

# Consultation

## ECO3 Technical and Score Monitoring Question Set Consultation

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We are consulting on the question set that should be used by monitoring agents to conduct monitoring inspections for the purpose of ECO3 Monitoring. We would like views from people with an interest in ECO3 Monitoring. We particularly welcome responses from the obligated energy suppliers, ECO installers and technical monitoring bodies. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation has closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at [Ofgem.gov.uk/consultations](https://www.ofgem.gov.uk/consultations). If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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## Background

The Energy Company Obligation (ECO), first introduced in 2013, is an energy efficiency scheme for Great Britain. ECO places legal obligations on larger energy suppliers to deliver energy efficiency measures to domestic premises. It focuses on insulation and heating measures and supports vulnerable consumer groups. ECO is intended to assist in reducing fuel poverty, reducing carbon emissions, and maintaining security of energy supply. It is administered by Ofgem ('we', 'us' and 'our' in this document).

A new obligation has been outlined under the Electricity and Gas (Energy Company Obligation) Order 2018 (referred to as the 'ECO3 Order'), and the scheme that runs during that period is called 'ECO3'. The ECO3 scheme, that will run until March 2022, will mainly focus on low income and vulnerable households, helping to meet the Government's fuel poverty commitments.

We require suppliers to conduct on-site inspections of at least 5% of the measures they notify to us. These inspections must be carried out by independent third party inspectors. We refer to this process as 'monitoring' and it has two elements<sup>1</sup>:

- **Technical monitoring:** verifies that measures have been installed to the appropriate standards of installation. It is carried out by technical monitoring agents.
- **Score monitoring:** checks that the savings for a measure have been calculated

Suppliers report monitoring results to us every quarter. To ensure the results are representative, they must also make sure that they monitor at least 3% of the measures installed by any installer they work with. There are some exceptions in place for installers who install fewer than 100 measures in a quarter.

If a measure fails a technical monitoring inspection, the supplier must rectify the failure and have the measure brought up to the right standards. If a measure fails a score monitoring inspection, the supplier must correct the savings score notified for that measure. Suppliers report the results of this activity to us. We may ultimately reject measures that failed an inspection but are not remediated or rescored. A measure can fail both technical and score monitoring.

If the percentage of measures that fail for a certain installer exceeds a set threshold, the measures installed by this installer for the relevant quarter are considered to be 'at risk' and are placed on a pathway to compliance. Pathways to compliance are sets of actions that suppliers must undertake to allay our concerns over the measures delivered by an 'at risk' installer. Depending on the failure rate for an installer, its measures are placed on either a 'medium concern' or 'high concern' pathway.

The pathway an installer is on determines what actions a supplier must take. In the first instance, we will ask suppliers to conduct *additional monitoring*. Additional monitoring is either used to compensate for a monitoring deficiency, or to verify a high failure rate. If a

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<sup>1</sup> More information on the monitoring process can be found in Chapter 8 of our draft ECO3 Guidance: Delivery <https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2018-22-eco3-guidance-delivery-draft-comment>.

high failure rate is confirmed, suppliers must provide us with *additional assurances*. The form of additional assurances depends on the specific issue with an installer, but generally they consist of improvement plans, root cause analyses and targeted visits of potentially affected measures.

## Guide to this consultation

### Purpose of this document

The document sets out changes we are proposing to the ECO Technical and Score Monitoring Question Set for ECO3. These amendments are intended to capture the changes to the scheme resulting from the ECO3 Order, as well as improvements from ECO2. We are seeking stakeholder feedback on the questions outlined in this document.

We would ordinarily aim to provide a minimum of six weeks for our consultations. However, given the short time period before the monitoring questions need to be used, our consultation will be open for two weeks from 22 November 2018, in order to assist us in finalising the monitoring questions and providing these to stakeholders as soon as possible.

### How to respond and give feedback

We are seeking stakeholder views on the monitoring questions, in particular their relevance, application and clarity. This document sets out the following in relation to the ECO2t question set:

- a) which questions we believe need to be updated for ECO3
- b) which questions we believe can be removed for ECO3
- c) whether there are any questions we believe should be introduced for ECO3

This document provides opportunity for stakeholders to give their views on the above as well as provide their views on any questions that form part of the ECO2t Technical and Score Monitoring Question Set that are not covered in this consultation, and any additional questions they believe should be introduced.

If an existing question is not covered in this consultation, then we believe it should be retained unaltered for ECO3.

For all questions we also seek feedback on the following:

- a) whether the questions should be applied at mid-installation stage or post-installation stage or both
- b) whether the "N/A" and "Unable to validate" options are appropriate for each question
- c) whether you consider remote re-inspections to be appropriate

A summary of the questions we are seeking feedback on can be found in Appendix 1 and Appendix 2. Please respond to each one as fully as you can. Appendix 3 includes instructions for stakeholders on how to provide their response.

Any responses should be made in writing to Patrick Etheridge by **6 December 2018**. Responses should be submitted by email to [eco@ofgem.gov.uk](mailto:eco@ofgem.gov.uk).

You can ask us to keep your response confidential, and we'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. If you want us to keep your views confidential, please clearly mark this on your response and explain why.

Unless you mark your response confidential, we'll publish it on our website at [www.ofgem.gov.uk/consultations](http://www.ofgem.gov.uk/consultations), and put it in our library.

If the information you give in your response contains personal data under the General Data Protection Regulation, the Gas and Electricity Markets Authority will be the controller. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. If you are including any confidential material in your response, please put it in an appendix.

### **General feedback**

We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

Please send any general feedback comments to [stakeholders@ofgem.gov.uk](mailto:stakeholders@ofgem.gov.uk).

### **Date of effect for ECO3 question set**

We aim to produce the ECO3 question set and circulate this to the obligated suppliers by the end of December 2018. This will also be published on our website.

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## 1. Introduction

- 1.1. The document sets out changes we are proposing to the ECO Technical and Score Monitoring Question Set. These amendments are intended to capture the changes to the scheme resulting from the ECO3 Order, as well as improvements from ECO2.
- 1.2. We are not intending to make any changes to the monitoring process. We encourage readers to focus on providing comments to the questions asked, and to not provide comments on matters outside of this document.
- 1.3. We have grouped the changes in individual chapters to make it easier for readers to understand and respond. The proposals covered by each of the chapters are:

### 1) Changes to the technical monitoring question set

- We intend to amend the following technical monitoring questions: HC.1, HC.2 and IWI.4.
- We are proposing the addition of three questions which will apply to all measure types, and additional questions for the following measure types:
  - Cavity Wall Insulation,
  - District Heating Systems,
  - Solar PV,
  - Park Home Insulation, and
  - First Time Central Heating.

### 2) Changes to the score monitoring question set

- We intend to amend the following score monitoring questions: SMQ.5, SMQ.8, SMQ.12 and SMQ.14.
- We are proposing the addition of two questions which will apply to all measure types, and additional questions for the following measure types:
  - Heating Controls,
  - Solar PV,
  - Room-in-roof,
  - Electric Storage Heater and Boiler,
  - All Wall Insulation, and

- All measures notified as solid wall alternative measures.
- 1.4. In addition to the above, we are asking for feedback on all questions on whether they should be applied at mid- or post-installation.
  - 1.5. We are also asking for feedback on when the "N/A" and "Unable to validate" options should be available and, in the case of technical monitoring, whether the option to re-inspect remotely should be offered.

### **3) Feedback on questions not covered in this consultation**

- 1.6. We believe the questions from the ECO2t Technical and Score Monitoring Question Set not covered in this consultation are still relevant and should continue to be applied as they are.
- 1.7. We encourage feedback on these questions, however, and would request respondents use the relevant forms published alongside this consultation to outline any changes they would make to the questions not covered in this consultation.
- 1.8. We also encourage respondents to use this same form to suggest any additional questions not currently in use.



## 2. Technical Monitoring

- 2.1. To ensure continuity of the monitoring process we are not proposing to entirely revise the technical monitoring questions for ECO3. However, there are questions for specific measure types that our experience during ECO2 has prompted us to consider changing, to make them clearer and more targeted, or introducing. In addition, there are some additional questions we are proposing as a result of the ECO3 legislation.
- 2.2. We intend to change technical monitoring questions for the following measure types:
  - a) Heating Controls, and
  - b) Internal Wall Insulation.
- 2.3. There are three new questions we are proposing which will apply to all measure types. We also intend to include additional questions for the following measure types:
  - a) Cavity Wall Insulation,
  - b) District Heating Systems,
  - c) Solar PV,
  - d) Park Home Insulation, and
  - e) First Time Central Heating.
- 2.4. Unless otherwise stated, it is proposed that remote re-inspection for all new questions discussed below will not be allowed.

## Changes to existing technical monitoring questions

### Heating Controls

- 2.5. Within the heating controls measure category in ECO3, there is now a smart thermostat measure type in addition to the standard heating controls measure type. Because there are different installation requirements for smart thermostats compared to standard heating controls, it is important to be clear in the question set when we are referring to both or one specifically.
- 2.6. As such, for questions HC.1 and HC.2, we intend to expand the text to apply to smart thermostats in addition to heating controls. The amended questions would be as follows:
  - Are the heating controls, smart thermostat or TRV (whichever is applicable) linked to a functioning heating system?
  - Do the heating controls or smart thermostat turn on the domestic heating system?

## Internal Wall Insulation

- 2.7. We have received feedback that there may be a conflict between questions IWI.4 and IWI.6. This is due to the fact that there are some products available that wouldn't continue into the inter floor void.
- 2.8. We therefore propose to amend the wording of IWI.4 as follows:
- Has insulation been applied to the inter floor void?
- 2.9. The requirement to insulate the inter floor void still applies and the above question would address this, however it would also take into account that some products are not designed to continue from above floor level into the inter floor void.

### 1. Changes to existing technical monitoring questions

**Question 1.1:** Do you agree that the proposed amendments to the heating control questions will allow those questions to also be applied to smart thermostats? If not, please tell us why

**Question 1.2:** Do you agree that the proposed wording of IWI.4 removes the potential for conflict with IWI.6 but still achieves the same intention as the previous wording? If not, please tell us why

## New technical monitoring questions

### For all measure types

- 2.10. We intend to include a new question which asks what evidence has been provided to demonstrate that a measure referred to in the relevant version of the Publicly Available Specification 2030 (PAS 2030) has in fact been installed in accordance with those provisions, and if not, what evidence has been provided that the measure has been installed appropriately. This is one of the standard eligibility requirements under ECO2<sup>2</sup>.
- 2.11. Question TMQ.1 would be worded as follows:
- 2.12. We therefore propose to amend the wording of IWI.4 as follows:
- Are any of the following true:
    - This measure is referred to in the relevant version of PAS 2030 and evidence has been provided to demonstrate that the measure has been

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<sup>2</sup> Article 18(2)(a) of the ECO3 Order:  
[https://www.legislation.gov.uk/uksi/2018/1183/pdfs/ukxi\\_20181183\\_en.pdf](https://www.legislation.gov.uk/uksi/2018/1183/pdfs/ukxi_20181183_en.pdf)

installed in accordance with PAS 2030 by, or under the responsibility of, a certified installer.

- This measure is not referred to in the relevant version of PAS 2030, however evidence has been provided to demonstrate that the measure has been installed by a person of appropriate skill and experience.

2.13. We also intend to include a new question regarding thermal bridging. Specifically, this question would seek to determine whether there are any areas where thermal bridging could occur that could have been insulated in line with the relevant standards to prevent this from happening.

2.14. Question TMQ.2 would be worded as follows:

- Is there any evidence of avoidable thermal bridges i.e. heat loss areas which are not insulated but could have been in line with the requirements of PAS 2030 and Building Regulations?

2.15. We also intend to include a question that verifies for 'monitored measures' installed as innovation measures, whether there is appropriate monitoring equipment installed into the property. We are aiming to publish further guidance on innovation measures by the end of the year.

2.16. Question TMQ.3 would be worded as follows:

- Has appropriate monitoring equipment been installed into the property?

2.17. All three questions would be asked post-installation. Remote re-inspection of TMQ.1 would be allowed.

### **Cavity Wall Insulation**

2.18. Following feedback from TMAs, we are aware that in certain cases new cavity wall insulation is being installed to walls where there is pre-existing cavity wall insulation, and that the new insulation is not always compatible with the pre-existing insulation. Installers should ensure that any new cavity wall insulation is compatible with pre-existing insulation as indicated by the product certificate.

2.19. We are proposing to include a new question that will provide assurance that the insulation being installed is compatible with any pre-existing cavity wall insulation.

2.20. Question CWI.9 would be worded as follows:

- If the cavity wall contains pre-existing insulation, is the additional insulation to be added compatible with the pre-existing insulation as demonstrated by the product certificate?

2.21. This question would be asked at mid-installation.

## District Heating Systems

2.22. There are three new questions proposed for district heating systems. The first relates to the fuel being used by the DHS. Under ECO3 the installation of coal fuelled heating systems are ineligible under the ECO scheme. District heating systems fuelled by oil are also ineligible under ECO3<sup>3</sup>.

2.23. Question DHS.5 would be worded as follows:

- Does the DHS measure generate heat completely through fuels other than coal or oil?

2.24. The second question is in response to the new consumer protection requirements relating to district heating systems in the ECO3 Order, specifically that DHS measures are required to be registered with the Heat Trust scheme or an equivalent.

2.25. Question DHS.6 would be worded as follows:

- Are any of the following true:
  - The DHS measure is registered with the Heat Trust Scheme.
  - The DHS measure is subject to arrangements for consumer protection which are equivalent to the requirements under the Heat Trust Scheme.
  - The DHS measure includes the installation of a ground source heat pump at the domestic premises.

2.26. The third question refers to the installation of DHS measures to houses of multiple occupancy (HMO). A DHS delivering heat exclusively to a single HMO would not be considered eligible under ECO3.

2.27. Question DHS.7 would be worded as follows:

- Where the DHS is delivering heat to a house of multiple occupancy, is it delivering heat to additional domestic premises?

2.28. All three questions would be asked post-installation. Remote re-inspection of DHS.6 and DHS.7 would be allowed.

## Solar PV

2.29. There are four new questions proposed relating to the installation of Solar PV measures. We believe these cover the key areas.

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<sup>3</sup> Article 19(1)(c) of the ECO3 Order:  
[https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi\\_20181183\\_en.pdf](https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi_20181183_en.pdf)

2.30. Questions PHV.1, PHV.2, PHV.3 and PHV.4 would be worded as follows:

- Is the inverter correctly positioned?
- Has all wiring been fixed and secured?
- Are all solar panels securely fixed?
- Is the primary heating source electric?

2.31. All questions would be asked post-installation.

### **Park Home Insulation**

2.32. We propose the application of a number of the External Wall Insulation, Flat Roof Insulation, Loft Insulation and Under Floor Insulation questions to park homes because we believe the same requirements apply and so should be verified for park home measures.

2.33. Specifically, we would apply:

- EWI.1, EWI.2, EWI.3, EWI.4, EWI.5, EWI.6, EWI.7, EWI.8, EWI.10, EWI.11, EWI.12, EWI.13, EWI.14, EWI.15, EWI.16, EWI.17, EWI.18, EWI.19 and EWI.20.
- FRI.1, FRI.2, FRI.3, FRI.4, FRI.5, FRI.6 and FRI.7
- LI.1, LI.2, LI.3, LI.4, LI.5, LI.6 and LI.7
- UFI.1, UFI.2, UFI.3, UFI.4, UFI.5, UFI.6, UFI.7 and UFI.8.

2.34. We would not change the prefix of these questions because we do not want to duplicate all of the above questions within the question set. For this reason we have also not included them in Appendix 2 of this document. Feedback on the above proposal can, however, be provided through the response forms outlined in Appendix 3.

2.35. We will include a note in the Explanatory Notes for Monitoring, once published, that explains the above questions also apply for the separate elements of park homes.

### **First Time Central Heating**

2.36. We propose a question that verifies a property at which a measure is being claimed as a first time central heating measure<sup>4</sup> has in fact never had a central heating system or a DHS connection installed.

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<sup>4</sup> Please refer to Chapter 3 of the draft ECO3:Guidance Delivery for more information.

2.37. Question FCH.1 would be worded as follows:

- Does the property currently have a central heating system, DHS connection, or one or more working, efficient ESH? Is there evidence that a central heating system or DHS connection was present in the past?

2.38. This question would be asked at mid-installation.

## **2. New technical monitoring questions**

**Question 2.1:** Do you agree with the introduction of the above questions? If not, please tell us why

**Question 2.2:** Do you agree with our proposals relating to when the questions should be asked (mid-installation and post-installation)? If not, please tell us why

**Question 2.3:** Do you agree that questions TMQ.1, DHS.6 and DHS.7 should be allowed to be remotely re-inspected? If not, please tell us why

### 3. Further questions

The following questions concern the entire set of technical monitoring questions. All technical monitoring questions are listed in Appendix 1 to this consultation document.

**Question 3.1:** Do you think we should change any of the existing technical monitoring questions? If so, please indicate which one(s) and explain why it should be changed.

This can include whether you believe there should be the option to respond "N/A" or "Unable to Validate", or whether the inspection should be at mid-installation or post-installation or both, or whether the option to re-inspect remotely should be available.

**Question 3.2:** Do you think we should remove any of the existing technical monitoring questions? If so, please indicate which one(s) and explain why they should be removed.

**Question 3.3:** Do you think we should add any further technical monitoring questions? If so, please indicate what questions you believe should be added, and for what measure type.

Please also include whether you believe there should be the option to respond "N/A" or "Unable to Validate", or whether the inspection should be at mid-installation or post-installation or both, or whether the option to re-inspect remotely should be available.

### 3. Score Monitoring

- 3.1. To ensure continuity of the monitoring process we are not proposing to entirely revise the score monitoring questions. However, there are questions for specific measure types that our experience during ECO2 has prompted us to consider changing to make them clearer and more targeted, or introducing. In addition, there are some additional questions we are proposing as a result of the ECO3 legislation.
- 3.2. There are two questions applicable to all measure types we intend to change. We also intend to change the score monitoring questions for the following measure types:
- a) High Performance External Doors, and
  - b) Heating Controls.
- 3.3. We intend to introduce two new questions for all measure types as well as additional questions for the following measure types:
- a) Heating Controls,
  - b) Solar PV,
  - c) Room-in-roof,
  - d) Electric Storage Heater and Boiler,
  - e) All Wall Insulation, and
  - f) All measures notified as solid wall alternative measures.

### Changes to existing score monitoring questions

#### All measure types

- 3.4. Under ECO3 we are changing our approach to scoring measures using deemed scores. Because suppliers have to install at least 67% of a measure to claim the full deemed score, we are proposing to revise the wording for SMQ.5 to better capture whether this requirement is being met.
- 3.5. On this basis, we are proposing to amend SMQ.5 to the following wording:
- Is any of the following true:
    - Where the full deemed score has been claimed, at least 67% of the property has been treated
    - Where less than 67% of the property has been treated, the notified deemed score has been calculated using a percentage of property treated



figure that reasonably reflects the actual percentage of property treated (to the nearest 1%)?

- 3.6. We are also proposing to expand the scope of SMQ.14 so that it applies to solid wall measures as well as all heating measures.

### High Performance External Doors

- 3.7. We have received feedback that the wording and purpose of SMQ.8 is unclear to the industry. We therefore propose the following wording:
- Has the correct measure type been selected based on the area of the door that is glazed?
- 3.8. The purpose of this question is to ensure the correct high performance external door measure type has been selected to reflect the percentage of the door that has been treated.

### Heating Controls

- 3.9. We are aware that new smart thermostats, unlike standard heating control measures, can be installed without TRVs. We are proposing to amend SMQ.12 in light of this to ensure that it is clear for TMAs that the question only refers to standard heating controls.
- 3.10. The proposed wording is as follows:
- If the heating controls are standard heating controls, i.e. not smart thermostats, do the controls encompass a programmer, thermostat and TRVs to all radiators except those in the room with the thermostat?

## 4. Changes to existing score monitoring questions

**Question 4.1:** Do you agree that the proposed revision to SMQ.5 will correctly capture whether the measure has been installed to at least 67% of the property and therefore can receive the full deemed score, and where the measure isn't installed to at least 67% of the property that the correct percentage of property treated has been notified? If not, please tell us why

**Question 4.3:** Do you agree that SMQ.14 should apply to solid wall measures as well as heating measures? If not, please tell us why

**Question 4.4:** Do you agree that the proposed revision to SMQ.8 will make it clear for TMAs that this question relates to determining if the correct high performance external door measure type has been selected? If not, please tell us why

**Question 4.5:** Do you agree that the proposed wording for SMQ.12 makes it clear for TMAs that this question relates to standard heating controls only? If not, please tell us why

## New score monitoring question

### For all measure types

- 3.11. We propose to introduce two questions that would be applicable to all measure types scored using deemed scores. The first is to verify the POPT has been reduced to account for non-treatable areas of a property.
- 3.12. Question SMQ.22 would be worded as follows:
- Have all non-treatable areas been deducted from the POPT and taken into account in the score calculation?
- 3.13. The second question is to verify that 100% of a measure has been installed where possible.
- 3.14. Question SMQ.23 would be worded as follows:
- Has 100% of the measure been installed where possible?

### Heating Controls

- 3.15. Under ECO3, smart thermostats can be installed as well as traditional heating controls. Because smart thermostats do not require TRVs to be present, we are proposing a separate question regarding their installation to ensure that the requirements for smart thermostats and heating controls can both be monitored.
- 3.16. Question SMQ.18 would be worded as follows:
- Does the installed smart thermostat meet the criteria of the boiler plus standard (i.e. does it feature automation and optimisation) and does it feature connectivity?

### Solar PV

- 3.17. The deemed scores for the Solar PV measure type are based on assumptions made about the installed capacity of the installation and the orientation and inclination of the panels. We are proposing the addition of the below questions to verify the POPT has been adjusted to accurately reflect any variation from the assumptions that have been made.
- 3.18. Question SMQ.19 would be worded as follows:
- Has the POPT been adjusted correctly based on the installed capacity of the solar PV panels?
- 3.19. Question SMQ.20 would be worded as follows:
- Has the correct orientation and inclination factor been selected to provide the correct overall POPT (to the nearest 1%) of the measure?

### **Room-in Roof Insulation**

3.20. We propose the introduction of a question that verifies whether the space in which the measure has been installed constitutes a room-in-roof or a separate storey<sup>5</sup>.

3.21. Questions SMQ.21 would be worded as follows:

- Does the room-in-roof meet the definition of a room-in-roof as opposed to being a separate storey?

### **Electric Storage Heater and Boiler**

3.22. All electric storage heater and boiler measure types must be accompanied by a warranty that meets the ECO requirements<sup>6</sup>. We propose a question that verifies such a warranty has been provided.

3.23. Question SMQ.24 would be worded as follows:

- Has the owner been provided with a warranty meeting the criteria under ECO?

### **All Wall Insulation**

3.24. All CWI and SWI measures must be accompanied by a guarantee that meets the ECO requirements<sup>7</sup>. We propose a question that verifies such a guarantee has been provided.

3.25. Question SMQ.25 would be worded as follows:

- Has the owner been provided with an ECO Appropriate Guarantee?

### **All measures notified as solid wall alternative measures**

3.26. For ECO3 the Solid Wall Minimum Requirement can be made up of either solid wall insulation or solid wall alternative measures that provide at least the same amount of savings as those that would be achieved by the installation of solid wall insulation to an uninsulated solid wall property.

3.27. Such measures must be installed to solid wall premises. In order for a premises to count as a solid wall premises at least 50% of the premises exterior wall area must be constructed of solid wall, and at least 50% of the solid wall area must be uninsulated<sup>8</sup>.

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<sup>5</sup> Please refer to Chapter 6 of the draft version of the ECO3 delivery guidance for more information

<sup>6</sup> Article 18(1)(c) and (d) of the ECO3 Order:

[https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi\\_20181183\\_en.pdf](https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi_20181183_en.pdf)

<sup>7</sup> Article 33(4) of the ECO3 Order:

[https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi\\_20181183\\_en.pdf](https://www.legislation.gov.uk/ukxi/2018/1183/pdfs/ukxi_20181183_en.pdf)

<sup>8</sup> Please refer to Chapters 2 and 4 of the draft version of the ECO3 delivery guidance for more information

3.28. In line with the above, we propose an additional question to check solid wall alternative measures have been installed at properties that at least 50% of the premises exterior wall area is constructed of solid wall.

3.29. Question SMQ.26 would be worded as follows:

- Is the percentage indicated by the third part of the SWMR reference number (SWMR RN: format AAA/N.NN/**NNN**/NNNNNN) an accurate reflection of the proportion of the property's external walls which are of solid wall construction, whether or not insulated?

## 5. New score monitoring questions

**Question 5.1:** Do you agree with the introduction of the above questions? If not, please tell us why

## 6. Further questions

The following questions concern the entire set of score monitoring questions. All score monitoring questions are listed in Appendix 2 to this consultation document.

**Question 6.1:** Do you think we should change any of the existing score monitoring questions? If so, please indicate which one(s) and explain why it should be changed.

This can include whether you believe there should be the option to respond "N/A" or "Unable to Validate".

**Question 6.2:** Do you think we should remove any of the existing score monitoring questions? If so, please indicate which one(s) and explain why they should be removed.

**Question 6.3:** Do you think we should add any further score monitoring questions? If so, please indicate what questions you believe should be added, and for what measure type.

Please also include whether you believe there should be the option to respond "N/A" or "Unable to Validate".

## 4. Appendices

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## Appendix 1 – Technical monitoring questions

Measure Type	Inspecti on Stage	Question Number	Question	N/A	Unable to Validate	Remote Re-inspection allowed?
All measures	Post	TMQ.1*	<p>Are any of the following true:</p> <ul style="list-style-type: none"> <li>- This measure is referred to in the relevant version of PAS 2030 and evidence has been provided to demonstrate that the measure has been installed in accordance with PAS 2030 by, or under the responsibility of, a certified installer</li> <li>- This measure is not referred to in the relevant version of PAS 2030, however evidence has been provided to demonstrate that the measure has been installed by a person of appropriate skill and experience.</li> </ul>			Y
All measures	Post	TMQ.2*	Is there any evidence of avoidable thermal bridges i.e. heat loss areas which are not insulated but could have been in line with the requirements of PAS 2030 and Building Regulations?			N
Innovation Measures	Post	TMQ.3*	Has appropriate monitoring equipment been installed into the property?			N
Boiler Repair	Post	BR.1	Where pipework has either been replaced, exposed, or been made accessible as part of the work within an unheated space within the building envelope, has this been insulated?			Y
Boiler Repair	Post	BR.2	Does the boiler or heat pump produce hot water for the central heating system?			N
Boiler Repair	Post	BR.3	If the boiler or heat pump is designed to produce domestic hot water, is the boiler or heat pump producing domestic hot water?			N
Cavity Wall Insulation	Post	CWI.1	Is the insulation material suitable for use with the property’s exposure level to wind driven rain?			N
Cavity Wall Insulation	Post	CWI.2	Does the form of the construction of the property suggest that it was suitable for the material that has been installed?			N
Cavity Wall Insulation	Post	CWI.3	Does the current condition of the property suggest that it was suitable for the material that has been installed?			N

Cavity Wall Insulation	Post	CWI.4	Does the drilling pattern conform to the appropriate materials compliance certificate?			Y
Cavity Wall Insulation	Post	CWI.5	Have all injection holes been filled?			Y
Cavity Wall Insulation	Post	CWI.6	Have all vents been safeguarded and have redundant vents been sealed?			N
Cavity Wall Insulation	Post	CWI.7	Is there any evidence of the escape of insulation?			N
Cavity Wall Insulation	Post	CWI.8	Are there any signs of damp or condensation?			N
Cavity Wall Insulation	Mid	CWI.9*	If the cavity wall contains pre-existing insulation, is the additional insulation to be added compatible with the pre-existing insulation as demonstrated by the product certificate?			N
District Heating Systems	Post	DHS.1	Is 50% or more of all roof areas or exterior facing walls insulated?			N
District Heating Systems	Post	DHS.2	Are any of the following true:  - One or more parts of the exterior facing walls of the multi-storey building in which the premises is located are of solid wall construction;  - All cavity walls have been insulated with cavity wall insulation; or  - Any cavity walls which have not been insulated have visible signs to indicate they cannot be insulated with cavity wall insulation.			N
District Heating Systems	Post	DHS.3	Does the DHS measure provide working space heating in the domestic premises?			N
District Heating Systems	Post	DHS.4	Does the DHS measure provide working hot water in the domestic premises?			N
District Heating Systems	Post	DHS.5*	Does the DHS measure generate heat completely through fuels other than coal or oil?			N
District Heating Systems	Post	DHS.6*	Are any of the following true:  - The DHS measure is registered with the Heat Trust Scheme			Y

			<p>- The DHS measure is subject to arrangements for consumer protection which are equivalent to the requirements under the Heat Trust Scheme</p> <p>- The DHS measure includes the installation of a ground source heat pump at the domestic premises</p>			
District Heating Systems	Post	DHS.7*	Where the DHS is delivering heat to a house of multiple occupancy, is it delivering heat to additional domestic premises?			Y
Draught Proofing	Post	DP.1	Has the draught proofing been securely fixed to all doors and windows?			Y
Draught Proofing	Post	DP.2	Are all newly treated windows and doors fully operational?			N
Electric Storage Heater Repair	Post	ESHR.1	Is the repair to an Electric Storage Heater as opposed to a panel heater or other kind of heater?			N
Electric Storage Heater Repair	Post	ESHR.2	Does the Electric Storage Heater activate and produce heat?			N
Electric Storage Heater Repair	Post	ESHR.3	Is the property on an Economy 7 or differential off-peak tariff?			N
Electric Storage Heater Repair	Post	ESHR.4	Where the property is on a differential off-peak tariff, are the Electric Storage Heaters connected to a separate consumer unit?			N
External Wall Insulation	Mid	EWI.1	Is there at least one carded operative for every four operatives that meets the competence requirements for the relevant tasks as specified in the relevant PAS 2030 tables?			Y
External Wall Insulation	Mid	EWI.2	Has the pre-installation building inspection been completed fully in accordance with the relevant version of PAS 2030?			N
External Wall Insulation	Mid	EWI.3	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?			N
External Wall Insulation	Mid	EWI.4	Where services (e.g. gas, electric, water, telecommunications) are affected by the EWI installation, has the relevant service provider been contacted?			N
External Wall Insulation	Mid	EWI.5	Are insulation boards tightly butted together in a break bond pattern?			Y
External Wall Insulation	Mid	EWI.6	Are insulation boards cut at right angles to allow tight butting?			Y
External Wall Insulation	Mid	EWI.7	Are the minimum dimensions of any cut boards, and the fixing pattern used, in accordance with the system certificate?			Y



External Wall Insulation	Mid	EWI.8	Are all insulation boards undamaged?			Y
External Wall Insulation	Mid	EWI.9	Have cavities within cavity walls been filled or closed off to prevent an air path behind the insulation board?			N
External Wall Insulation	Mid	EWI.10	Have gaps been sealed to prevent an air path between the insulation board and wall?			Y
External Wall Insulation	Mid	EWI.11	Are the insulation boards appropriately bonded and/or anchored as specified in the system designers instructions?			N
External Wall Insulation	Mid	EWI.12	Is the EWI installation being carried out appropriately without compromising the accessibility, functionality and/or safety of the existing services? ( for example gas, electric, water, telephone, etc.)			N
External Wall Insulation	Mid & Post	EWI.13	Where services (e.g. gas, electric, water, telecommunications) have penetrated the insulation board have these been sealed appropriately?			N
External Wall Insulation	Post	EWI.14	Are there any visible signs of water penetration?			N
External Wall Insulation	Post	EWI.15	Has the render/cladding been fully applied?			Y
External Wall Insulation	Post	EWI.16	Where appropriate, have window and door reveals been insulated in line with the system designer's specifications?			N
External Wall Insulation	Post	EWI.17	Have all exterior facing wall areas (above DPC) been insulated in line with the system designer's specifications to reduce the effects of thermal bridging?			N
External Wall Insulation	Post	EWI.18	Have all exterior window and door seals been applied and finished off in line with the system designer's specifications?			N
External Wall Insulation	Post	EWI.19	Where necessary, has the roofline been extended in line with the system designer's specifications to cover the EWI works and prevent water ingress?			N
External Wall Insulation	Post	EWI.20	Is there evidence of damage to the EWI fabric as a result of water ingress?			N
Flat Roof Insulation	Mid	FRI.1	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?			N
Flat Roof Insulation	Mid	FRI.2	Are boards butted together with no gaps at abutments?			Y

Flat Roof Insulation	Mid	FRI.3	Has a 300mm insulation 'Up stand' been installed from the bottom surface of the horizontal layer around the perimeter of the roof on the internal façade of any parapet or penetrating service riser?			N
Flat Roof Insulation	Mid	FRI.4	Have existing cavity trays been raised and/or new ones provided at abutment of roof and wall?			N
Flat Roof Insulation	Post	FRI.5	Is there any evidence of water penetration?			N
Flat Roof Insulation	Post	FRI.6	Has a waterproof membrane been applied over the whole of the insulated area, including 'Up Stands' after the laying of the insulation board?			N
Flat Roof Insulation	Post	FRI.7	Has the area between the wall and flat roof slab been insulated to prevent cold bridging?			N
Heating Controls	Post	HC.1**	Are the heating controls, smart thermostat or TRV (whichever is applicable) linked to a functioning heating system?			N
Heating Controls	Post	HC.2**	Do the heating controls or smart thermostat turn on the domestic heating system?			N
Internal Wall Insulation	Mid	IWI.1				Y
Internal Wall Insulation	Mid	IWI.2	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?			N
Internal Wall Insulation	Mid	IWI.3				N
Internal Wall Insulation	Mid	IWI.4**	Has insulation been applied to the inter floor void?			N
Internal Wall Insulation	Mid	IWI.5	Where services (e.g. gas, electric, water, telecommunications) have penetrated the vapour control layer have these been sealed appropriately?			N
Internal Wall Insulation	Mid	IWI.6	If the floor is suspended timber, is the insulated dry lining bedded on a strip of pre-compressed expanding foam nailed to the floor?			N
Internal Wall Insulation	Post	IWI.7	Is the insulation sealed around all adjoining boards, walls, ceilings and floors?			Y
Internal Wall Insulation	Post	IWI.8	Is the insulation continued 400mm along all party and solid partition walls?			N
Loft Insulation	Post	LI.1	Is the thickness of insulation consistent throughout the loft area?			N
Loft Insulation	Post	LI.2	Has insulation been close butted?			Y

Loft Insulation	Post	LI.3	Has insulation been cross laid to prevent cold bridging?			Y
Loft Insulation	Post	LI.4	Has the loft hatch been insulated as specified in in the relevant PAS 2030 annex?			Y
Loft Insulation	Post	LI.5	Has the loft hatch been draught proofed as specified in the relevant PAS 2030 annex?			Y
Loft Insulation	Post	LI.6	Where down lighters or services have been fitted through the existing ceiling, have any measures been taken to prevent air leakage around down lights into roof void?			N
Loft Insulation	Post	LI.7	Have any and all working pipes and tanks been properly insulated?			Y
Boiler Replacement	Post	NB.1	Where pipework has either been replaced, exposed, or been made accessible as part of the work within an unheated space within the building envelope, has this been insulated?			Y
Boiler Replacement	Post	NB.2	If holes or openings have been made through the fabric of the premises due to the installation of a new boiler, have they been made good? (including condensate pipe, pressure relief valve, gas flue terminals)			Y
Boiler Replacement	Post	NB.3	Does the boiler or heat pump produce hot water for the central heating system?			N
Boiler Replacement	Post	NB.4	If the boiler or heat pump is designed to produce domestic hot water, is the boiler or heat pump producing domestic hot water?			N
Boiler Replacement	Post	NB.5	If original heating controls remain, do they function correctly with the boiler?			N
Boiler Replacement	Post	NB.6	Do the heating controls installed encompass a programmer, thermostat and TRVs to all radiators except those in the room with the thermostat?			N
New Electric Storage Heater	Post	NESH.1	Is the installation an Electric Storage Heater as opposed to a panel heater or other kind of heater?			N
New Electric Storage Heater	Post	NESH.2	Does the Electric Storage Heater activate and produce heat?			N
New Electric Storage Heater	Post	NESH.3	Are all storage heaters fitted with an automatic charge control?			N
New Electric Storage Heater	Post	NESH.4	Is the fan on fan-assisted storage heater(s) controlled by a thermostat?			N
New Electric Storage Heater	Post	NESH.5	Is the property on an Economy 7 or differential off-peak tariff?			N
New Electric Storage Heater	Post	NESH.6	Where the property is on a differential off-peak tariff, are the Electric Storage Heaters connected to a separate consumer unit?			N
Party Wall Insulation	Mid & Post	PWI.1	Does the drilling pattern conform to the appropriate materials compliance certificate?			Y

Party Wall Insulation	Mid	PWI.2	Does the lancing pattern conform to the appropriate materials compliance certificate?			Y
Party Wall Insulation	Mid	PWI.3	Have all party cavity walls been insulated?			Y
Party Wall Insulation	Post	PWI.4	Have all injection holes been filled?			Y
Room in Roof	Mid & Post	RIRI.1	Has insulation been installed to all stud walls within the room in the roof?			Y
Room in Roof	Mid & Post	RIRI.2	Has insulation been installed to all sloping ceilings within the room in the roof?			Y
Room in Roof	Mid & Post	RIRI.3	Has insulation been installed to the flat ceiling within the room in the roof?			Y
Room in Roof	Mid & Post	RIRI.4	Has insulation been installed to all dormer windows cheek walls and ceilings within the room-in-roof?			Y
Room in Roof	Mid & Post	RIRI.5	Where down lighters or services have been fitted through the existing ceiling, have any measures been taken to prevent air leakage around down lights into the roof void?			Y
Room in Roof	Mid & Post	RIRI.6	Has insulation been installed to all party walls within the room-in-roof that are either cavity walls or solid walls bordering an unheated space?			N
Room in Roof	Mid & Post	RIRI.7	Have any tanks or pipework present in the residual area been insulated?			N
Room in Roof	Mid & Post	RIRI.8	Have all hatches installed as part of the room-in-roof insulation been insulated as specified in the relevant annex of PAS 2030?			Y
Room in Roof	Mid & Post	RIRI.9	Has insulation been installed to all gable walls within the room-in-roof?			N
Solar PV	Post	PHV.1*	Is the inverter correctly position?			N
Solar PV	Post	PHV.2*	Has all wiring been fixed and secure?			N
Solar PV	Post	PHV.3*	Are all solar panels securely fixed?			N
Solar PV	Post	PHV.4*	Is the primary heating source electric?			N
Under Floor Insulation	Mid	UFI.1	Is there a carded operative at the site that meets the competency requirements for the measure being installed?			Y
Under Floor Insulation	Mid	UFI.2	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?			N

<b>Under Floor Insulation</b>	Mid	UFI.3	Has insulation been close butted and laid in a break bond pattern on solid concrete floors?			Y
<b>Under Floor Insulation</b>	Mid	UFI.4	Has the insulation been tightly fixed between joists to avoid gaps?			Y
<b>Under Floor Insulation</b>	Mid	UFI.5	Has the insulation been tightly fixed to the underside of the floor to avoid gaps?			Y
<b>Under Floor Insulation</b>	Mid	UFI.6	Has insulation been installed in the gap between the last joist and external walls?			Y
<b>Under Floor Insulation</b>	Mid	UFI.7	Has insulation been applied to working pipes below the insulation?			Y
<b>Under Floor Insulation</b>	Post	UFI.8	Have all gaps in the floor around service penetrations been sealed?			N
<b>Window Glazing</b>	Post	WG.1	Have all windows and doors in the premises that haven't been treated before now been treated?			Y
<b>First Time Central Heating</b>	Mid	FCH.1*	Does the property currently have a central heating system, DHS connection, or one or more working, efficient ESH? Is there evidence that a central heating system or DHS connection was present in the past?			N

\*Introduced questions

\*\*Amended question

## Appendix 2 – Score monitoring questions

Measure Type	Question Number	Question	N/A	Unable to Validate
All measures	SMQ.1	Does the measure installed match the notified measure type?		
All measures	SMQ.2	Does the heating system installed match the notified heating system, or has the appropriate proxy been used where applicable?		
All measures	SMQ.3	Does the property type match the notified property type?		
All measures	SMQ.4	Does the number of bedrooms match the notified number of bedrooms?		
All measures	SMQ.5**	Is any of the following true:  Where the full deemed score has been claimed, at least 67% of the property has been treated  Where less than 67% of the property has been treated, the notified deemed score has been calculated using a percentage of property treated figure that reasonably reflects the actual percentage of property treated (to the nearest 1%)?		
Loft Insulation	SMQ.6	If the measure has been notified as loft insulation with less than 100mm of pre-existing insulation, is there a pre-existing insulation level declaration present?		
Loft Insulation	SMQ.7	Is the level of pre-existing insulation recorded by the installer an accurate reflection of the actual pre-existing insulation present in the property?		
High performing external doors	SMQ.8**	Has the correct measure type been selected based on the area of the door that is glazed?		
Park home Insulation	SMQ.9	Does the park home size match the notified park home size?		
Electric Storage Heater	SMQ.10	Does the type of electric storage heater installed match the type of electric storage heater notified?		
Boiler	SMQ.11	Does the type of boiler installed match the type of boiler notified?		
Heating controls	SMQ.12**	If the heating controls are standard heating controls, i.e. not smart thermostats, do the controls encompass a programmer, thermostat and TRVs to all radiators except those in the room with the thermostat?		
Room in roof insulation	SMQ.13	If the Room-in-Roof measure has been notified as having insulated the residual loft space, has the residual loft space been insulated?		

All solid wall insulation and heating measures	SMQ.14**	Does the wall construction type notified match at least 50% of the total external wall area of the property?		
Solid wall insulation	SMQ.15	Does the wall type notified match the area of the wall of the property to which the measure was installed?		
Solid wall insulation	SMQ.16	Is the notified age band a reasonable reflection of the age band of the property?		
Solid wall insulation	SMQ.17	Is the notified thickness of insulation a reasonable reflection of the thickness of the insulation that was installed at the property?		
Heating controls	SMQ.18*	Does the installed smart thermostat meet the criteria of the boiler plus standard (i.e. does it feature automation and optimisation) and does it feature connectivity?		
Solar PV	SMQ.19*	Has the POPT been adjusted correctly based on the installed capacity of the solar PV panels?		
Solar PV	SMQ.20*	Has the correct orientation and inclination factor been selected to provide the correct overall POPT (to the nearest 1%) of the measure?		
Room in roof insulation	SMQ.21*	Does the room-in-roof meet the definition of a room-in-roof as opposed to being a separate storey?		
All measures	SMQ.22*	Have all non-treatable areas been deducted from the POPT and taken into account in the score calculation?		
All measures	SMQ.23*	Has 100% of the measure been installed where possible?		
Electric Storage Heater and Boiler	SMQ.24*	Has the owner been provided with a warranty meeting the criteria under ECO?		
All wall insulation	SMQ.25*	Has the owner been provided with an ECO Appropriate Guarantee?		
All measures notified as solid wall alternative measures	SMQ.26*	Is the percentage indicated by the third part of the SWMR reference number (SWMR RN: format AAA/N.NN/ <b>NNN</b> /NNNNNN) an accurate reflection of the proportion of the property's external walls which are of solid wall construction, whether or not insulated?		

\*\*Amended question

\*Introduced question

## Appendix 3 – Questions for comment

1.1. Published alongside this consultation is the response document *ECO3 Technical and Score Monitoring Question Set Consultation – Response Template*. This is in Excel format and should be used for all responses to this consultation.

1.2. The response document contains the following tabs.

- **Amended** – this includes amendments we have proposed to existing technical and score monitoring questions
  - In this tab, please confirm whether you agree with the proposed amendments and provide comments where applicable
- **Proposed** – this includes all new technical and score monitoring questions proposed
  - In this tab, please confirm whether you agree the proposed questions should be introduced (if you agree in principle but would like to suggest rewording, please enter “Yes” and then provide your suggestion in the Comments field)
- **Additional** – In this tab please include any comments on questions not referenced above
  - We specifically ask you to consider the following:
    - Do you believe any questions should be updated in addition to those outlined above?
    - Do you believe any questions should be removed?
    - Do you believe any new questions should be introduced in addition to those proposed above?

1.3. In each case, please comment on the following where relevant:

- The relevance of the question



- The clarity of the question
- Whether the question should be mid-installation or post-installation (there is no need to comment if you agree with the proposed inspection stage)
- Whether the question should have the "N/A" option available (there is no need to comment if you agree with the proposed availability)
- Whether the question should have the "Unable to validate" option available (there is no need to comment if you agree with the proposed availability)