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Energy Company Obligation 2015-2017: ECO2.2 Consultation

Consultation Response Document

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Overview:

The government is extending ECO through a new obligation period from April 2015 to March 2017 (termed 'ECO2'). The Electricity and Gas (Energy Company Obligation) Order 2014 (the 'ECO2 Order') sets out the requirements for ECO2.

We recently consulted on policies we are proposing in relation to certain aspects of ECO2. These include policies where we are exercising our discretion in administering new legislative provisions for ECO2 or where we are making further improvements to our current policies.

This document summarises the responses to our consultation and, having reviewed all responses, details our final policy on the areas on which we consulted for ECO2. We also set out where we were unable to incorporate suggestions made, and explain how and why we arrived at our final position.

The ECO2 Guidance does not apply until the ECO2 obligation period commences on 1 April 2015. Until then, suppliers should refer to the ECO: Guidance for Suppliers (version 1.2), which is available on our website.

Associated documents

Ofgem Guidance

Energy Company Obligation (ECO2) Guidance: Administration: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco-2.

Energy Company Obligation (ECO2) Guidance: Delivery: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco-2.

Energy Companies Obligation (ECO): Guidance for Suppliers (Version 1.2): https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco-guidance-suppliers.

Legislation

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

Ofgem consultation documents

Energy Company Obligation 2015-2017 (ECO2): ECO2.2 Consultation https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-2017-eco2-eco2.2-consultation.

Other

Guidance on Ofgem's approach to Consultation http://www.ofgem.gov.uk/About%20us/BetterReg/Pages/BetterReg.aspx.

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Context

In early 2014, the government consulted on proposals to make changes to the Energy Company Obligation (ECO) and extend the scheme from April 2015 until March 2017. The ECO Order 2014, which sets out the requirements for this obligation period (ECO2), came into force on 5 December 2014.

In developing our guidance for ECO2, we ran two separate consultations (ECO2.1 and ECO2.2). The first consultation (ECO2.1) was run separately in order to provide early certainty on specific requirements of the Home Heating Cost Reduction Obligation (HHCRO).[1] The ECO2.2 consultation covered the remaining ECO2 legislative changes and areas where we would like to further strengthen some of our existing policies.

On 4 December 2014, we launched the ECO2.2 consultation on policies we are proposing in relation to certain aspects of ECO2 which require us to exercise some degree of discretion in administering them.

The consultation consisted of seven sets of questions on the following areas:

1. Pre-existing roof insulation requirements: Pre-conditions for DHS in CERO and CSCO
2. Cavities which cannot be insulated: Pre-conditions for DHS in CERO and CSCO
3. Calculating the lifetime for multi-fuel upgrades of existing DHS connections
4. Qualifying electric storage heaters
5. Qualifying boilers: Not functioning efficiently
6. Virgin loft insulation: New requirements
7. Technical monitoring process: Revisions

Our consultation closed on 21 January 2015. We have considered all responses and sought further legal and technical advice, where appropriate, to finalise our position.

This document summarises the responses to our consultation and, having reviewed all responses, sets out our final policy for our ECO2 guidance.[2] We also detail where we were unable to incorporate suggestions made, and explain how and why we arrived at our final position.

[1] Consultation on specific HHCRO requirements: https://www.ofgem.gov.uk//publications-and-updates/energy-company-obligation-2015-2017-eco-consultation-specific-hhcro-requirements.

[2] Appendix 2 sets out the structure of our new ECO2 Guidance.

Consultation overview

We have published the final ECO2 guidance alongside this consultation response document. It contains all of the policy decisions and changes discussed in this document.[3] Our guidance note on specific HHCRO requirements and surplus actions published following the ECO2.1 consultation is also incorporated into the final ECO2 guidance.

We received 34 responses to the consultation: seven from suppliers, four from installers, ten from the industry network including managing agents and a trade association for the energy industry, two from government bodies, two from manufacturers, three from consultancies and six from certification and guarantee bodies. A full list of respondents can be found in Appendix 1.

During the consultation period, we hosted two stakeholder workshops in London and Glasgow. These workshops covered all areas of the consultation. The purpose of these workshops was to brief stakeholders on the specific areas we were consulting on, discuss the consultation questions, and gather feedback on what level of guidance stakeholders required.

We remain committed to working with stakeholders to administer ECO as effectively as possible. Wherever possible, we will inform and consult when making significant changes to the scheme's administration and guidance.

The following chapters consider each question in turn. A summary of the responses for each question is given, plus any other pertinent points raised, followed by our response and our final policy decision. This includes any changes we made to our proposed policies as a result of the information we received in responses.

In developing our final policy for ECO2 we carefully considered all of the points raised by respondents, even if they are not specifically mentioned in this document. All 34 responses to our consultation, except those that were requested to remain anonymous, can be viewed on our website.

Any queries about our administration of the scheme should be directed to eco@ofgem.gov.uk.

Review of the scheme

The ECO legislation is the responsibility of the Department of Energy and Climate Change (DECC). Any specific queries on the legislation should be directed to deccecoteam@decc.gsi.gov.uk.

[3] See: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco-2.

1. Consultation responses to Question 1

Pre-existing roof insulation requirements: Pre-conditions for connections to district heating systems (DHS) under CERO and CSCO

Included in Chapter 3 of the ECO2 Guidance: Delivery.

Summary of responses

1.1. 24 stakeholders responded to question 1.

Q1a) Do you agree with our proposed requirements for pre-existing roof insulation? Please provide reasons for your answer.

1.2. Most respondents agreed with our proposed requirements for pre-existing roof insulation, generally considering the requirements to be sensible and consistent with our current policy for pre-existing wall insulation.

1.3. Several respondents asked for clarity on the type of evidence that would be considered acceptable to demonstrate the age of the property and/or the U-values.

1.4. Three respondents disagreed with our proposal, stating that our proposed requirements were insufficient and that they should instead align with current building regulations.

1.5. Three respondents said that by only requiring that roofs with pre-existing insulation meet U-values related to constructions of age band G, premises that could benefit from additional insulation would possibly not be treated in ECO.

Ofgem's response:

Requirements for pre-existing roof insulation for connections to DHS

1.1. As proposed in our consultation and supported by most respondents, where premises have pre-existing roof insulation which is not being claimed as an ECO measure, and which a supplier intends to use to meet pre-condition 1, we will judge that the roof area is insulated if one of the following conditions are met:

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

OR

b. where the premises were built before 1983 in England and Wales, or before 1984 in Scotland, or where the dates are unknown, the roof (with the insulation) achieves the required U-value for the relevant roof type.[4]

1.6. These requirements are included in full in paragraph 3.43 of the ECO Guidance: Delivery.

1.7. We do not consider it appropriate to require pre-existing insulation to meet current building regulations. The policy intent underpinning this requirement is for a premises to be insulated, where possible, before being connected to a DHS. We are satisfied that the above standards are sufficient to meet this intent.

1.8. These requirements are only applicable for meeting pre-condition 1 for connections to DHS. They do not apply to general ECO roof insulation measures. However, suppliers can still choose to install further roof insulation to premises and claim the additional savings in ECO.[5]

Demonstrating pre-existing roof insulation meets the requirements for pre-condition 1

1.9. We do not wish to be overly prescriptive in our evidence requirements on this area, recognising that industry already has sufficient knowledge on how to evidence the age of premises and/or the U-values achieved. Also, due to the size of DHS projects we are in contact with suppliers at an early stage of the project. As always we will be happy to discuss the appropriateness of the evidence being gathered. We have, however, provided below some examples of evidence that *could* be used. These examples will be included in Appendix 1 of the ECO2 guidance.

1.10. Documents that can be used to demonstrate the age of premises can include:

a. EPCs, or

b. SAP assessment reports.

1.11. Evidence that can be used to demonstrate U-values can include:

a. relevant building control approval, which both correctly defines the construction in question and states the calculated U-value, or

b. a U-value calculation produced or verified by a suitably qualified person.

1.12. Evidence of suitable qualifications can be demonstrated through membership of a recognised U-value calculation competency scheme (BBA/TIMSA (UK)), OCDEA

[4] The required U-values are those corresponding to age band G in SAP Appendix S.
[5] Roof insulation measures being claimed as ECO measures must meet all the relevant requirements set out in our ECO2 guidance.

membership (England and Wales, Northern Ireland) or any other scheme formally agreed between Accreditation Schemes/Approved Organisations and the Government.[6]

Other points:

Update to pre-existing wall insulation

1.13. As highlighted by some respondents, there was a slight inconsistency in our guidance on our requirements for pre-existing wall insulation. We have made a slight amendment to the text in our guidance. In line with roof insulation, this now states: *'….the premises were built, **during or after** 1983 in England and Wales, or 1984 in Scotland….'*

[6] As outlined on page 130 of SAP: http://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf.

2. Consultation responses to Question 2

Cavities which cannot be insulated: Pre-conditions for DHS under CERO and CSCO

Included in Chapter 3 of the ECO2 Guidance: Delivery.

Summary of responses

2.1. 23 stakeholders responded to question 2.

Q2a) Do you agree with our proposal that a wall with a section of cavity narrower than 40mm cannot be insulated? Please provide reasons for your answer.

2.2. All respondents agreed that a wall with a section of cavity narrower than 40mm cannot be insulated.

2.3. A number of respondents highlighted that there are currently no approved systems available which would meet building regulations for treating a cavity which is narrower than 40mm.

Q2b) Do you agree with our proposal that a wall which adjoins a wall which cannot be insulated also 'cannot be insulated'? Please provide reasons for your answer.

2.4. Three quarters of respondents agreed with this proposal that a wall which adjoins a wall which cannot be insulated also 'cannot be insulated'.

2.5. Five respondents disagreed, with two highlighting that this approach was inconsistent with our policy on the proportion of an installation that must be completed. That policy allows for the exterior-facing wall to be insulated to less than 100% where there are reasonable grounds for not insulating the remaining area. Three of the five respondents also believed that where one wall cannot be insulated the whole building should not be effectively 'exempt'. They felt that insulation should be applied wherever possible.

Q2c) Are there any other scenarios where a cavity wall cannot be insulated? Please provide reasons for your answer.

2.6. Respondents provided several additional scenarios which, they felt, could mean that a cavity wall cannot be insulated. These included:

a. cavities with recessed or raked joints

b. cavities compromised by debris, rubble or mortar

c. cavity walls with widespread spalling or flaking to the exterior of the wall

d. vented cavity walls

e. buildings taller than 25m

f. cavity walls with pre-existing damp

g. failed brick ties which promote damp to the inner leaf

h. presence of metal ties in the cavity, and

i. walls of non-traditional construction.

2.7. One respondent suggested that the criteria used to determine that a wall was a 'hard-to-treat cavity' in ECO1 should be used to define a cavity which cannot be insulated.

Q2d) For compliance purposes, how can suppliers demonstrate that a cavity wall cannot be insulated?

2.8. Several respondents argued that we should not define specific technical reasons and asked that each case be assessed individually. There is a risk, they argued, that an exhaustive list would not include all valid reasons or, conversely, it would include reasons that were not valid for every building.

2.9. Most respondents recommended that, if each case were to be assessed individually, a report or assessment by a suitably qualified professional should be used to evidence that a cavity cannot be insulated. Most suggested that chartered surveyors or structural engineers would be appropriate to produce such reports.

2.10. Six respondents recommended that we require an assessment, including photographic evidence and the use of borescope technology to demonstrate that a cavity cannot be insulated.

Ofgem's response:

Technical reasons for when a cavity in a wall 'cannot be insulated'

2.11. Given the range of potential scenarios where a cavity cannot be insulated, as listed in paragraph 2.6 above, and the distinct characteristics of each building treated, we believe that setting an exhaustive list of technical reasons would not be the best approach.

2.12. Instead, we will accept that a cavity cannot be insulated where this is demonstrated in a report based on a reasonable assessment of that cavity wall and produced by a suitably qualified professional. This approach uses the existing expertise in the

supply chain to judge whether or not a cavity can be insulated and takes into account the variation in technical issues that exist for different buildings.

Demonstrating that a cavity wall cannot be insulated with cavity wall insulation (CWI)

2.13. As stated above, for compliance purposes we will accept a report produced by a suitably qualified professional to demonstrate that a cavity cannot be insulated. We consider the following to be suitably qualified:

a. chartered surveyors accredited with a Royal Institution of Chartered Surveyors (RICS) membership (MRICS)[7] or a Fellow (FRICS) of the association who has qualified through the residential survey and valuation pathway.[8]

OR

b. structural engineers accredited with Chartered membership of the Institution of Structural Engineers (MIStructE), or an Associate (AIStructE)[9] or Fellow (FIStructE) of the institution.[10]

2.14. Having considered all options, we believe the above listed professionals are suitably qualified to produce the report. In order to gain any of the membership types detailed above, these professionals are required to have obtained relevant qualifications and to have demonstrated a high level of competence and experience.

2.15. Reports provided by a suitably qualified professional must demonstrate that there is no cavity wall insulation system available for that construction type or that the particular conditions of the wall mean that the cavity cannot be insulated.

2.16. A reasonable assessment of the wall must be undertaken before concluding that the cavity cannot be insulated. A reasonable assessment is likely to require an on-site assessment of the cavity wall and may include photographic evidence and/or the use of borescope technology where appropriate. It is for the chartered surveyor or structural engineer to use their expertise to judge that a cavity cannot be insulated with CWI.

2.17. **We will publish a report template on our website in March.[11]**

[7] This does not include Associate members (AssocRICS).
[8] For further information please visit the RICS website: www.rics.org.
[9] This does not include Associate members (AMIStructE).
[10] For further information please visit the Institute of Structural Engineers website: http://www.istructe.org/.
[11] We will publish this template on the ECO2 page on our website before 1 April 2015.

Other points:

Hard-to-treat cavities as the definition of a cavity which cannot be insulated

2.18. As noted above, one respondent suggested that if a cavity wall meets the ECO1 definition of a hard-to-treat cavity it should be judged that the cavity 'cannot be insulated'. We have not adopted this approach. Many hard-to-treat cavity walls were insulated with cavity wall insulation and approved as measures in ECO1 demonstrating that such walls can be insulated.

Treating cavity walls with a solid wall solution

2.19. One respondent felt that where the cavity cannot be filled the wall should be treated with external wall insulation. The ECO2 Order specifically states, in relation to relevant district heating connections, that external walls of a multi-storey building must be insulated where they are of cavity wall construction, except walls which have a *cavity which cannot be insulated* (that is the cavity cannot be filled with CWI).[12] Therefore, where a cavity wall cannot be insulated with CWI, in this context there is no requirement to treat that wall with internal or external wall insulation.

Enclosed passage ways and party walls

2.20. Two respondents asked whether party walls or walls bordering enclosed passageways should be insulated to meet the insulation pre-conditions for connections to DHS.

2.21. The ECO2 Order only refers to the 'external walls' of the building in relation to the insulation pre-conditions. This means there is no legislative requirement for party walls to be insulated.

2.22. To meet the insulation pre-conditions, all external cavity walls, including those which border enclosed passageways (unheated), must be insulated, unless it is determined that they cannot be insulated. Cavity walls which border a heated corridor are not considered to be external walls and therefore there is no requirement for these walls to be insulated.

[12] Article 2 of the ECO2 Order.

3. Consultation responses to Question 3

Calculating the lifetime for multi-fuel upgrades of existing DHS connections

Included in Chapter 7 of the ECO2 Guidance: Delivery.

Summary of responses

3.1. 20 stakeholders responded to question 3.

Q3a) Do you agree with our preferred approach (Option 1) for calculating the lifetime for multi-fuel DHS upgrades? Please provide reasons for your answer.

Q3b) If you do not agree with Option 1, do you agree with any of the other proposed options for calculating the lifetime for multi-fuel upgrades? If not, can you propose an alternative approach for calculating the lifetime for multi-fuel DHS upgrades?

3.2. 13 respondents agreed with our preferred approach, Option 1 (Weighted lifetime based on the proportion of savings achieved by each generator), while seven disagreed. Of those who disagreed, five preferred Option 2 (Weighted lifetime based on the proportion of heat supplied by each generator) and two preferred Option 3 (Lifetime equal to the shortest lifetime of the DHS heat generators). No respondents agreed with Option 4 (Lifetimes calculated on a case-by-case basis). We outline the responses on these options below.

Option 1 – Weighted lifetime based on the proportion of savings achieved by each generator

3.3. There was general agreement across respondents that Option 1 is a logical approach for calculating the lifetime for multi-fuel DHS upgrades as it aligns with how CERO and CSCO targets are set. It also uses existing SAP data and inputs.

3.4. Two respondents raised concerns regarding the accuracy of this approach, as it uses fixed annual CO_2 values from SAP. They suggested that the approach proposed by Ofgem would be using estimated data based on average annual climatic conditions which would not take into account the proportion of heat supplied by different generators in a system under changing climatic conditions. For example, a back-up generator may only be used to supply heat in colder conditions.

3.5. One respondent pointed out that, while resulting in very similar results, Option 1 is more complex than Option 2 as it requires a SAP assessment.

3.6. Four stakeholders highlighted some errors in our calculations of lifetimes for multi-fuel upgrades under Option 1, and stated that the example values used in the

calculations do not reflect the proportional relationship between heat supplied and CO_2 savings.

Option 2 – Weighted lifetime based on the proportion of heat supplied by each generator

3.7. Five respondents preferred Option 2, and stated that it is less complex than Option 1 while still being sufficiently accurate. Conversely, one respondent disagreed, suggesting that Option 2 may be too simplistic as it doesn't consider the carbon intensity of each generator.

3.8. One additional stakeholder preferred Option 2 as it aligns with the design of DHS projects which focus on heat supply, rather than on carbon emissions.

Option 3 – Lifetime equal to the shortest lifetime of the DHS heat generators

3.9. Four stakeholders believed Option 3 would disadvantage some technologies as it does not appropriately reflect the carbon savings achieved by the heat generating technology with the longer lifetime.

3.10. One respondent preferred this approach as it does not require any calculation steps, and can be used irrespective of fuel type.

Option 4 – Lifetimes calculated on a case-by-case basis

3.11. Four respondents agreed that Option 4 would provide a lot of flexibility since lifetimes would be awarded on a case-by-case basis, however, all respondents said it would be very onerous and time consuming for both applicants and Ofgem.

Ofgem's response:

Selected options

3.12. As highlighted by a few respondents, the calculations for both Options 1 and Option 2 produce similar lifetimes. We can confirm, having run several further calculations, that this is the case. Given that both of these options produce similar results, we have decided to adopt **Option 2** for use in ECO2 as it is less complex, does not require any inputs from a SAP assessment and is less burdensome.

3.13. However, given that most respondents preferred **Option 1** and we are satisfied that both options produce similar results, suppliers can also choose to use this approach if they believe it is more appropriate for their specific DHS project.

3.14. Based on feedback received through this consultation, we have refined the calculation for Option 1 to better align with SAP data and better reflect the total efficiency savings made by multi-fuel upgrades to DHS connections. An updated worked example is given in Table 1. We also understand that in most cases SAP inputs will be available so Option 1 will be feasible.

Discounted options

3.15. We have discounted Options 3 and 4. As noted in our consultation document, and supported by several respondents, Option 3, whilst the simplest option, assumes that the system is limited to the technology with the shortest lifetime. Also, Option 3 does not account for any continued efficiencies delivered beyond the lifetime of the generator with the shortest lifetime.

3.16. We also consider Option 4 to be unsuitable, mainly because such a bespoke approach would lead to increased burden on both suppliers and ourselves as the administrator. It would require suppliers to provide additional evidence to us for each non-standard lifetime, and depending on the time required to assess each application, could delay DHS projects.

Clarifications on Option 1

3.17. A few respondents pointed out that there was a calculation error in step 4 of the worked example included in our consultation document for Option 1. We acknowledge there was a typographical error in the example; however this had no impact on the outcome of this calculation (29 years), which was still correct.

3.18. Concerns were raised by a few respondents on how Option 1 took account of the proportion of heat supplied from each generator under changing climatic conditions. SAP/RdSAP uses annual weather data and takes into account the heat supply from both main generators and any 'back-up' generators when calculating the savings of a measure.

Refined calculation for Option 1

3.19. We have, based on the responses received, refined the approach for calculating the lifetime for an upgrade to a multi-fuel DHS using Option 1. The refined approach is shown in Table 1 alongside the results for Option 2, using the same input data, to show that they give the same result.

3.20. **The calculation steps shown below should be followed, if using Option 1, to calculate the lifetime of an upgrade to a multi-fuel DHS connection.**

Table 1 Input data and calculations steps for Option 1

Label	Description	Calculation	Example 1	Example 2	Example 3
A	Heat supplied before (kWh/year)	-	3,480,000	3,480,000	3,480,000
B	Electricity conversion factor (kgCO2/kWh)	-	0.480	0.480	0.480
C	System emissions before upgrade (kgCO2/year)	A*B	1,670,400	1,670,400	1,670,400
D	Heat supplied by heat generator X (kWh/year)	-	2,862,000	2,544,000	2,226,000
E	Biomass conversion factor (kgCO2/kWh)	-	0.027	0.027	0.027
F	Heat generator X emissions after upgrade (kgCO2/year)	D*E	77,274	68,688	60,102
G	Heat supplied by heat generator Y (kWh/year)	-	318,000	636,000	954,000
H	Gas conversion factor (kgCO2/kWh)	-	0.200	0.200	0.200
I	Heat generator Y emissions after upgrade (kgCO2/year)	G*H	63,600	127,200	190,800
J	Lifetime of heat generator X (years)	-	30	30	30
K	Lifetime of heat generator Y (years)	-	25	25	25
L	Emissions savings for heat generator X (kgCO2/year)	C *(D/(D+G))-F	1,426,086	1,267,632	1,109,178
M	Emissions savings for heat generator Y (kgCO2/year)	C *(G/(G+D))-I	103,440	206,880	310,320
N	Total emissions saving (kg/CO2/year)	C-F-I	1,529,526	1,474,512	1,419,498
O	Proportion of savings for heat generator X	L/N	0.93	0.86	0.78
P	Proportion of savings for heat generator Y	M/N	0.07	0.14	0.22
Q	Proportion of heat supplied by heat generator X	-	0.90	0.80	0.70
R	Proportion of heat supplied by heat generator Y	-	0.10	0.20	0.30
	Weighted lifetime (years) OPTION 1	(J*O) + (K*P)	**30**	**29**	**29**

3.21. For comparison, below we have included the lifetimes for the three examples calculated using Option 2. As shown, these are the same as those calculated using Option 1.

	Weighted lifetime (years) OPTION 2	(Q*J)+(R*K)	**30**	**29**	**29**

4. Consultation responses to Question 4

Qualifying electric storage heaters

Included in Chapters 6 and 7b and Appendix 4 of the ECO2 Guidance: Delivery.

Summary of responses

4.1. 20 stakeholders responded to question 4.

Q4a) Do you agree with our proposed definition of a 'broken down' ESH? Please give reasons for your answer.

4.2. Almost three-quarters of respondents largely agreed with our proposed definition of 'broken down' for electric storage heaters (ESHs). However, several suggested we should broaden our definition to include instances when an ESH is unable to *store* heat, not just when it is unable to *deliver* heat.

4.3. Some of the respondents who agreed with our definition suggested that we should also provide guidance on how the operative assessing the ESH can establish that it is broken down. A few respondents also asked, based on the information we provided in the consultation, how an ESH could be tested during the day given ESHs run on off-peak tariffs. Some respondents suggested adding a requirement which specifies that the operative must always use a multimeter to determine if the ESH is working.

4.4. Six respondents disagreed with our proposed definition. Of these, two stakeholders felt our definition was too high level and should include more detail on what is causing the ESH to be broken down.

4.5. Three stakeholders highlighted that our definition does not include situations where the ESH is not working but the fault is easy or inexpensive to repair. They suggested that these faults should always be repaired, rather than replacing the ESH.

4.6. One respondent suggested that ESHs which are not completely broken down should also be included in our definition if component failure means that very little heat is being delivered.

4.7. A number of respondents asked for clarity on the specific qualifications the operative is required to have in order to carry out the assessment. Two suggested that only qualified electricians should be considered suitable to assess an ESH and complete the ESH checklist.

4.8. Two respondents raised concerns that the responsiveness of 0.2 (against SAP) is too low as this represents extremely inefficient ESHs. They felt ESHs with higher responsiveness, such as 0.4, should also be replaced rather than repaired.

4.9. Two respondents suggested that there may be reasons external to the ESH which are causing it to be broken down, such as problems with the electricity supply. For this reason, testing of the ESH should be able to determine that the cause is an internal fault, rather than an external issue.

Q4b) Do you agree with our proposal for judging that an ESH cannot be economically repaired? Please give reasons for your answer.

4.10. The majority of respondents agreed with our proposal for judging that an ESH cannot be economically repaired.

4.11. Some respondents did so mainly because it aligns with our policy on boilers. A few respondents also suggested that we should produce a checklist for ESHs, similar to that produced for boilers, which should be used to demonstrate the responsiveness of the ESH and to collect information on the reasons for either repairing or replacing the ESH.

4.12. Six respondents suggested that where an ESH is broken down and there is asbestos present in the unit, the ESH should always be replaced rather than repaired for health and safety reasons.

Q4c) Do you agree with the thresholds given in the ESH Economic Repair Cost Comparison Table? Please give reasons for your answer.

4.13. Almost all respondents to this question agreed with the introduction of a cost comparison table for assessing whether or not it is economical to repair an ESH.

4.14. Two respondents asked us to explain how the ESH economic repair cost thresholds were calculated.

4.15. Five respondents asked us to provide further guidance on how to demonstrate the age of an ESH.

4.16. Another respondent recommended that the column incorporating convector storage heaters should be removed because there are no such heaters with a responsiveness of more than 0.2.

Ofgem's response:

Definition of a 'broken down' ESH

4.17. Based on the consultation responses received, and further engagement with industry, we have broadened our definition of 'broken down' to also include 'unable to store heat'. This reflects the fact that a working ESH is defined by its ability to both store and deliver heat, and therefore both of these functions must be assessed to determine whether or not an ESH is broken down. Our definition now states: *An ESH is 'broken*

down' if, when connected to an electric supply, it does not store heat or does not deliver any heat.

4.18. We do not think it is appropriate for us to provide specific guidance on the steps the operative should follow when assessing an ESH. This aligns with our policy for boilers where we also do not specify how the assessment should be carried out. We do, however, require that the operative is suitably qualified and meets the competency requirements as specified in PAS.In March we will publish an ESH checklist for assessing and evidencing whether an ESH meets the definition of a qualifying ESH, which operatives will be required to complete. Where an operative has concluded that an ESH is broken down they must complete the checklist, which will show the steps they took to determine that the ESH was broken down and the faults they identified as being responsible.

4.20. Some respondents were concerned that it may be difficult to test ESHs during the day as they operate using off-peak electricity tariffs. However, we understand it is standard practice for operatives to test the electrical components of ESHs using multimeters or similar equipment. These instruments allow operatives to assess the ESH and test the components unaffected by the lack of mains electric supply during the day.

4.21. The ECO2 Order states that we must be satisfied that an ESH has *broken down* for it to be considered a qualifying ESH for repair or replacement.[13] While we recognise that there may be situations where an ESH is only partially working, the ECO2 Order is prescriptive on this point and does not allow such ESHs to be considered qualifying ESHs. Similarly, the responsiveness threshold of 0.2, for certain ESHs, is set in legislation and therefore we cannot introduce a different threshold in our guidance.[14]

Cannot be economically repaired

4.22. We will judge that an ESH cannot be economically repaired if it meets the criteria as set out in our consultation document, which were supported by most respondents. In addition to the criteria set out, where an ESH contains asbestos we will also judge that it 'cannot be economically repaired'. We understand that there are still a few ESHs in-situ, manufactured before the early 1970's, which contain asbestos. Given the health and safety risks, the increased cost of repair, and the likely low responsiveness of such ESHs, we consider that these units cannot be economically repaired and therefore should be replaced.

The ESH cost comparison table

[13] In limited circumstances, an ESH may be a qualifying ESH because it is located in the same premises as another ESH which has broken down – see part (ii) of the definition of 'qualifying electric storage heater' in article 2 of the ECO2 Order.
[14] Article 2 of the ECO2 Order.

4.23. As stated in our consultation, we worked closely with industry in developing the cost comparison table. The maximum cost of repair for an ESH is calculated based on the type and age of the ESH, and the estimated average installation cost of replacing the ESH. The estimated installation cost includes the cost of the ESH, fittings, quotation, labour and a warranty of at least one year.

Determining the age of an ESH

4.24. We have engaged with industry and understand the ESH operative will generally be able to determine the age of the ESH based on the model, brand and type. Furthermore, the age of most ESHs can be determined by looking at the serial number on the unit. Serial numbers provide information on the year of manufacture in the following way:

a. before 1997, the year of manufacture is the last two digits of the serial number (eg, 90 for 1990), or

b. since 1997, the year of manufacture is signified by a letter, starting at A = 1997, B = 1998, C = 1999, etc.

4.25. We recognise that there are other ways of determining the age of the ESH, such as contacting the manufacturer or referring to the installation paperwork.

4.26. We have also updated the cost comparison table to include an option for the operative to select 'more than 13 years' as a single age category. This takes account of the difficulties in identifying the age of older units, and that the cost of repairing units over 13 years old will be relatively similar.

Convector storage heaters in the ESH cost comparison table

4.27. Based on information provided by respondents and following further engagement with industry experts we have removed convector storage heaters from the cost comparison table. We understand that there are no convector storage heaters with a responsiveness of more than 0.2. This means that all broken down convector storage heaters can be replaced as qualifying ESHs and operatives do not have to assess whether they can be 'economically repaired' using the cost comparison table.

Other points:

Dealing with duplication

4.28. Some respondents asked for clarification on how we will ensure there is no duplication of ESH measures, particularly where different suppliers have repaired or replaced qualifying ESHs in the same property. We will require the operative to detail the location of the ESH which was repaired or replaced on the ESH checklist, and provide the serial number of repaired or installed ESHs, as applicable. As part of our

deduplication process, we will contact the suppliers involved to confirm the information provided on the checklist and determine which ESHs can be claimed as ECO measures.

Calculating savings for qualifying ESHs

4.29. A number of respondents asked for clarity on how savings for qualifying ESHs should be calculated, particularly in relation to heating 'part of the premises'. The scoring methodology for calculating savings for qualifying ESHs is included in Chapter 7b of our ECO2 Guidance: Delivery.

The ESH assessment checklist will be available on our website in March.[15]

[15] We will publish the ESH assessment checklist on the ECO2 page on our website before 1 April 2015.

5. Consultation responses to Question 5

Qualifying boilers: Not functioning efficiently

Included in Chapters 6 and 7b and Appendix 3 of the ECO2 Guidance: Delivery.

Summary of responses

5.1. 19 stakeholders responded to question 5.

Q5a) Do you agree that 'boiler and system sludge' and 'unstable firing' alone are insufficient reasons for a boiler to be replaced? Are there any other faults which on their own are insufficient reasons for a boiler to be replaced? Please give reasons for your answers.

5.2. Over half of respondents agreed with our proposal in principle.

5.3. Respondents agreed that, in the majority of cases, boilers affected by one of these faults alone can be repaired at a reasonably low cost and therefore it would not be necessary to replace the boiler. However, a number of respondents were concerned that this approach does not take into account situations where attempts to repair the boiler are unsuccessful or where it is more economical to replace the boiler. They noted that this change, as proposed, would not allow for boilers with these faults to be replaced in ECO.

5.4. Respondents provided examples of when it would be best to replace the boiler, including situations where:

- the severity of the sludge means it cannot be removed from the boiler
- power-flushing the system is ineffective or results in additional damage to the boiler, and
- the unstable firing of the boiler is being caused by a more serious mechanical or electrical fault which cannot be repaired.

5.5. Several stakeholders noted that, regardless of whether the boiler is repaired or replaced, system sludge should always be removed. They highlighted that not removing the sludge can affect the future performance of the new or repaired boiler. One stakeholder suggested that the cost of power-flushing should be included when calculating the cost of repair.

5.6. A number of respondents pointed out that 'unstable firing' is a symptom of another mechanical or electrical failure. Therefore, the root cause of the fault needs to be identified before deciding whether to replace or repair the boiler. They suggested

that 'unstable firing' should be replaced with 'mechanical or electrical fault' in the boiler checklist.

5.7. Respondents did not suggest any other faults which on their own should be considered insufficient reasons to replace a boiler.

Q5b) Do you agree that 'no boiler ignition' and 'unstable firing' should be considered separately? Please give reasons for your answers.

5.8. Almost all respondents agreed that 'no boiler ignition' and 'unstable firing' should be considered separately, with many stating that the cause of these two faults may well arise from different issues which require different solutions.

5.9. Three stakeholders highlighted that both faults can be symptoms of a mechanical or electrical failure and that 'no boiler ignition' and 'unstable firing' should be replaced in the checklist with 'mechanical or electrical fault', with an added requirement on the boiler operative to describe the fault present and the cause of the fault.

Q5c) Do you agree that the boiler fault list is suitable to identify faults with non-gas fuelled boilers? Please give reasons for your answers.

5.10. Most respondents agreed that the fault list is suitable to identify faults with non-gas fuelled boilers. Two respondents suggested that 'electric/gas supply rate outside the manufacturer tolerance' should be removed from the fault list, as any variation in the fuel supply will not be limited to a fault with the boiler.

Ofgem's response:

'*Boiler and system sludge' and 'unstable firing'*

5.12. In line with many of the consultation responses, we will not stipulate that a boiler must be repaired, rather than replaced, if the only fault identified is either 'boiler and system sludge' or 'unstable firing'.

5.13. We understand that, while generally the case, it is not always possible or appropriate to repair a boiler when either of these faults is present. We will continue to rely on the boiler operative's expertise and professional judgement to justify a decision to repair or replace a boiler with *boiler and system sludge* or *unstable firing*.

5.14. For all qualifying boiler repairs and replacements, the boiler operative must use the boiler assessment checklist to identify if a boiler is broken down or not functioning efficiently, list the faults that have been found, and provide a detailed explanation of the fault and the implications in terms of repair or replacement. Where boiler and system sludge or unstable firing has been identified as the only fault, the operative must provide information to support the decision to either replace or repair the boiler.

5.15. The boiler checklist takes into account 'any works deemed necessary at time of repair to protect the boiler for the life of the warranty'. Where power-flushing is required, this cost should be included when calculating the cost of the repair or replacement.

'No boiler ignition' and 'unstable firing'

5.16. In line with our proposal, which was supported by most respondents, we have separated 'no boiler ignition' and 'unstable firing' in the boiler checklist. This acknowledges that these faults may have different root causes and therefore they would need to be treated separately.

Other changes to the fault list

5.17. Taking into account the responses we received to question 5 and following further discussions with industry experts, we have made the following changes to the fault list in the boiler checklist:

- **Removed *'gas supply rate outside boiler manufacturer tolerance'*:** the gas supply rate relates to the mains gas supply and is not a fault linked to the boiler itself.
- **Removed the reference to 'electric' from *'fuel/electric supply rate outside the boiler tolerance'*:** the variation in electric supply occurs outside the boiler and is not a fault linked to the boiler itself.
- **Added *'any other mechanical or electrical fault'*:** some faults identified with a boiler may be caused by underlying mechanical or electrical faults. The operative must provide additional information on the fault(s) identified.

Other points:

5.18. One stakeholder suggested that where a boiler contains asbestos containing materials (ACMs) the boiler should always be replaced. Although we have implemented this policy for ESHs, we do not believe it is appropriate for boilers as it may still be possible to repair such a boiler where the necessary works do not disturb the ACMs. The fault list on the checklist is non-exhaustive and there remains an 'other fault' option which can be used in the case where ACMs are present and make repair uneconomical. It is up to the operative to assess whether such boilers should be repaired or replaced.

The updated boiler assessment checklist will be available on our website in March.[16]

[16] We will publish the updated boiler assessment checklist on the ECO2 page on our website before 1 April 2015.

6. Consultation responses to Question 6

Virgin loft insulation: New requirements

Included in Chapter 3 of the ECO2 Guidance: Delivery.

Summary of responses

6.1. 27 stakeholders responded to question 6.

Q6a) Do you think the proposed changes to our requirements will be effective in reducing false claims of virgin loft insulation? Please provide reasons for your answer in relation to each change.

Q6b) Do you see any difficulties in implementing these changes? Please provide reasons for your answer.

6.2. Our consultation proposal set out four new requirements for virgin loft insulation measures. Three-quarters of respondents agreed that some or all of our proposed requirements would be effective in reducing false claims. The following summary deals with each of our proposed requirements individually.

Requirement 1 – Loft Access

6.3. Most respondents agreed with our proposal that the person recommending the measure and/or scoring the measure should be able to gain access to the loft during their assessment of the property. They generally felt that this was essential to ensure that the savings claimed were correct.

6.4. Eight respondents suggested that additional evidence of access to the loft should also be provided to strengthen this requirement. Suggestions included time/date/location photographic evidence of the level of insulation present, or an EPC stating that the loft was accessed and recording the amount of insulation present.

6.5. Three respondents disagreed with this proposed requirement, mainly over concerns that in some cases the assessor may not be able to gain access to the loft - for example where the key to the loft hatch is not available to the assessor or the assessor does not have a ladder.

Requirement 2 – Declaration from occupant/landlord

6.6. Our proposal to require a declaration from the customer/landlord to confirm that no insulation is present received mixed responses.

6.7. Just under half of respondents agreed that a signed declaration from the occupant or landlord would help to reduce false claims of virgin loft insulation. Most of these

respondents highlighted that the effectiveness of this proposal would be contingent on the wording of the declaration and that, for consistency, this should be developed through the ECO Reporting Working Group.[17] One respondent suggested that customers should be given pre-paid envelopes to return the declaration to suppliers to improve impartiality.

6.8. Five respondents suggested that the declaration should be signed at the assessment stage rather than at the installation stage to ensure that the declaration relates to the state of the loft before installation takes place.

6.9. Over half of respondents disagreed with some aspect of this proposal. Their main concern was that, if the installer was responsible for getting the signed declaration they may convince the customer to sign the declaration or mislead customers that were not aware of the level of insulation in their loft. Other respondents were concerned that the occupant/landlord may be unable or unwilling to access the loft to check the level of insulation and so may be reluctant to sign the declaration. Some respondents suggested that the declaration could easily be by-passed by an unscrupulous installer. It was also suggested that some occupants/landlords may sign the declaration, even if there was pre-existing insulation present, because they want the insulation.

6.10. One respondent felt that a declaration would not protect against instances where the customer removes the pre-existing insulation before the assessment.

Requirement 3- Additional question in technical monitoring

6.11. Only ten respondents responded on this requirement. Two respondents agreed to the inclusion of an additional technical monitoring question requiring the customer to confirm to the monitoring agent that no loft insulation was present. However, one of these respondents highlighted that this would only cover a sample of virgin loft installations.

6.12. The other respondents disagreed. Their main concern was that technical monitoring should not stray from its purpose of checking the quality of installations and should not be used as a means of demonstrating compliance. Another concern was that this requirement could easily be falsified, and similar to our proposed requirement 2, the customer may not be aware of the level of insulation in their loft. It was also suggested that the technical monitoring stage is too late to identify instances of fraud as the installation will be complete. Finally, it was highlighted that the customer present at the time of the monitoring inspection may not be the same as the customer present when the insulation was installed and could lead to false fails.

[17] DECC established the ECO Reporting Working Group to encourage more consistency and standardisation in the information that energy companies collect from the supply chain about ECO measures. The group includes Ofgem, Energy UK, energy companies, the National Insulation Association, insulation installers and Green Deal Provider representatives.

6.13. One respondent suggested that the technical monitoring agent should instead check for any pre-existing loft insulation underneath the new insulation when monitoring virgin loft insulation measures.

Requirement 4 – Pre- or mid-installation monitoring inspections

6.14. A few respondents agreed with this proposed requirement. They mostly felt that all inspections should be at the pre-installation stage. One suggested that a pre-installation inspection should be conducted on every virgin loft insulation measure, or at least a large percentage, to act as a severe deterrent to fraud.

6.15. Most respondents disagreed with introducing this requirement. The main reasons given were that introducing pre- and mid-installation inspections would increase costs, they would be very difficult to arrange at the time of installation and have a negative impact on the customer due to multiple visits.

Q6c) Do you have any suggestions for other controls or requirements we could introduce to reduce or prevent such false claims? Please provide reasons for your answer.

6.16. Three respondents suggested that the most effective way to reduce false claims is to reduce the incentive for virgin loft insulation measures by reducing the score. One of these respondents did, however, suggest that other options should be explored first, such as those recommended in our consultation. One respondent also suggested that the distinction between top-up and virgin loft insulation should be removed and instead deemed scores should be given based on the depth and area insulated.

6.17. Four stakeholders suggested that EPCs should be lodged for all virgin lofts, giving third party verification. Two others suggested increasing the scope of domestic energy assessors. Where they suspect loft insulation has been removed they could flag this to an appropriate body.

Q6d) Where existing insulation is removed because it is posing health and safety risks and new insulation installed, should the measure be claimed as virgin or top-up loft insulation? Can you provide examples of health and safety risks that would require insulation to be removed and how a supplier could demonstrate these risks?

6.18. Respondents provided many examples of possible health and safety issues including water damage, vermin infestation, hazardous materials and contaminated insulation.

6.19. Seventeen respondents believed where insulation needs to be removed for a health and safety reason, replacement insulation should be eligible as a virgin loft insulation measure. While most respondents agreed that evidence should be required to prove that the insulation is no longer effective, most did not provide examples. Of those provided, the main examples included photographic evidence, supporting documentation, insurer's letters and signed customer statements.

6.20. Six respondents felt where existing insulation is removed and replaced due to a health and safety issue, it should still only be eligible as top-up loft insulation as the pre-existing insulation would have been providing some level of savings. One respondent also suggested that there is an inherent risk of double counting of carbon savings with previous schemes if the measure is notified as a virgin loft. One stakeholder felt that if the insulation was not delivering the expected savings it could be claimed as a virgin loft insulation measure.

6.21. Three stakeholders recommended a chartered surveyor's report would be sufficient to demonstrate that insulation needed to be removed. Another suggested pre-installation inspections by the monitoring agent to provide suitable evidence of health and safety issues.

Ofgem's response:

6.22. As indicated by the consultation responses, completely eliminating false claims of virgin loft insulation measures for ECO2 is very difficult. However, we believe the requirements we will introduce, based on our original proposals and recommendations made through the consultation responses, will discourage false claims.

Accessing the loft at the assessment stage

6.23. As proposed in our consultation, and supported by most respondents, to claim a virgin loft insulation measure an assessor must have been able to gain access to the loft to confirm that there is no pre-existing insulation present. We will rely on the recommendation report (a Green Deal Report or report by a chartered surveyor) for the measure to demonstrate this. In the case of HHCRO measures, which do not need to be recommended, a lodged EPC will satisfy this requirement.

6.24. We wish to avoid additional documentation requirements in ECO wherever possible. Therefore we are utilising evidence that is already being collected, such as recommendation reports and EPCs. We do not believe that photographic evidence is a sufficiently strong form of evidence to demonstrate that no pre-existing insulation was present, given the potential risk of dates being changed or photos of another loft being used.

6.25. If it is not possible to access the loft at the assessment stage, regardless of the reason, a virgin loft insulation measure cannot be claimed.

Signed declaration from occupant/landlord obtained by the assessor

6.26. In our consultation we proposed a requirement that installers obtain a signed declaration from either the occupant or landlord to confirm that there was no insulation present in the loft before the loft insulation was installed. Many respondents largely supported this proposal, however, some valid concerns were raised and we have therefore altered this requirement accordingly.

6.27. For all virgin loft insulation measures, we will require that the assessor (the person recommending the measure or scoring the measure) obtains a declaration, signed by themselves and the occupant or landlord, at the time of assessment. Obtaining the declaration at the assessment stage will give less opportunity for any pre-existing insulation to be removed; will reduce the risk that the occupant/landlord will be coerced into providing their signature and will not require an additional visit to the premises, so avoiding any additional burden on the occupant and suppliers.

6.28. While the monitoring agent could possibly be viewed as more independent than the assessor to produce the declaration, this would only cover a sample of measures. It would also be after the installation of the measure and would stray from our current process for monitoring which requires little interaction between the monitoring agent and occupant.

6.29. To reduce the risk of signatures being falsified, we will require that a copy of the signed declaration is left at the premises, in the loft, at the time of assessment. This copy may then be inspected at a later date by a monitoring agent, based on a new technical monitoring question[18] we are introducing. This question is one of two new questions on virgin loft insulation measures and will relate specifically to the signed declaration. To ensure that the monitoring agent can easily retrieve the declaration for inspection, therefore avoiding any false fails, we have set out in our guidance where in the loft the copy of the declaration should be left.

6.30. To avoid onerous documentation requirements, we will not require any further copies of the declaration to be retained. However, a supplier may 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.

6.31. We appreciate that the wording of the declaration is crucial for the effectiveness of this requirement. As recommended by many respondents, we will work with the ECO Reporting Working Group in developing a template. It is our intention that the wording in the declaration should capture that in some instances the occupant or landlord may have little knowledge on the level of insulation present in their loft. This declaration will only require the occupant/landlord to confirm that, to the best of their knowledge, there is no insulation present in the loft or that no insulation has recently been removed. It will not require knowledge of insulation depths or coverage. We believe that in most cases an occupant or landlord will be able to confirm this, even without accessing the loft themselves.

6.32. We recognise that there are limitations in the effectiveness of this declaration and it cannot completely prevent false claims, particularly where the occupant or landlord is complicit in such claims. However, we believe such a declaration, combined with our other requirements, will act as a strong deterrent to parties intending to make false

[18] The technical monitoring questions are currently in the process of being updated and will be published in March.

claims, while at the same time not be overly burdensome on the supply chain or negatively affect the occupant.

New monitoring requirements

6.33. As mentioned above, we are introducing two new monitoring questions for virgin loft insulation measures. One question, discussed above, will specifically relate to the declaration produced by the assessor. The second new question will require the monitoring agent to check for any signs of pre-existing loft insulation underneath the insulation installed. Where evidence of pre-existing insulation is found, the measure will fail monitoring.

6.34. We will not be introducing any monitoring questions which will require the monitoring agent to engage directly with the occupant as part of their inspection.

6.35. We will not require any pre- or mid-installation loft inspections (our proposed requirement 4). As highlighted by most respondents, we believe this requirement would be overly burdensome, costly and very difficult to carry out in practice, particularly for mid-installation inspections.

Health and safety issues

6.36. We recognise that there are many health and safety issues that can affect loft insulation and that, in some instances, these issues can reduce the effectiveness of the insulation. While many respondents felt that replacement insulation should be eligible as a virgin loft insulation measure if the original insulation was removed for health and safety reasons, given the wide range of issues highlighted by respondents and the lack of a robust method of evidencing these, we are concerned that such issues could be abused as a reason for removing existing insulation. This would undermine the additional mechanisms we are putting in place for virgin loft insulation. If any pre-existing insulation is removed, regardless of the reason, a virgin loft insulation measure cannot be claimed.

Other points:

6.37. As with all ECO measures, we will use relevant information from other sources to help identify false claims, where appropriate. Chapter 9 of the ECO2 Guidance: Delivery explains how we will investigate and respond to instances of suspected fraud.

6.38. We believe that reducing the score that virgin loft insulation measures receive, and in turn reducing the distinction between top-up and virgin measures, is not something that could be introduced for ECO2. This would also not be in line with the overall objectives of ECO and would not fit within the requirements for calculating savings, as currently set in legislation. Installing loft insulation to a previously uninsulated loft has a significant carbon saving associated with it and this should not be undermined by the minority who falsely claim virgin loft insulation measures.

6.39. Our new monitoring approach (described in Chapter 7 of this document) enables us to target installers who are found to have falsely claimed virgin loft insulation measures.

7. Consultation responses to Question 7

Technical monitoring process: Revisions

Chapter 9 of the ECO2 Guidance: Delivery.

Summary of responses

25 stakeholders responded to question 7.

Q7a) Do you agree it is more appropriate to assess quality of installation and the accuracy of scores separately?

7.1. The majority of respondents agreed with our proposal to assess the quality of installation (technical monitoring) and the accuracy of scores (score monitoring) separately in terms of reporting. Several respondents felt that this would better reflect the nature of the failures and would enable suppliers to identify the specific areas of failure more easily. Some respondents also felt that separating monitoring in this way was sensible given the different skill sets required to carry out each type of monitoring.

7.2. Four respondents disagreed with our proposal, as they were concerned that it would require technical and score monitoring to be carried out in two separate visits; making monitoring more burdensome, expensive and intrusive. Several other respondents also asked for further clarity in our guidance on this point, and whether both technical and score monitoring could be carried out by the same monitoring agent.

Q7b) Do you agree with the proposed reactive monitoring process described in paragraphs 1.45 to 1.56 of Appendix 1? Do you think the monitoring rates are appropriate?

7.3. Two-thirds of respondents agreed with our proposal to introduce a reactive monitoring rate. Many of those who agreed felt that reactive rates would better tackle poor performance compared to current technical monitoring rates, and would act as a greater deterrent for high failure rates.

7.4. Several respondents suggested that, if reactive rates were introduced, they should apply on a per installer, rather than a per supplier basis. They felt this would penalise/reward installers appropriately based on their individual performance and would in turn offer greater incentive for installers to maintain or improve their standards.

7.5. Most suppliers felt that our proposed process gave insufficient time for them to adjust monitoring rates for the quarter following the submission of monitoring

results. They suggested lengthening the lag time (from result to reactive rate) to allow sufficient time for them to evaluate results and make any necessary amendments to monitoring contracts.

7.6. It was suggested that we maintain our current approach, which uses the measures notified to determine the size of the sample for monitoring. One respondent additionally suggested that using the measures notified will also ensure monitoring reflects more closely the measures actually received by suppliers during a quarter.

7.7. Some respondents who disagreed with our proposal believed reactive rates would lead to higher administration costs and greater complexity. Several were concerned that having three possible monitoring rates would be too complicated in practice.

7.8. Others pointed out that varying the monitoring rate, potentially every quarter, would cause problems with brokerage contracts and ongoing contracts with monitoring agents.

7.9. Some respondents also expressed concern that the low monitoring rate (1%) would not be a statistically significant sample and could lead to erroneous failure rates.

7.10. It was also suggested that there could be a shortage of qualified monitoring agents if lots of suppliers had increased monitoring rates at the same time. The possibility of monitoring agents' impartiality being affected was also raised. Some feared they may deliberately keep failure rates high to secure business in subsequent quarters.

Q7c) Do you agree that technical monitoring agents should have certain qualifications as explained in paragraph 1.15 of Appendix 1? Can you suggest which qualifications are most appropriate for different categories of measure?

7.11. While most stakeholders agreed that requiring technical monitoring agents to have certain qualifications could reduce the number of false fails, there was general uncertainty on the most appropriate qualifications to require. Some respondents were also concerned that requiring measure-specific qualifications for technical monitoring agents would be more burdensome than helpful.

7.12. Many respondents raised concerns that even if agents had formal qualifications they may not have the relevant industry experience which, in some cases, is more valuable.

7.13. Several respondents felt that Ofgem should not prescribe certain qualifications for technical monitoring, but allow suppliers to continue to conduct their own checks which we could audit.

7.14. Other respondents suggested that specific training for technical monitoring agents could be developed by bodies such as RICS or BBA, but that this was not something that could be introduced for the start of ECO2.

Q7d) Are the qualifications listed in paragraph 1.16 of Appendix 1 appropriate for score monitoring agents? Are there any other qualifications that you would suggest?

7.15. The majority of respondents agreed that score monitoring agents should be Domestic Energy Assessor (DEA) qualified as this aligns with the qualifications of those undertaking EPCs for scoring purposes.

7.16. A small number of stakeholders suggested other qualifications. One felt a Green Deal Assessor (GDA) qualification should also be acceptable, while another suggested that Building Research Establishment Energy Assessment Method (BREEAM) UK Domestic Refurbishment may be appropriate.

7.17. Seven respondents disagreed with the qualifications we proposed for score monitoring agents. One respondent pointed out that it is not always necessary to be a qualified DEA to carry out score monitoring as the input data for the score can also be checked by a competent inspection body. Similarly, another respondent believed that a DEA qualification should not be mandatory, as the monitoring questions are sufficiently straightforward for anyone with basic building knowledge to complete. In addition, that respondent was also concerned that where monitoring agents are not DEA qualified, this could increase costs or delay implementation.

7.18. Two respondents pointed out that an On Construction Domestic Energy Assessor (OCDEA) would not be appropriately qualified to check RdSAP surveys, and similarly, DEAs would not be appropriately qualified to check SAP or U-value calculations.

Q7e) Do you agree with the proposed timescales for remedial works/re-scoring to be conducted outlined in paragraphs 1.58 and 1.59 of Appendix 1?

7.19. 15 stakeholders agreed with our proposed timescales for remedial works and re-scoring, stating that our proposal seemed fair and offered organisations a reasonable amount of time to address failures.

7.20. Of the seven respondents who disagreed, four considered it more appropriate for the time period for remediation and re-scoring to be counted from the date the monitoring agent notifies the supplier of a fail, rather than the date the fail is identified. They highlighted that fails sometimes do not reach suppliers until weeks after they are identified, which, in the case of technical monitoring, would reduce the time available for remediation. In relation to score monitoring, one

stakeholder suggested a shorter timescale could be allowed, given that re-scoring, unlike remedial work, requires no practical action to be taken.

7.21. A number of respondents raised concerns on issues of non-access or extenuating circumstances that prevent remediation of a failed measure, where the delay is not the fault of the supplier or installer.

7.22. Three stakeholders suggested that three months, and definitely six months, was too long for remedial work to be completed in the interest of good customer service. One of these stakeholders also highlighted that with certain fails remediation work should be carried out as soon as possible to prevent greater damage, for example, where water could penetrate through unfilled injection points.

7.23. Some respondents sought clarification on whether 'remediated' within the proposed timescales only relates to the completion of remedial work or both remedial work and re-inspection (for technical monitoring).

Ofgem's response:

Assessing the quality of installation and accuracy of scores separately

7.24. As proposed in our consultation and supported by most respondents, reporting of technical and score monitoring will be separated for ECO2. Separating reporting in this way will allow us to respond to high failure rates in a more targeted and proportionate way, depending on whether the high failure rate relates to the quality of installation or the accuracy of scores.

7.25. Several respondents indicated that our proposal lacked clarity on what aspect of monitoring we were suggesting to separate. Our proposal was in fact to separate the *reporting* of technical and score monitoring, rather than the inspections themselves. In response to this, we have added further clarity on this point paragraph 9.9 of the ECO Guidance: Delivery.

Reactive monitoring rates

7.26. While supported by two thirds of respondents, we now believe that reactive monitoring rates may be difficult to implement given the practical issues highlighted by many respondents. We are therefore not introducing the proposed reactive monitoring rates for either technical or score monitoring. The required monitoring rate will remain at 5% (with at least 3% per installer) for the entire ECO2 obligation period. This avoids any complexity that may have been introduced by a reactive monitoring process, recognising the potential issues that may have arisen for measures delivered through brokerage contracts and contracts with monitoring agents.

7.27. Having said that, where we see technical monitoring failure rates of more than **10%** for a particular installer or a particular measure type installed by an installer, we will take further action. The failure rate of an installer will be considered per supplier. The range of actions we will consider taking are listed in paragraph 9.49 of the ECO2 Guidance: Delivery. In line with the intent of our proposal, this will help to incentivise high quality installations. At the same time, by focusing on specific installers that are performing poorly, rather than all of a supplier's installers, the financial burden across the supply chain will be reduced.

7.28. Similarly, if a supplier's score monitoring failure rate for a quarter causes us to have concerns that measures installed have not been accurately scored, we will take further action. The range of actions we will consider taking are listed in paragraph 9.49 of the ECO2 Guidance: Delivery.

7.29. Recognising that there was a lack of clarity regarding which actions would apply retrospectively and which actions would be taken for subsequent quarters, we have improved the wording in our guidance to make this clearer.

7.30. Monitoring will be limited to measures notified in a quarter, rather than measures installed in a quarter. This allows us to bring forward the submission deadline for monitoring reports to one month after the end of a quarter, while still allowing a supplier at least two months from the last date of installation to conduct monitoring. This also reflects the timelines already in place for ECO1, which several respondents supported.

7.31. The rationale for limiting monitoring to measures notified in a quarter for ECO2 is that it enables us to identify trends in the quality of installation and accuracy of scoring. This approach will help to target areas of concern more quickly and drive improvements in the quality and accuracy of ECO measures. It will also help to ensure that monitoring fails are addressed more promptly.

Qualifications for technical monitoring agents

7.32. Given the lack of consensus across respondents on the qualifications technical monitoring agents should hold, and the practical difficulties which were highlighted in introducing such requirements for ECO2, we will not require specific qualifications for technical monitoring agents at this time. Nevertheless, suppliers are still required to only use 'suitably qualified' agents to carry out technical monitoring. We expect each supplier to have robust due diligence processes in place to ensure they only use suitably qualified monitoring agents. These processes may be the subject of audit in ECO2.

Qualifications for score monitoring agents

7.33. For ECO2 we will require all score monitoring agents to be either DEA or GDA qualified. In Scotland, score monitoring agents must be members of Approved Organisations.[19] The intention of our policy is to ensure that score monitoring agents are able to effectively assess the inputs that need to be verified through score monitoring.

7.34. Given that the vast majority of assessments for ECO are conducted using RdSAP, we have removed the option for monitoring agents to be OCDEA qualified as it was highlighted to us that this qualification is not suitable for RdSAP assessments. However, a DEA qualification is suitable for RdSAP assessments and so is more appropriate for score monitoring. In addition, in the small number of instances where measures are assessed against SAP, we believe that DEA qualified monitoring agents will have sufficient understanding to complete the score monitoring for these measures.

7.35. We have not included the BREEAM UK qualification in our requirements as connected to EPCs, and therefore doesn't align with the objectives of our policy. We have included GDA in our requirements as these are also eligible to practice as DEAs.

Timescales for remedial works and re-scoring

7.36. As proposed in our consultation, and supported by the majority of respondents, we will allow a three month window for remediating or re-scoring failed measures. If a fail has not been rectified within six months, we will refuse to approve or revoke approval of that measure – this was largely felt to be an acceptable approach.

7.37. For clarity, we have now specifically stated in our guidance, in relation to technical monitoring, that re-inspections must also take place within these timelines.

7.38. Some suppliers suggested that failed measures should be remediated within three months of the date the failure is *notified* to the supplier, rather than the date on which it is *identified,* as proposed. Our intention is not to allow fails to be left un-remediated for any longer than necessary. We believe the timescales we proposed for remediation give suppliers a reasonable opportunity to meet the remediation deadlines, while reducing the impact on the customer. It is the supplier's responsibility to address any issues in delays with notifications from monitoring agents to maximise the remediation time available. As proposed, we will expect

[19] The approved Organisations in Scotland can be found at: http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/enerperfor/epcorgprg.

all fails to be remediated within three months of the last day of the month in which the failure is identified.

7.39. While we acknowledge that less time is usually required to address score monitoring fails than technical monitoring fails, in the interest of consistency and reducing the level of complexity introduced in the process, we will allow the same timescales for both types of monitoring.

7.40. We believe our timelines now strike the right balance. They offer a realistic period of time for suppliers to rectify (and re-inspect) a failure, allowing for issues that may arise, but also ensure that consumers are not left with incomplete or poor quality measures for extended periods of time. There is also less risk in three months that the occupant will change and therefore be reluctant to get involved in resolving the issue.

7.41. It should be noted that our timescales for remedial works and re-scoring are a limit rather than a target, and any serious issues should be addressed as soon as possible.

7.42. Some respondents were concerned about instances where they are unable to conduct remedial works/re-scoring due to problems in accessing the property. We will publish a separate guidance note 'ECO Technical Monitoring False Fail and Non-Access Guidance' on our website in March.[20] This will explain how to evidence cases of non-access and the steps suppliers must take.

Other points:

Monitoring questions for ECO2

7.43. We are currently updating the monitoring questions and will include all relevant changes to align with our updated guidance. These questions will be published in March.

We take installation quality and consumer protection very seriously and our response to high failure rates for monitoring is proportionate to our concerns. Based on the monitoring results we receive during ECO2, we will continue to review our monitoring process, to ensure that it remains fit for purpose.

[20] We will publish this guidance note on the ECO2 page on our website before 1 April 2015.

Appendices

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Appendix 1 – Consultation respondents

We received 34 responses; we have published these on our website, which are available at: https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-2017-eco2-eco2.2-consultation.

The 34 responses on our website came from the following stakeholders:

1. BBA
2. British Gas Ltd
3. CertiNergy UK
4. Cavity Insulation Guarantee Agency (CIGA)
5. Climate Energy Ltd
6. Construction Products Association
7. EDF Energy
8. Elmhurst Energy Systems Ltd
9. Energy UK
10. E.ON Energy Solutions Ltd
11. First Utility Ltd
12. Grant Aided Installer Network (GAIN)
13. GDC Group Ltd
14. Glass and Glazing Federation (GGF)
15. Glasgow City Council
16. Green Deal Consortia Ltd
17. Heating and Hotwater Industry Council (HHIC)
18. Home Insulation and Energy Systems
19. InstaGroup
20. Knauf Insulation Ltd
21. Llewllyn Smith Ltd
22. Mark Group
23. National Insulation Association (NIA)
24. OFTEC
25. Property Energy Professionals Association (PEPA)
26. Rockwool Ltd
27. RWE npower
28. Scottish Government
29. Scottish Power Energy Retail Limited
30. SSE Energy Supply Ltd
31. Sustain Ltd
32. The Association for Decentralised Energy
33. THS inspection Services
34. The UK District Energy Association

Appendix 2 – Structure of the ECO2 guidance

To help users of our guidance, we have split the ECO Guidance into two parts:

1. **ECO2 Guidance: Administration -** is aimed mainly at suppliers, describing the processes that suppliers and Ofgem follow to meet the requirements of the ECO2 Order. It addresses the following areas:

    - our role as the ECO administrator – Chapter 1
    - when a supplier is obligated under ECO2 and how its obligations are set – Chapters 2, 3 and 4
    - details of the provisional solid wall minimum requirement and solid wall minimum requirement – Chapter 5
    - how completed measures are notified and the information we require – Chapter 6
    - how surplus actions can be credited towards ECO2 – Chapter 7
    - the application process for re-elections and transfers – Chapter 8, and
    - how we will determine that a supplier has met its obligations – Chapter 9.

2. **ECO2 Guidance: Delivery -** is aimed at suppliers and the broader supply chain, describing how to achieve ECO targets. It addresses the following areas:

    - which measures are eligible under ECO and the criteria that must be met – Chapter 2 and 3
    - specific requirements relating to each obligation (CERO, CSCO and HHCRO) – Chapters 4, 5 and 6
    - how suppliers calculate the carbon savings or cost scores for ECO measures, as applicable – Chapters 7, 7a. and 7b
    - how completed measures are notified and the information we require – Chapter 8
    - the technical and score monitoring requirements that suppliers must meet - Chapter 9
    - the auditing and fraud processes that suppliers will be subject to – Chapter 9, and
    - supporting information contained in appendices.

The content of the **HHCRO guidance note** (published on 14 January) in response to our ECO 2.1 consultation is included in the ECO2 guidance. The note covered three distinct areas, which can be found in the following chapters of the ECO2 guidance:

- demonstrating whether a premises is non-gas fuelled - Chapter 7 of the ECO2 Guidance: Administration
- introducing qualifying warranties for boiler replacements - Appendix 3 of the ECO2 Guidance: Delivery
- introducing warranties for electric storage heater replacements - Appendix 4 of the ECO2 Guidance: Delivery

The areas we consulted on in the **ECO2.2 consultation** have also been incorporated into the guidance and can be found in the following chapters:

- new requirements for pre-existing roof insulation in relation to connections to district heating systems (DHS) under CERO and CSCO - Chapter 3 of the ECO2 Guidance: Delivery
- new reasons for judging that a cavity in a wall cannot be insulated in relation to connections to DHS under CERO and CSCO - Chapter 3 of the ECO2 Guidance: Delivery
- options for calculating the lifetime for multi-fuel upgrades of existing DHS connections - Chapter 7 of the ECO2 Guidance: Delivery
- new definitions for 'broken down' and 'cannot be economically repaired' in relation to qualifying electric storage heaters - Chapter 6 and 7b and Appendix 4 of the ECO2 Guidance: Delivery
- amendments to the boiler fault list and additional information on when certain faults would result in the boiler requiring repair or replacement - Chapter 6 and 7b and Appendix 3 of the ECO2 Guidance: Delivery
- new requirements for virgin loft insulation measures - Chapter 3 of the ECO2 Guidance: Delivery, and
- revisions to the technical monitoring process - Chapter 9 of the ECO2 Guidance: Delivery.

Appendix 3 – Feedback questionnaire

1. We believe that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about how this consultation has been conducted. We are also keen to get your answers to the following questions:

   a. Do you have any comments about the overall process used for this consultation?
   b. Do you have any comments about the overall tone and content of this response document?
   c. Was the document easy to read and understand? Could it have been better written?
   d. Did the response document's conclusions provide a balanced view?
   e. Did the response document make reasoned recommendations for improvement?

2. Please send your answers to the above questions, and any further comments to:

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