 76% of its phase 3 HHCRO. We calculate a supplier's HHMR during the phase 3 obligation setting period, and will determine whether a supplier has met its HHMR once all measure transfers, re-elections and approvals are finalised at the end of the obligation period.

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

4.19. Up to 30 June 2018, a supplier may choose to re-notify a 'qualifying gas boiler replacement as a non-qualifying boiler to count towards its HHMR (providing the measures are installed after 1 July 2016). To do this the supplier must submit a measure change request form. 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.

4.20. To achieve its HHCRO a supplier must also achieve its HHMR Failure to meet this requirement will result in that supplier not achieving its HHCRO.

Repair of a qualifying boiler

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

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

[19] These are taken from the ECO2t measures table. See: https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table-0.

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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).

4.23. No more than 5% of a supplier's total HHCRO can be achieved by the repair of qualifying boilers.[20]

4.24. 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

4.25. This section should be read in conjunction with Appendix x, 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

4.26. There are two ways of demonstrating QESH replacements.

I. Where an ESH has broken down

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

a) has broken down and cannot be economically repaired, and

b) is being replaced by another ESH.

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

II. Where there are multiple ESH in one property

4.28. 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),

[20] Article 16(6) of the ECO2 Order

b) has a responsiveness when assessed against SAP equal to or less than 0.2, and

c) is being replaced by another ESH.

4.29. Sections 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.

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

Electric storage heater installations

4.31. Where an ESH is installed and it is not replacing a QESH, it may still be an eligible HHCRO measure.

Repair of a qualifying electric storage heater

4.32. The repair of an ESH is only an eligible measure where the ESH being repaired is a QESH. The cost score for these measures should be calculated using the QESH cost score methodology.

4.33. 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.[21]

4.34. No more than 5% of a supplier's total HHCRO can be achieved by the repair of QESHs.[22]

4.35. 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

4.36. HHCRO measures must be delivered to private domestic premises.

[21] 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.
[22] Article 16(7) of the ECO2 Order.

4.37. Measures delivered to premises either occupied by a member of the help to heat group, or listed in a local authority declaration must meet this requirement. This requirement does not apply to social housing E, F or G measures.

4.38. Private domestic premises are domestic premises[23] that are, in general, not owned or let by a social landlord.[24]

4.39. 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 x.

4.40. 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[25]

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).

4.41. 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.

4.42. 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

4.43. 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.[26]

[23] See Chapter x for information on domestic premises.
[24] See Appendix x for information on the definition of 'social landlord'.
[25] 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 x.
[26] See Appendix x for information on calculating the market rate.

4.44. 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.

4.45. Generally, where the relevant interest is registered as belonging to an individual 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

4.46. 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, or

d) the premises are let by a social landlord at or above market rate.

Evidencing eligibility – premises

4.47. Suppliers can demonstrate to us that the premises requirements are met by ensuring that a copy of the relevant documents is available at audit.

4.48. Appendix x details which documents should be produced at audit to demonstrate that the premises requirements was met at some point during the course of promotion of the measure. Suppliers wishing to use documents which are not detailed in Appendix x should contact us.

The occupant requirement

4.49. 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

b) a household declared by a local authority as living in fuel poverty or low income and vulnerable to the effects of living in a cold home.

4.50. The occupant requirements do not apply to measures delivered to social housing with an EPC energy efficiency rating of E, F or G.

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Membership of the help to heat group

4.51. 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[27], and

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

4.52. Appendix x details the specific documents which can be used to demonstrate this requirement.

4.53. 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.

4.54. 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[28]
- Tax Credits (on the condition that the household's relevant income does not exceed the amount set out in Table 4 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 5 corresponding to the type of claim and the number of qualifying children).

4.55. Tables 4 and 5 highlight the relevant income thresholds for each household composition for Tax Credits and Universal Credit respectively.

[27] Schedule 4B to the ECO2 Order
[28] People in receipt of Pension Credit Guarantee Credit *and* Pension Credit Savings Credit are also eligible.

Table 4 Relevant annual 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
Single claim	£13,200	£17,400	£21,600	£25,800	£30,000
Joint claim	£19,800	£24,000	£28,200	£32,400	£36,600

Table 5 Relevant monthly 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
Single claim	£1,100	£1,450	£1,800	£2,150	£2,500
Joint claim	£1,650	£2,000	£2,350	£2,700	£3,050

Evidencing eligibility – help to heat group

4.56. Suppliers can demonstrate to us that this occupant requirement is met by ensuring that a copy of the relevant documents is available at audit.

4.57. Appendix x details which documents should be produced at audit to demonstrate that this 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 x should contact us.

4.58. 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.[29]

Matched Warm Home Discount (WHD) Core Group Notice – relevant for the occupant requirements

4.59. A supplier can produce a matched WHD Core Group Notice[30] at audit to satisfy us that a person is receiving state pension credit and is therefore a member of the help to heat group.

4.60. This must be dated within 18 months prior to the date of completion of the measure.

[29] This will be published before the ECO2 extension period begins on 1 April 2017.
[30] See Regulation 6(1) of the Warm Home Discount Regulations 2011 for further details.

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ESAS reference number – relevant for the occupant requirements

4.61. 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).

4.62. A person who contacts ESAS is allocated a unique seven 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 benefit.[31]

4.63. 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.

4.64. If ESAS referred a person to a supplier as matched (ie confirming that the person receives a help to heat group benefit), it 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.[32]

4.65. Where a matched seven or 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 may 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.

4.66. Although measures installed from 1 April 2017 must meet the new help to heat benefits criteria, a supplier can verify eligibility through ESAS prior to this date where the service provides early verification.

4.67. An 'unverified' or 'no consent' ESAS 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 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 and should ensure that any additional evidence that demonstrates the person is a member of the help to heat group is made available on request.

[31] As listed in 'Membership of the help to heat group'.
[32] See Chapter x for information on notification of completed measures.

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Matched 'DWP reference number'– relevant for the occupant requirements

4.68. Suppliers may arrange a contract with 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.

4.69. 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 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.

4.70. 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
- **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.

4.71. Where a 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 may 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.

4.72. Although measures installed from 1 April 2017 must meet the new help to heat benefits criteria, a supplier can verify eligibility through DWP data matching prior to this date where the service provides early verification.

4.73. An '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 and should ensure that any additional evidence that demonstrates the person is a member of the help to heat group is made available on request.

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Flexible eligibility - Local authority declarations

We have updated the flexible eligibility guidance and are consulting on new aspects in our ECO2t Part 2 consultation. Please refer to the draft guidance published alongside the Part 2 consultation for the latest flexible eligibility guidance.[33]

Social housing E, F and G

4.74. 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.

4.75. 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.[34]

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

4.77. 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.[35]

4.78. 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.

4.79. "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.

4.80. If premises had a central heating system (including renewable central heating), district heating connection or an electric storage heater in the

[33] See: https://www.ofgem.gov.uk/publications-and-updates/eco2t-consultation-part-two.
[34] Article 16A(6).
[35] Article 16A(7).

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past, but it is not present immediately prior to the delivery of an ECO measure, it is not eligible for FTCH.

4.81. Further, where a central heating system, district heating connection or an electric storage heater is present but not working, this would render the premises ineligible.

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

4.83. This information is intended as a guide. Following notification of a FTCH measure, if evidence is subsequently found at audit that demonstrates a declaration 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.[36]

4.84. As a minimum requirement, a central heating system must meet the definition of a central heating system (paragraph 4.77) and the relevant building regulations, PAS or other relevant requirements, to be eligible.

4.85. 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, or;

b. **gas room heaters;** including fixed mains gas room heaters, or;

c. **bottled LPG room heating**, notified as a proxy electric room heaters, or;

d. **solid fossil fuel room heaters,** or;

e. **wood/biomass room heating**, notified as a proxy, solid fossil fuel boiler, or;

f. **Oil room heater**, notified as a proxy LPG boiler.

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

[36] Where there is evidence of suspected fraud this will be reported to the Homes and Communities Agency or the equivalent bodies.

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4.87. The list in paragraph 4.85 above is a non- exhaustive list. Suppliers should contact us if they have queries regarding eligible pre-main heating sources for FTCH measures.

4.88. 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:

- 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

4.89. 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.[37]

4.90. 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.[38]

4.91. Information on how to identify social landlords can be found in Appendix x (see section x).

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

4.92. 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.

[37] Article 16A(7), Part 2 to Schedule 4, and paragraph (1) to Schedule 4A of the ECO2 Order
[38] Article 16A(7), Part 2 to Schedule 4, and paragraph (1) to Schedule 4A of the ECO2 Order

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

4.94. Where a pre-installation EPC is used to demonstrate the premise's energy efficiency rating, the supplier must collect a declaration signed by a 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.

4.95. Where multiple measures are installed in a single property, the property's improved energy efficiency rating must be considered prior to any subsequent qualifying installation. 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.

4.96. The supplier can demonstrate that a measure is eligible following multiple installations to the same premises 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.

4.97. We expect social landlords to have appropriate information available to them to make such a declaration.

4.98. We may not accept 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**. As such, social landlords and suppliers should satisfy themselves that there is no evidence to suggest this.

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

4.100. 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.

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Determining whether the premises are let below market rate

4.101. 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.

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

4.103. For more information on how market rate is determined for different areas see Appendix x.

Evidencing 'at no point prior'

4.104. For the installation of first time central heating systems to social housing with an EPC energy efficiency rating of E, F or G, 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.

4.105. A supplier can evidence that this requirement is met through a declaration 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 (including renewable central heating), district heating connection, or electric storage heater.

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

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

Measures installed at non-gas fuelled premises

4.108. 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

4.109. 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.

4.110. 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.

4.111. The fuel type of the main space heating system must be recorded in the declaration of conformity and completed installation.[39] This document must be made available on request.

Identifying the main space heating system

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

4.113. 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.

4.114. 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.

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

[39] We are working with the ECO reporting working group to update the declaration of conformity and completed installation to include this requirement.

5. Party Cavity Wall Insulation

The paragraph under 'Information on specific ECO measures' section will be inserted into the relevant guidance chapter. The 'Carbon Emissions Reduction Obligation' chapter has been provided in full.

In addition to these changes, the CSCO chapter will not be included in the updated ECO2t guidance: Delivery.

ECO2 Guidance: Delivery

Chapter 3: Information on specific ECO measures

Insulation of a party cavity wall

5.1. A party cavity wall insulation (PCWI) measure can support a secondary measure that was installed either six months before or six months after the date of installation of the PCWI.

Carbon Emissions Reduction Obligation

We have updated the CERO guidance chapter and are consulting on new aspects in our ECO2t Part 2 consultation. Please refer to the draft guidance published alongside the Part 2 consultation[40] for the latest CERO guidance.

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[40] *ECO2t consultation part 2 - Draft Guidance:* https://www.ofgem.gov.uk/publications-and-updates/eco2t-consultation-part-two.

6. Evidencing pre-existing loft insulation

The below section will replace the current paragraph 3.13 of the ECO2 Guidance: Delivery (v1.1).

ECO2 Guidance: Delivery

Chapter 3: Information on specific ECO measures

Loft top up measures from ≤ 100mm

6.1. For loft top-up measures where pre-existing insulation is less than or equal to (≤) 100mm, the declaration of conformity and completed installation should record the level of pre-existing insulation.

6.2. Further, at the time of installation, the installer and consumer must sign a declaration to confirm that the level of pre-existing insulation was ≤ 100mm and that no loft insulation was recently removed, before the ECO loft insulation is installed.

6.3. 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.

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.

6.4. 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.

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7. New build premises

ECO2 Guidance: Delivery

Chapter 2: Achieving obligations

New build premises

7.1. Suppliers can only deliver measures to:

i. "**pre-existing buildings"** ie a building erected before 1st April 2017,[41] or

ii. "**new buildings"** ie 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.

Confirming that premises are not new build premises

7.2. 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 suppler should make this available on request.[42]

7.3. Where the DOCC is not completed and signed to identify that the premises are pre-existing, evidence of occupancy, or evidence (see paragraph 7.14) that the building is pre-existing must be available.

7.4. 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 which meet the occupancy requirements, listed below at 7.14
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, or
f) a Building control completion certificate.

[41] Article 2(1) of the ECO2 Order
[42] We are working with the ECO reporting working group to update the declaration of conformity and completed installation to include this requirement.

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7.5. Where none of these documents are available, suppliers should contact us to discuss alternative documentation. We do not require that documentary evidence for date of build is retained.

7.6. We may carry out an audit to confirm that the DOCC has been completed as required. Where the DOCC is not completed, we may refer to publically available sources to verify the age of premises.

Evidencing requirements for delivering measures to new buildings

7.7. Where a measure is delivered to new build premises, occupancy must be evidenced.

7.8. 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.

7.9. All CERO, HHCRO Social EFG and HHCRO flexible eligibility measures delivered to new buildings require a declaration on the DOCC to be completed and signed by the occupant.

7.10. Where premises erected from 1 April 2017 are unoccupied, a declaration from a landlord or non-resident owner must be signed on the DOCC to confirm that premises were previously occupied.

7.11. 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.

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

i. A building control completion certificate, or

ii. in Scotland, notification from a local authority of acceptance of a completion certificate.

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

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

7.15. 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

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d) a tenancy agreement, or
e) an extract from the electoral register.

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

7.17. Evidence of date of completion and occupancy must be made available on request.

7.18. Where there is insufficient supporting evidence, the measure may be ineligible.

New Build Extensions

7.19. A new build extension is an extension[43] completed from 1 April 2017.

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

7.21. 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.

7.22. Suitable evidence that the extension is completed before the date of completed installation includes:

a) Building control completion certificate; or

b) In Scotland, the notification from a local authority of acceptance of a completion certificate

7.23. Where neither of these documents are available, suppliers should contact us to discuss alternative documentation. Where no documentation is available, the measure may be ineligible.

7.24. This evidence must be made available on request.

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[43] *An extension as referenced and defined by Building Regulations Part Lb, Fabric standards, at Section 4.1*: http://webarchive.nationalarchives.gov.uk/20151113141044/http://www.planningportal.gov.uk/uploads/br/br_pdf_ad_l1b_2015.pdf.

8. Automatic extensions

ECO2 Guidance: Delivery

Chapter 8: Notification of completed measures

Notifying late measures

Where a supplier notifies measures after the notification deadline, these can be dealt with in two ways:

a. The notification deadline is automatically extended for up to three months for a maximum of 5% of measures, or

b. A supplier can apply for an extension to the notification deadline.

Automatic extensions for 5% of measures

8.1. Up to 5% of measures installed in a particular calendar month 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.

8.2. Where the number of late measures notified for a particular calendar month exceeds the 5% threshold, these measures will be returned to the supplier who must submit an accompanying extension request.

8.3. Where a supplier exceeds the automatic 5% 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 returned 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

8.4. 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 5% 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.

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

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

8.5. 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 after October 2017, and up to January 2018, without needing an extension request

Supplier A submits 140 measures with a notification month of October 2017 in November 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 the 5% threshold, all 50 of these measures are returned to the supply.

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.

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

8.7. Late measures are attributed to the supplier who originally notified the measure, and will continue to form part of their automatic extension quota. Where a supplier accepts a transfer containing measures notified after the notification deadline without an extension request, these measures will not be included in the receiving supplier's quota of late measures for relevant notification period(s). As a result, transferring measures does not affect the

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allowance for automatic extensions for the original supplier that notified the measure.

8.8. The 5% is to be calculated on a group company level (ie not a licence level).

8.9. Measures to be included in the automatic 5% 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

8.10. 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.

8.11. 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.

8.12. Suppliers seeking an extension should submit a request using the 'Application for Extension' template. 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.

8.13. 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.

Reasons for an extension request

8.14. 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.

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8.15. 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.

8.16. 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.

8.17. Where similar issues are raised more than once by the supplier as a reason for a measures delay, this may not satisfy our requirements for granting an extension. Suppliers are expected to make the necessary updates to their processes to ensure issues are not repeated.

8.18. 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

8.19. 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.

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9. Trading obligations

ECO2 Guidance: Administration

New Chapter 'Trading Obligations'

9.1. Suppliers may trade all or part of their obligations between one another or between their own licences. This chapter explains:

i. what trading is
ii. the time period during which a supplier may apply for a trade
iii. limits on the amount of obligation(s) a supplier can trade
iv. the evidence we may request from each supplier in order to assess an application
v. the process for approving applications to trade obligations, and
vi. the compliance and legal liabilities of the supplier receiving a traded obligation.

9.2. Only obligated suppliers may take part in trades. In this chapter, Supplier A is the supplier passing on an obligation and Supplier B is the supplier taking on the additional obligation. Where we refer to a supplier we may, depending on the context, also be referring to supplier groups, ie groups of related companies which hold more than one licence.

Requirements for trading obligations

9.3. A supplier may trade all or part of its obligations (phases 1 to 3 inclusive) in relation to ECO2 CERO, the rural minimum requirement, HHCRO, PSWMR, and HHMR, including any obligation that has already been delivered.[44] CSCO cannot be traded.

9.4. Ofgem E-Serve administers the trading process. We will only approve trades that meet the following requirements:[45]

i. we must be satisfied that the trade is not likely to adversely affect our ability to enforce the requirements placed on Supplier B,

ii. following the trade, each supplier's PSWMR would not be more than its total CERO (this applies to both Supplier A and Supplier B),

iii. following the trade, each supplier's HHMR would not be more than its total HHCRO (this applies to both Supplier A and Supplier B),

[44] Article 30A(7) of the ECO2 Order
[45] Article 30A(4) of the ECO2 Order

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iv. following the trade, each suppliers CERO rural minimum requirement would not be more than its total CERO (this applies to both Supplier A and Supplier B), and

v. the transfer amount should not exceed Supplier A's transferring obligation.

9.5. In making a decision we will always consider each case on its individual merits and we will also have regard to whether Supplier B is capable of delivering the additional measures.

Submitting a trade application

9.6. A supplier may apply to trade an obligation at any time from 1 April 2017 up to and including 31 December 2017.

9.7. If measures are notified against a license where the obligation is traded away, the supplier which promoted these measures can submit a separate application to transfer or re-elect these measures as required. This does not need to happen before the trade.

9.8. There are two types of trading:

i. Intra-supplier trading: A supplier or supplier group may trade obligations between its own licences. For example, it may consolidate all of its obligations onto one licence to reduce the cost and complexity associated with meeting obligations on multiple licences, and

ii. Inter-supplier trading: Two suppliers may trade an obligation between one another. The terms of the trade should be agreed between the suppliers.

9.9. In either case an application for approval of a trade must be submitted to Ofgem E-Serve by appropriately authorised representatives of the supplier/licence seeking to pass on the obligation and the supplier/licence wishing to take on the obligation.

Intra-supplier trading

9.10. As a general rule an obligation can only be traded to a licence with a larger obligation. The size of the obligation on a licence will always be considered the obligation allocated to that licence as a result of the phase 3 obligation setting process, the 'original' obligation, and will not reflect any subsequent trading of obligations.

9.11. As a general rule, if a supplier or supplier group is consolidating all of its obligations onto one licence, this must be its licence with the largest original obligation at the time of obligation setting for phase 3.

9.12. The trading application must always include confirmation of which licences are involved in the trade, which obligation is to be traded and the amount to be traded.

Inter-supplier trading

9.13. Generally, where Supplier B has more than one licence, the obligation must be traded onto the licence with the largest original obligation following obligation setting for phase 3.

9.14. All applications for inter-supplier trading must include:

i. confirmation of which suppliers and licences are involved in the trade
ii. which obligation is to be traded
iii. the amount to be traded, and
iv. the annual turnover of the licence holder that is taking on the obligation.

9.15. Where Supplier B applies to take on an additional amount greater than its original phase 3 obligation it must provide additional evidence to support the application, to demonstrate that it is able to deliver the additional measures. This will generally include:

i. evidence of progress towards its current obligation
ii. details of a track record of delivering obligations
iii. evidence of completed and contracted activity, and
iv. a delivery plan for the additional measures.

9.16. For example if a supplier's CERO was 0.8MtCO_2 in each phase 1 and 2, and 0.7MtCO_2 in phase 3 (total original CERO 2.3MtCO_2), we would require additional information to support a trading application that increased the supplier's CERO to over 3 MtCO_2 (total original CERO for phases 1, 2 and 3 + a further obligation equivalent to the phase 3 CERO).

Approving a trade

9.17. We will assess whether the trade meets our requirements. If we are satisfied of this, we will approve the trade.

9.18. In the course of approving a trading application, we may ask a supplier to provide additional information in support of its application.

9.19. Within 20 working days of receiving an application we will either approve or reject the trade, or request additional information in support of the application where we do not have sufficient assurance to either approve or reject a trade.

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9.20. Applications will generally be processed in the order in which they are received but inter-supplier trades will be prioritised due to their commercial impact.

9.21. Where an application is received before the end of the 6-month trading window this will continue to be reviewed in line with the timescales described above until a decision is reached whether to approve or reject the application.

9.22. If we determine that a proposed trade does not meet our requirements, then we will reject the application. We will notify suppliers of this in writing, including any reasons for our decision relating to the relevant party.

Following approval

9.23. Following approval of a trade, we will notify the suppliers in writing and confirm their new obligations.

9.24. The supplier who has taken on the additional obligation will be wholly responsible for delivery of that obligation. If the supplier fails to deliver the obligation or comply with any other requirements under the ECO2 amendment Order in relation to the obligation then this will be considered non-compliance and any associated sanctions may be imposed on the supplier taking on the obligation.

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10. Publicly Available Specification

These sections will be inserted into the 'Achieving obligations' chapter, from paragraph 2.27 in our current ECO2 Guidance: Delivery (v1.1).

ECO2 Guidance: Delivery

Chapter 2: Achieving Obligations

Standards relating to the installation of ECO measures

10.1. 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 2030.

10.2. We will accept certification to either PAS 2030:2014 Edition 1 or PAS2030:2017 Edition 1. However from 1 June 2017 measures referred to in PAS must be installed in accordance with PAS 2030:2017 Edition 1. Therefore if a measure is referred to in either of these editions of PAS, the installation of a measure must be carried out by a PAS-certified installer and, from 1 May 2017,installed in accordance with PAS 2030:2017 Edition 1.

10.3. 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.

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11. Deemed Scores Guidance

This is new draft guidance following the published response to our consultation on deemed scores.[46] As this is completely new guidance, we have not used red text to identify changes.

The below guidance will form three new chapters in the updated ECO2 Guidance: Delivery. *Chapter 6: Information on determining ECO savings*; *Chapter 7: Deemed Scores*; and *Chapter 8: SAP/RdSAP and other scoring information*. Chapter references within the following text refer to chapter numbers that we expect to use in the final guidance document to be published in April.

ECO 2 Guidance: Delivery

Chapter 6: Information on determining ECO savings

11.1 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. Introduction to ECO savings
b. Methodologies for determining savings
c. Measure lifetimes
d. Demonstrating the accuracy of savings
e. Decimal places

Introduction to ECO savings

11.2 A 'carbon saving' means the lifetime tonnes of carbon dioxide that a qualifying action or surplus action will save.

11.3 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 (£).

11.4 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.

11.5 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.

[46] Response to ECO deemed scores consultation*:* https://www.ofgem.gov.uk/publications-and-updates/response-eco-deemed-scores-consultation.

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11.6 At a later date a supplier may wish, where a measure qualifies, to:

a. re-elect the obligation that the measure is credited against, or

b. transfer that measure to another supplier.[47]

11.7 We recommend that suppliers provide both the carbon saving and cost score (where possible) for each measure at notification to ease future transfers or re-elections.

Methodologies for determining savings

All measures, excluding District Heating Systems

11.8 In accordance with the ECO2 Order[48] Ofgem must publish a methodology through which measures apart from District Heating Systems (DHS) should be scored. As a result of this, we have developed 'deemed scores' for all major measure types, excluding DHS. Please see Chapter 7 for more information on deemed scores.

11.9 Where no deemed score is published for a certain measure type or technology, a supplier may apply for a new set of deemed scores, or an alternative scoring methodology.

11.10 Applications should consider whether the measure can be scored using SAP/RdSAP and therefore whether a new deemed score could be created based on SAP/RdSAP. If not an alternative scoring methodology should be proposed which has regard to SAP/RdSAP.

11.11 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 cover the technology and where the technology can provide a significant

11.12 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.

11.13 The iterative process for applying for a new set of deemed scores, or a new scoring methodology, can be seen in Appendix 4.

11.14 Where suppliers have submitted an application, affected measures may be

[47] See Chapter x in the ECO2 Guidance: Administration for further information on transfers and re-elections.
[48] Article 24A of the ECO2 Order.

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 assessed the application.

11.15 We will notify the supplier whether the application has been approved or rejected. If we approve an application, we will publish the approved approach on our website and other suppliers may then use it.

11.16 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.

11.17 If an alternative methodology is approved then we will publish this alongside approved appropriate methodologies on our website with an associated code. This code should be provided as part of a measure notification.

11.18 Suppliers should apply in writing to use an approved alternative methodology.

District Heating System (DHS) measures

11.19 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)
c. Where SAP or RdSAP do not contain a methodology for a particular DHS measure, an appropriate methodology may be approved by us. See paragraph 11.11 for more information.

11.20 If an update to SAP is published by government then DHS measures should be scored using the most up to date version.

11.21 If 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.

11.22 Suppliers should apply for approval in writing, and include the information we need to decide whether 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.

11.23 A supplier may install measure that requires an appropriate methodology from the day after it submits the application. However the supplier will be

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carrying out 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.

11.24 The following reasons are insufficient for us to approve an appropriate methodology:

f. The appropriate methodology produces a higher saving for a measure than SAP or RdSAP, or

g. Aspects of the SAP or RdSAP methodology are inaccurate for the measure.

11.25 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.

11.26 Where savings for a measure are calculated using an appropriate methodology, the appropriate methodology code, as shown on our website, should be provided as part of a measure notification.

11.27 Suppliers should apply in writing to use an approved appropriate methodology.

Measure lifetimes

11.28 The lifetime carbon saving or cost score for a measure reflects the expected savings that measure will make over its lifetime.

11.29 The measures table[49] 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).

11.30 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 11.131.

11.31 Suppliers can apply in writing to use a 'non-standard lifetime' (a lifetime

[49] ECO2t Measures Table: https://www.ofgem.gov.uk/publications-and-updates/eco2t-measures-table-0.

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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 on the measures table, but has sufficient evidence that a specific technology has an improved lifetime.

11.32 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.

11.33 Applying for a non-standard lifetime is an iterative process and 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 website. Another supplier should then use that lifetime when installing the same measure or technology.

Guarantee dependent lifetimes for wall insulation

11.34 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.

11.35 An appropriate guarantee[50] is one which meets the following criteria:

h. **Financial assurance**: there must be a mechanism that gives assurance that funds will be available to honour the guarantee

i. **Duration**: lasts for 25 years or longer

j. **Coverage**: provides for repair or replacement of failed measure where appropriate and covers the costs of remedial and replacement works plus materials, and

k. **Quality Assurance Framework**: there must be an assurance

[50] This is referred to as an 'appropriate warranty' in Article 18(4) of the ECO2 Order.

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.

11.36 Appropriate guarantees, which we have reviewed and consider meet the above criteria, are listed on our website.[51] If a supplier chooses to use a guarantee not included in our list, which it considers meets these criteria, we will judge 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 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.

11.37 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.[52]

11.38 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.

11.39 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.

Demonstrating the accuracy of calculations

11.40 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. 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 mentioned in this Guidance have been used to determine the savings.

11.41 After receiving this information we will attribute what we consider to be the correct savings. Until we receive this information, we are unable to attribute savings to a qualifying action.

11.42 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 their accuracy.

[51] https://www.ofgem.gov.uk/publications-and-updates/eco2t-appropriate-guarantees.
[52] Articles 18(3) and 19(3) of the ECO2 Order.

11.43 More information on audit and score monitoring is provided in Chapter x.

Decimal places

11.44 All carbon scores should be notified in tonnes of carbon dioxide ($tCO_{2)}$ 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 reduction by percentage of property treated) then rounding, to the nearest number, should only take place as the final step.

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Chapter 7: Deemed scores

11.45 This chapter is for any measures scored using a deemed score. For scoring District Heating Systems (DHS) see Chapter 8.

11.46 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 can be determined using three or four variables.

11.47 The deemed scores are published on our website[53] and the information in this chapter should be used together with the scores. The 'Deemed Scores Matrix' includes the lifetime scores for measures, taking account of the lifetime, in-use factor and relevant HHCRO multiplier.[54] These are the scores that must be notified to us upon completion of a measure.

Using the deemed scores

11.48 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.

11.49 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.

[53] https://www.ofgem.gov.uk/publications-and-updates/eco2-consultation-deemed-scores.
[54] See *Relevant HHCRO Multipliers* in Chapter 8.

11.50 For all heating measures the main wall type (either solid or cavity) is an additional variable.

11.51 The percentage of measure installed and percentage of property treated must also be determined in order to calculate the correct score.[55]

11.52 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.

Identification of property type

11.53 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)

11.54 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. For the purpose of deemed scores, 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 premises 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 flats and maisonettes the '2 external wall' score should be selected for premises with two or fewer external walls. The '3 external wall' score should be selected for premises with three or

[55] See *Percentage of measure installed* in Chapter 7.

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%).

d. 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.

e. For park home insulation measures two property types are available. The 'single' park homes are roughly 12 metres long and 3 metres wide (36m^2). The 'double' park homes are roughly 12 metres long by 6 metres wide (72m^2). Where the total floor area is different to these standard dimensions the score for the closest floor area should be selected.

f. Where a heating measure is installed in a park home, the detached bungalow archetype 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.

g. For studio flats (flats with a living room, bedroom and kitchen within one room), the one bedroom flat score should be selected

h. For enclosed (back to back) end-terrace properties, the end-terrace score should be selected

i. For enclosed (back to back) mid-terrace properties, the mid-terrace score should be selected

11.55 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

11.56 In most cases the number of bedrooms selected in the Deemed Scores Matrix will reflect the number of rooms being used as bedrooms in the property.

11.57 Where there is uncertainty regarding the number of bedrooms in the dwelling, the following definition can be used as a guide.

11.58 Where a property contains a room which is not being used as a bedroom, it can be included in the bedroom count if it meets all of the below criteria;

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a. it is additional to a kitchen, living space and dining space;

b. it meets the SAP definition of a habitable room[56]; and

c. it can horizontally accommodate a standard sized single bed; and

d. it is not a conservatory.

11.59 For clarity, the following are some examples of rooms that would not be considered as bedrooms:

a. any room without a window

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.

11.60 Suppliers should be satisfied that the number of bedrooms selected is correct, but 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

11.61 The pre main heating source must be identified to select the correct deemed score for the measure being installed.

11.62 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.

11.63 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.

11.64 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

[56] SAP 2012, S9.1, pp. 141: http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf.

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h. Gas room heaters
i. Solid fossil fuel room heaters

11.65 For heating measures the following pre main heating sources are also used:

- Gas fire with back boiler
- Gas back boiler to radiators

11.66 For park home insulation measures the following pre main heating sources are also used:

- Bottled LPG boiler
- Bottled LPG room heaters

11.67 If installing multiple measures see section 11.117 for more information.

11.68 Where a supplier installs a measure and the main heating source is not reflected in the Deemed Scores Matrix, Table 6 should be used to determine which heating source to use as a proxy for the actual heating source.

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Table 6 Deemed scores proxy heating sources

	Deemed scores proxy heating sources	
Pre-main heating source	Carbon savings	Cost savings
None present	Electric room heaters	Electric room heaters
Gas district heating system	Gas boiler	Gas boiler
Oil district heating system	Oil boiler	Oil boiler
LPG district heating system	LPG boiler	LPG boiler
Oil room heater	Electric room heaters	LPG boiler
Heat pumps central heating	Gas boiler	Oil boiler
Wood/biomass central heating[57]	0 (N/A)	Solid fossil fuel boiler
Wood/biomass room heating	0 (N/A)	Solid fossil fuel boiler
Electric Underfloor Heating	Electric storage heaters	Electric storage heaters
Gas-fuelled warm air systems	Gas boiler	Gas boiler
LPG-fuelled warm air system	LPG boiler	LPG Boiler
Electric-fuelled warm air system	Electric boiler	Electric boiler
Bottled LPG central heating	LPG boiler	LPG boiler
Bottled LPG room heater	Oil boiler	Electric room heaters

11.69 Where a heating source is identified which is not included in either the Deemed Scores Matrix or Table 6, suppliers should contact us to determine the most appropriate course of action.

11.70 When notifying an ECO measure which has used a heating source proxy, suppliers must include 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.[58]

11.71 Only certain heating sources are eligible for First Time Central Heating (FTCH), please see Chapter 6 for more information.

[57] Properties with wood heating (either central or room) are not eligible for carbon savings, as wood is assumed to be carbon-neutral.
[58] See: https://www.ofgem.gov.uk/publications-and-updates/eco2t-data-dictionary.

Identification of wall type for heating measures

11.72 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.

11.73 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.

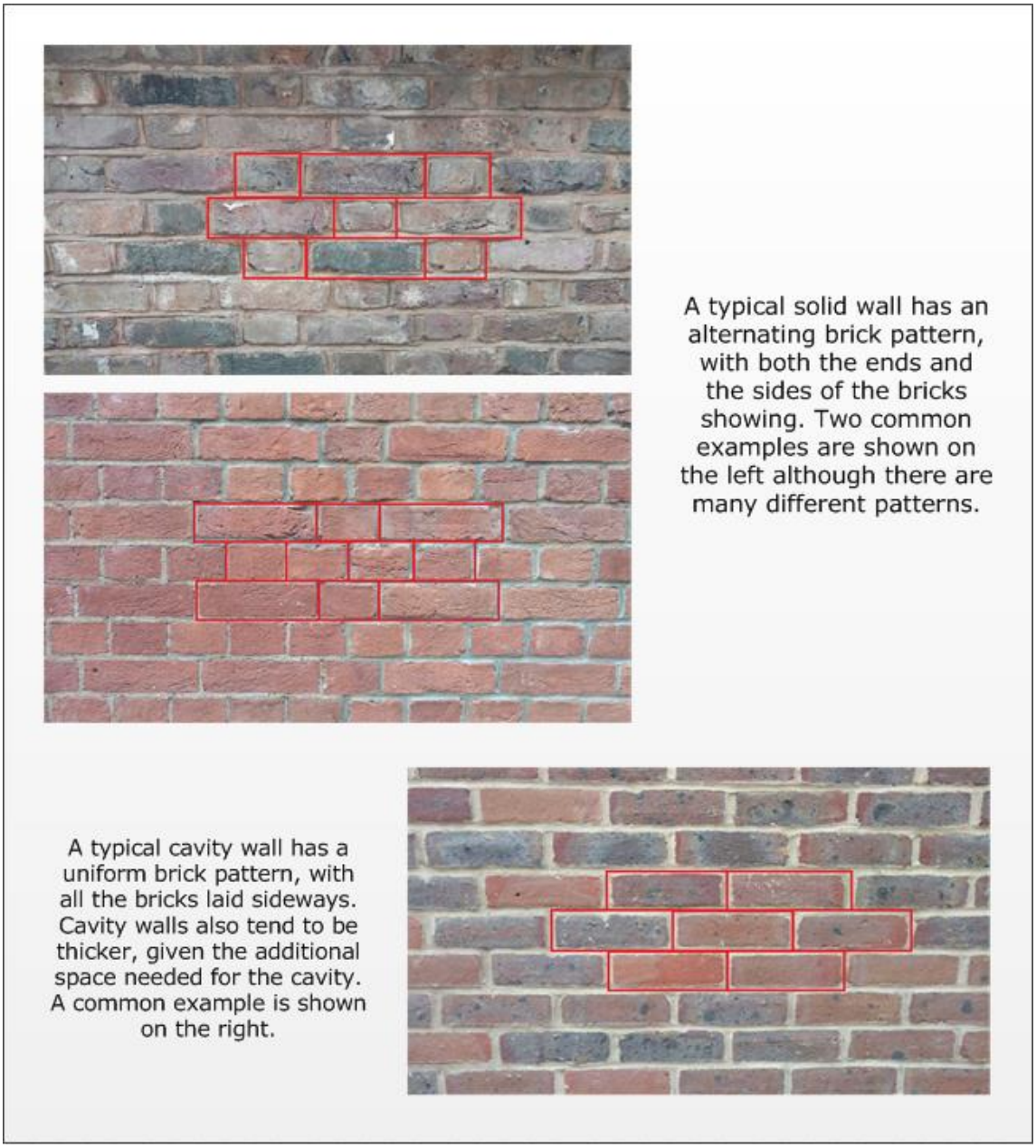

Figure 1 Example cavity wall and solid wall brick patterns

11.74 A solid wall can be brick or non-brick, and deemed scores for these two cases are distinct. Examples of what we consider a solid wall are outlined in Chapter x.

11.75 Where the wall type is hard to identify suppliers should seek expert advice.

11.76 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 a deemed score. For example, for a heating measure installation where the total external wall area is 100m^2, with 60m2 made up of cavity wall and 40m2 made up of solid wall, the deemed score for the measure should be chosen with the cavity wall variant.

11.77 Please note that a more detailed identification is necessary for selecting deemed scores for the installation of solid wall insulation. Please see paragraph 11.84 for more information.

Percentage of measure installed and percentage of property treated

11.78 Percentage of measure installed (POMI) and percentage of property treated (POPT) both need to be determined and notified for each ECO measure scored using a deemed score. However, only the percentage of property treated should be used to determine the score. The formulae below show how POMI and POPT should be calculated and the difference between the two.

11.79 As Chapter x, the POMI of an ECO measure must be 100% unless there are reasonable grounds for not doing so.

11.80 The deemed scores assume that the measure type installed treats 100% of the property. For instance a cavity wall insulation (CWI) score will assume that all walls of the property are cavity walls and all of them are treated. A gas boiler score assumes that the entire property will be heated by the gas boiler.

11.81 In many cases the percentage of measure installed and the percentage of property treated will be equal. However, there will be situations where this is not the case. For example, installing wall insulation where the property is made up of multiple wall types, or installing a heating measure where the property has multiple heating sources.

11.82 Where less than 100% of a property is treated by a particular measure type, the deemed scores should be reduced to reflect what was actually installed. The percentage should be rounded to the nearest 10%.

11.83 Below are some examples that demonstrate how the correct band should be selected, what constitutes 100% of property treated, and how savings should be calculated.

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Percentage of Measure Installed (POMI)

POMI = (A ÷ B) x 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)

POPT = (A ÷ C) x 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 would be the total external wall area; for PWI this would be the total party wall area; for roof insulation this would be the total roof area; for any heating measure this would be the total space that is heated in the property, etc.

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Examples of calculating POMI and POPT for dwellings constructed of different wall types:

- Where all external walls are the same type and all are treated with the same solution, both the percentage of measure installed and the percentage of property treated is 100%. The full, relevant deemed score should be notified.
    - For instance if all external walls are cavity walls and they are all treated with CWI then 100% of the cavity wall score should be claimed.

- Where the external walls are of different construction types this will impact the POPT. This applies where the walls are different types of solid wall, or part cavity and part solid. The POPT should reflect the correct proportion of the area treated for each wall type.

- As an example, where a property has a total external wall area of $50m^2$, of which $20m^2$ is of cavity wall construction and the other $30m^2$ is solid wall:
    - In the above scenario, where the total external cavity wall area has been treated with CWI the percentage of measure installed would be 100% and the percentage of property treated would be 40%. Therefore, 40% of the CWI deemed score should be claimed.
    - In the above scenario, if only $10m^2$ of the cavity walls were insulated of the available $20m^2$, the percentage of measure installed would be 50%. The percentage of the whole property treated would be 20%. Therefore, 20% of the CWI deemed score should be claimed.
    - In the above scenario, if all of the external walls were treated, 40% of a CWI deemed score should be claimed, and 60% of the relevant SWI deemed score should be claimed.

Examples of calculating POMI and POPT for dwellings with different roof constructions

- Some properties may have both a flat roof which could be insulated and a pitched roof with a loft. If the flat roof is treated, the deemed score should be calculated by identifying the proportion of the floor area of the property the flat roof is covering.
    - For example, if a flat roof is fully insulated on a dwelling with a total roof area of 100m^2, of which the area covered by the flat roof is 30m^2, the percentage of measure installed will be 100% and the percentage of property treated will be 30%. Therefore, 30% of the flat roof insulation deemed score should be claimed.
    - In the above example, the loft area within the pitched roof is 70m^2 of the total 100m^2 roof area. In this case, if the loft is fully treated the percentage of measure installed will be 100% and the percentage of property treated will be 70%. Therefore, 70% of the relevant loft insulation deemed score should be claimed.

Examples of calculating POMI and POPT for installation of heating measures

- 100% of the score for a heating measure may only be claimed where the installation covers the heating source for the entire property.
- Where a heating system is being replaced in a property with multiple heating systems, the score should be calculated by identifying the proportion of the property, in terms of floor area, that is being heated by the new system.
- If the measure is feeding radiator(s) or heater(s) for a room, the measure can be counted as heating the room.
    - For example, if a gas boiler is replaced where 60% of the dwelling is heated by mains gas and 40% is heated by Electric Storage Heaters (EHSs), the percentage of measure installed will be 100% and the percentage of property treated will be 60%. Therefore, 60% of the boiler installation deemed score should be claimed.
    - In the above example, if all ESHs are replaced, the percentage of measure installed will be 100% and the percentage of property treated will be 40%. Therefore 40% of the ESH deemed score should be claimed.

Measure specific guidance

Solid Wall Insulation (SWI)

11.84 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.

11.85 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 7. 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 8 shows the thickness of insulation necessary for each finishing U-value to be met.

Table 7 SWI U value variants

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

11.86 In order to select the correct SWI score the starting wall U-value should be determined, using the wall type and approximate age of the property, and the finishing wall U-value should be determined using the thickness of solid wall insulation installed. These traits of the property are outlined in the Deemed Scores Matrix.

11.87 The correct wall type can be identified in line with paragraph 11.73.

11.88 For the finishing U-value, the correct score can be selected by identifying either the thickness of material installed, or by calculating the U-value of the wall after the installation.

11.89 The deemed scores for solid wall insulation are based on various thicknesses of 'typical' solid wall insulation materials. The thickness required to achieve a specified level of thermal improvement will depend on the material.

11.90 The table 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.

11.91 The intention of this table 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 not exhaustive. However, this information should remove the need for bespoke U-value calculations in the majority of cases.

Table 8 Insulation thickness required to achieve each U-value change (and associated deemed score)

	Thickness (mm) required to achieve U-value change				
Deemed Score (U-value change)	**EPS 70, 100, 150**	**EPS 200**	**Graphite Enhanced EPS**	**PIR**	**Phenolic**
2.1 -> 0.6	50	50	40	40	30
2.1 -> 0.35	100	90	80	70	50
2.1 -> 0.3	110	100	90	80	60
2.1 -> 0.25	140	120	110	100	80
2.1 -> 0.18	200	180	160	140	110
1.7 -> 0.55	50	50	40	40	30
1.7 -> 0.35	90	80	70	60	50
1.7 -> 0.3	110	100	90	80	60
1.7 -> 0.25	130	120	110	90	80
1.7 -> 0.18	190	170	150	130	110
1.0 -> 0.45	50	50	40	40	30
1.0 -> 0.32	90	80	70	60	50
1.0 -> 0.3	90	80	70	70	50
1.0 -> 0.21	150	130	120	100	80
1.0 -> 0.17	190	170	150	130	110
0.6 -> 0.35	50	50	40	40	30
0.6 -> 0.3	70	60	50	50	40
0.6 -> 0.24	100	90	80	70	50
0.6 -> 0.18	150	140	120	110	90
0.6 -> 0.15	190	170	150	130	110
0.45 -> 0.3	50	40	40	30	30
0.45 ->0.21	100	90	80	70	60
0.45 ->0.17	140	130	110	100	80
0.45 ->0.14	190	170	150	130	110

11.92 Where the after U-values are different to the U-values in the Deemed Scores Matrix, the score can be calculated by selecting the nearest U-values. 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.

11.93 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)

11.94 There are currently three variants for CWI measures, which are shown in Table 9. For each CWI product the correct thermal conductivity should be selected. This information should be available on the product's test certificate.

11.95 Where the thermal conductivity does not match one of the three given variants the variant type is selected using the following table:

Table 9 Thermal conductivity for CWI

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

Party Cavity Wall Insulation (PCWI)

11.96 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 adjacent properties to the wall before the measure is carried out.

11.97 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.

11.98 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.

11.99 The below examples of PCWI installations show how the percentage of measure installed changes depending on the number of party walls

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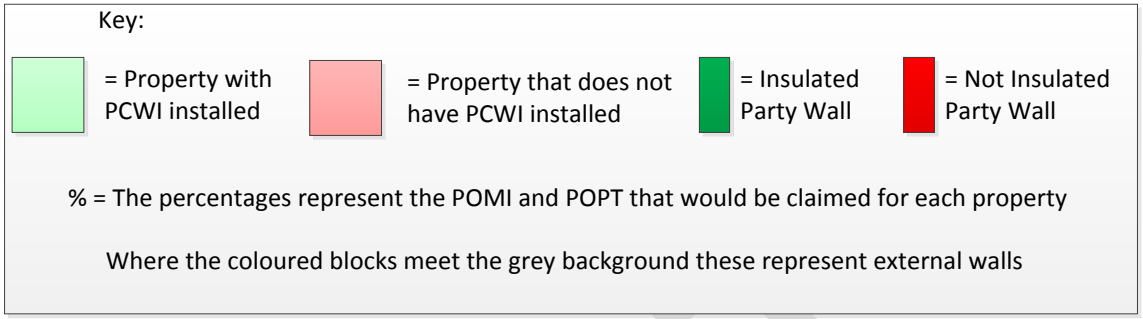
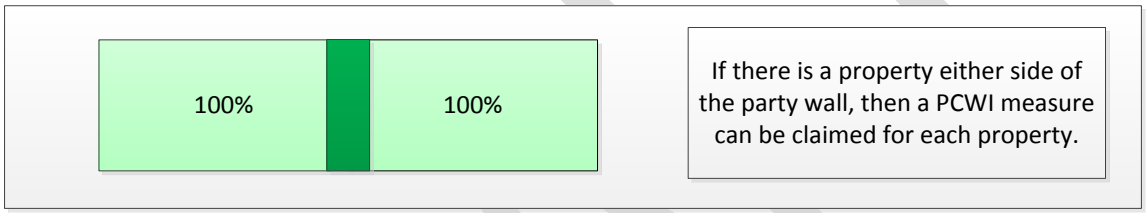
which have been insulated. This determination impacts the scoring of the measure. If suppliers are unsure as to how much of the score to claim they should contact us prior to notification of the measure.

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



Example 1:



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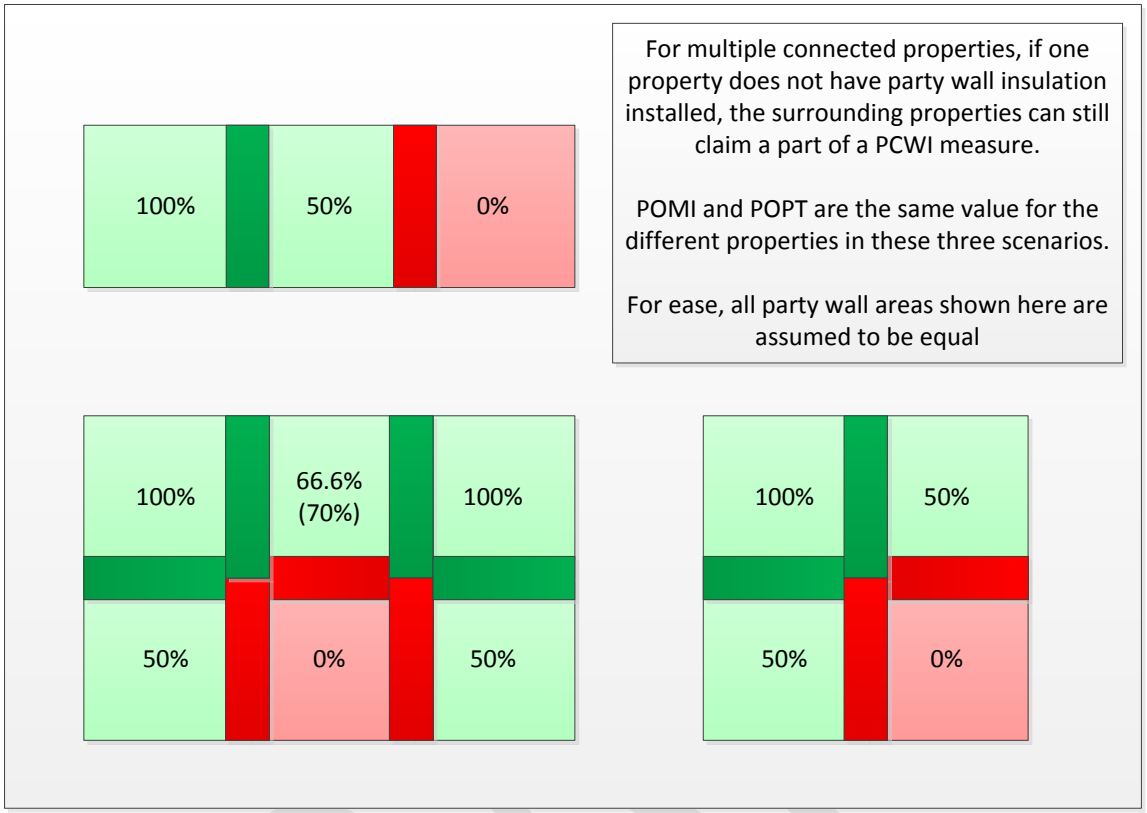
Example 2:



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Room in Roof Insulation (RIRI)

11.100 As with all measures, 100% of the measure must be installed unless there are reasonable grounds for not doing so. 100% of a RIRI measure includes, where present: the stud wall, slopes, flat ceiling, dormer windows, party walls and gable walls.

11.101 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 ground for not completing 100% of the measure (ie it could be left uninsulated, but the POMI and POPT would need to be reduced accordingly).

11.102 As an example of this, if the total area of the room in roof is 100m^2 and the party wall, with area of 20m^2, is left uninsulated, then the POMI (and the POPT) would be 80%. The same would apply if others areas in a room in roof were not fully insulated.

11.103 The residual area is the remaining loft area behind the stud walls in a room in roof. In Figure 2, it is the area highlighted green.

11.104 There are two deemed scores available for RIRI. The first variant is for installations where the residual loft area is not insulated by the installer (for example because it is already insulated), whilst the second is for installations where the residual loft area is insulated by the installer. A loft insulation measure should not be claimed in conjunction with a room in roof measure.

11.105 Any pipework in the residual area should always be insulated and this will be checked during a technical monitoring inspection.

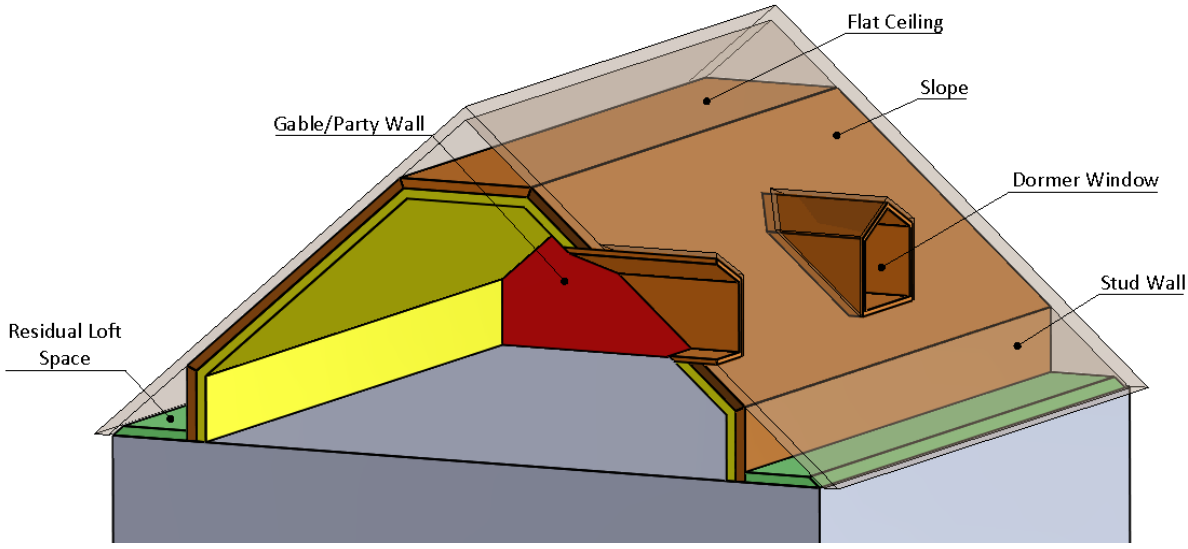

Figure 2 Areas in a room in roof

Qualifying boilers and heating controls

11.106 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.

11.107 The method for selecting the appropriate score(s) for any such scenario is listed below. The selection process is additionally shown in a flowchart in Figure 3.

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.

11.108 The flowchart below demonstrates how the correct boiler and heating controls score should be selected for boiler replacements:

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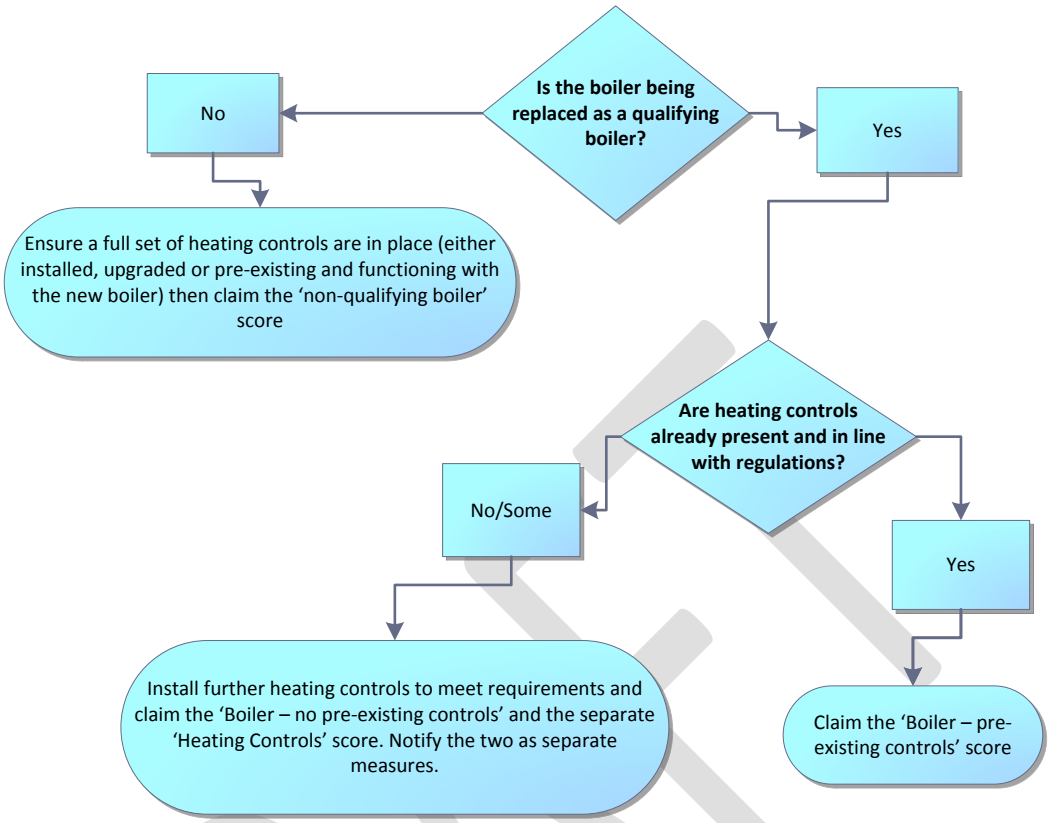

Figure 3 Flowchart for selecting boiler and heating controls scores

Electric Storage Heaters (ESH/QESH)

11.109 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 and the entire property should be adequately heated (ie there should be electric storage heaters in the main living areas, hallway and bedrooms).

11.110 Where an ESH being repaired or replaced meets the definition of a 'qualifying electric storage heater' (QESH)[59] and, in the case of the replacement, is being replaced by an ESH, the relevant QESH score can be claimed.

11.111 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 should have a reduced POPT. In a scenario where 3 out of 5 are qualifying and all 5 are

[59] See Chapter x, paragraphs x to x for information on qualifying electric storage heaters.

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replaced, the POPT for the QESH measure would be 60% and the POPT for the ESH measure would be 40%.

11.112 There are three separate scores available for storage heaters: slimline, fan storage, and high heat retention.

11.113 'Fan 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.

11.114 The heaters which deliver the highest savings are the 'high heat retention' storage heaters. In order to claim this score, suppliers should ensure that the heater meets the current SAP definition.

Extensions

11.115 ECO measures cannot be delivered to unfinished extensions.[60] 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. Therefore the percentage of property treated would have to be reduced.

11.116 As an example, where flat roof insulation is installed to a property with a flat roof, but 20% of the roof is part of unfinished extension, the percentage of property treated must be reduced by 20%.

Delivery of multiple measures

11.117 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.

11.118 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 insulation score should reflect the new heating source.

11.119 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.

[60] See Chapter 7 for more information on extensions.

Chapter 8: SAP/RdSAP and other scoring information

11.120 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 measures. DHS measures could also be scored using an appropriate methodology.[61] This chapter covers:

a) SAP/RdSAP
b) District Heating Systems (DHS)
c) Energy Performance Certificates
d) Calculating carbon savings (Chapter 8)
e) Calculating cost scores (Chapter 8)

SAP and RdSAP

11.121 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.

11.122 Where SAP or RdSAP cannot be used to score a DHS measure, suppliers can apply to us to use an appropriate methodology as outlined in Chapter 6.

11.123 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[62].

11.124 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.

11.125 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

[61] See paragraph 11.10.
[62] For SAP/RdSAP 2012: http://www.bre.co.uk/sap2012/page.jsp?id=2759.

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a. **Occupancy assessment** – suppliers should not calculate savings for measures in the 'occupancy assessment' mode

b. **Product Characteristics Database (PCDB)**[63] – 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)

11.126 A District Heating System (DHS) is a system that delivers heat through pipes or conduits to two or more domestic premises. Please refer to Chapter x for more information relating to DHS, including the preconditions, before proceeding with DHS scoring.

11.127 Savings for DHS measures should be calculated using SAP/RdSAP.

11.128 When installing DHS measures under CERO, the insulation pre-conditions must be satisfied prior to installation.[64] When calculating savings for a DHS measure, the calculations should take account of the pre-existing insulation.

11.129 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 11.117 for more information on multiple measures.

11.130 Although DHS measures should be scored using SAP/RdSAP, insulation measures must be scored using the deemed scores regardless of whether a DHS measure is or has been installed at the same premises.

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

11.131 Where a multi-fuel upgrade of a district heating system (DHS) connection consists of heat generating technologies with different

[63] See: http://www.ncm-pcdb.org.uk/sap/searchpod.jsp?id=17.
[64] *ECO2 Guidance: Delivery,* paragraph 3.24: https://www.ofgem.gov.uk/sites/default/files/docs/volume_1.1_guidance_update_delivery_-_final.pdf.

lifetimes, the formula below should be used to calculate the lifetime of the upgrade.

11.132 The formula takes into account the proportion of heat supplied by each heat 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

11.133 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

11.134 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.

11.135 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.

11.136 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.

11.137 We are aware that there are existing guidelines for 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.

11.138 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

11.139 When notifying CERO measures, suppliers must provide the carbon saving for each measure. The carbon saving is the tonnes of carbon dioxide (tCO2) saved at domestic premises over the expected lifetime of a measure. Various multipliers are applied, as outlined below.

11.140 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 calculated the deemed scores. There are instances where suppliers must use SAP or RdSAP to calculate scores for measures (such as DHS). In these instances suppliers should follow this guidance to calculate measure savings.

11.141 In order 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, as well as the CO2e conversion factor.

Weighted average factor

11.142 The ECO scheme's carbon reduction targets are measured in CO2; however, SAP and RdSAP 2012 provide emissions in terms of carbon dioxide equivalent (CO2e). It is therefore necessary to convert CO2e to CO2 when calculating savings using SAP or RdSAP.

11.143 This conversion is done by applying a weighted average factor of 0.925[65] to the annual carbon saving calculated; it is not applied to cost savings.

11.144 At notification, suppliers should only provide the carbon saving in CO2. We do not require suppliers to notify the CO2e saving to us.

In-use factors

[65] DECC's response to the discussion paper on converting SAP/RdSAP 2012 CO_2e to SAP/RdSAP 2009 CO_2: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/359744/Government_Response_on_ECO_Conversion_Factor.pdf.

11.145 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. 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.

11.146 The IUFs for most measures are shown in Appendix 1. Any measure not listed in this table has an IUF of 15%.

11.147 The IUF for solid wall insulation depends on the age and construction type of the building.

Formula for calculating a lifetime carbon saving

11.148 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:

$$(A - (A \times B)) \times 0.925 = \text{lifetime carbon saving } (tCO_2)$$

Where:

'**A**' is the lifetime CO_2e 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

11.149 Rounding should occur in line with paragraph.

Cost scores

11.150 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.

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

11.152 In order 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

11.153 This methodology has been used to calculate the lifetime deemed cost scores for all HHCRO measures except qualifying boilers[66] and qualifying electric storage heaters[67].

Methodology 1: General cost score methodology

Use Formula 1.1 ***OR*** *Formula 1.2, as appropriate.*

Formula 1.1:[68]

In general, the following formula is used to calculate the lifetime cost score for a measure:

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

Where:

'**S**' is the deemed score annual cost saving

AND

'**L**' is the lifetime of the measure.

Formula 1.2:[69]

Where an insulation measure is installed in a non-gas fuelled premises, the following formula is used to calculate the lifetime cost score:

$$(S \times L) \times 1.35 = \text{lifetime cost score (£)}$$

11.154 Rounding should occur in line with paragraph x.

Relevant HHCRO multipliers (RHMs)

[66] See Appendix 2.
[67] See Appendix 3.
[68] Article 19 of the ECO2 Order.
[69] Article 23 of the ECO2 Order.

11.155 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.[70]

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%.[71] The RHM for such a measure is 0.80.

11.156 Measures which receive an RHM are outlined in Table 10 below.

11.157 Further information on identifying and evidencing non-gas fuelled premises is provided in Chapter 8.

Table 10 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*

[70] Article 23 of the ECO2 Order.
[71] Article 21 of the ECO2 Order.

Appendix 1 Relevant IUFs[72]

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%

[72] Schedule 2 to the ECO2 Order.

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Appendix 2 Qualifying boiler cost score methodology

Where a boiler being replaced or repaired meets the definition of a 'qualifying boiler'[73], 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 cost scores for the replacement or repair of qualifying boilers is provided below.

[73] See Chapter x, paragraphs x to x for information on qualifying boilers.

Use Formula 2.1 ***OR*** *Formula 2.2* ***OR*** *Formula 2.3, as appropriate.*

Formula 2.1:[74]

The following formula has been used to calculate the deemed cost score for the repair or replacement of a qualifying boiler:

$$\text{A x N} = \text{lifetime cost score (£)}$$

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:[75]

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:

$$\text{A x N x } 1.45 = \text{lifetime cost score (£)}$$

Formula 2.3:[76]

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:

$$\text{A x N x } 0.8 = \text{lifetime cost score (£)}$$

[74] Article 20 of the ECO2 Order.
[75] Article 23 of the ECO2 Order.
[76] Article 21 of the ECO2 Order.

Appendix 3 Qualifying electric storage heater cost score methodology

Where an ESH being repaired or replaced meets the definition of a 'qualifying electric storage heater' (QESH)77 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[78] 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:[79]

The following formula has been used to calculate the lifetime deemed score for the repair or replacement of all QESHs at the premises:

$$(\mathrm{A} - \mathrm{B}) \mathrm{x}\ \mathrm{N} = \text{lifetime cost score (£)}$$

Where:

'**A**' = *tA x (tQESH /tESH)*

'**B**' = *tB x (tQESH /tESH)*

AND

'**N**' is the lifetime of the ESH:

a. where the ESH has been *repaired*, the lifetime is:

[77] See Chapter x, paragraphs x to x for information on qualifying electric storage heaters.
[78] SAP 2009/2012, 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.
[79] 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.

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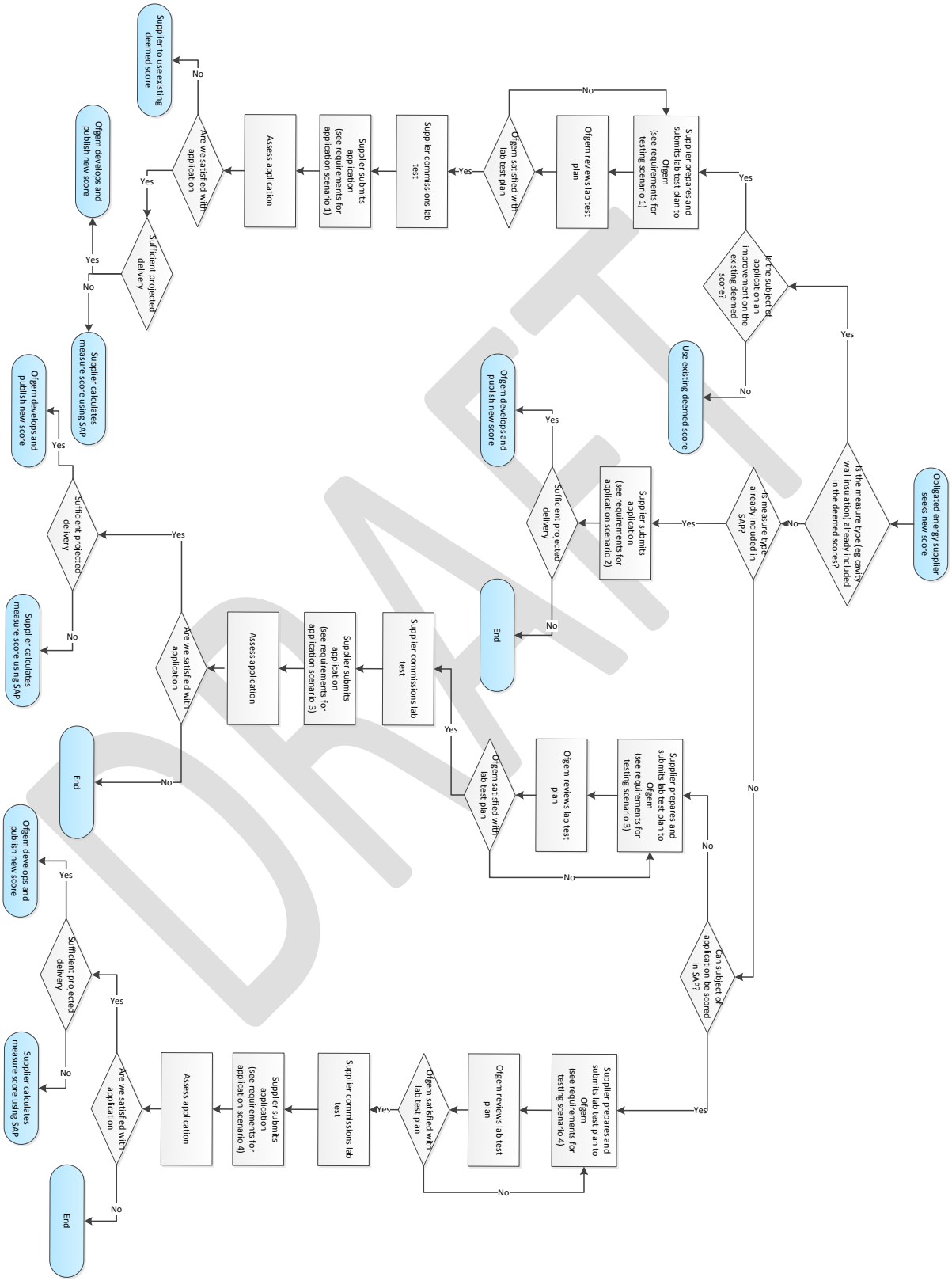
Appendix 4 – New methodology process



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