ofgem e-serve Making a positive difference for energy consumers

ECO2 Technical Requirements Consultation

Consultation

Publication date:	30 October 2015	**Contact:**	Claire Valente
		Team:	Energy Efficiency and Social Programmes
Response deadline:	30 November 2015 by 9am	**Email:**	eco.consultation@ofgem.gov.uk

Overview:

This consultation relates to two areas of scheme delivery within ECO2: *lifetimes for wall insulation measures without an appropriate guarantee* and *technical monitoring re-inspection requirements.*

We welcome your views on these proposals. This consultation closes at 9am on 30 November 2015.

1. Introduction

The Energy Company Obligation (ECO) is a government scheme which requires larger energy companies to deliver energy efficiency measures to domestic premises in Great Britain. This consultation relates to ECO2[1], which is the second obligation period under the scheme. It runs from 1 April 2015 to 31 March 2017 and is the successor of ECO1[2], which ran from 1 January 2013 to 31 March 2015.

Through this consultation, we are seeking views from stakeholders on our proposals relating to two technical aspects of scheme delivery under ECO2. We have developed these proposals to support energy companies to achieve better outcomes for consumers and more cost effective scheme delivery.

1) Lifetimes for wall insulation measures without an appropriate guarantee

Measures installed under ECO have an expected 'standard' lifetime which is used to calculate the cost or carbon savings that will be achieved by the measure. Wall insulation measures, such as cavity wall insulation, are expected to deliver savings for up to 42 years. In order to provide assurance that standard lifetime savings will be achieved for these measure types, they should be accompanied by an appropriate 25 year guarantee.

This consultation sets out our proposed approach for wall insulation measures which are delivered without an appropriate guarantee. We propose that the default lifetime for these measures is 0 years, unless alternative assurance of the measure lifetime is available.

2) Technical monitoring re-inspections

Technical monitoring verifies whether a measure has been installed to the relevant installation standards by a person of appropriate qualification and expertise, and whether it complies with the relevant eligibility criteria.

Independent monitoring agents visit dwellings during and/or after the installation of ECO measures in order to ensure that works have been carried out to the expected standard. Where measures fail these inspections, the energy company is required to undertake remedial works which can be re-inspected on site by the original suitably qualified technical monitoring agent.

We propose that some technical monitoring re-inspections may be undertaken remotely following completion of remedial work, where certain requirements are met.

[1] The Gas and Electricity (Energy Company Obligation) Order 2014 is available at: http://www.legislation.gov.uk/uksi/2014/3219/pdfs/uksi_20143219_en.pdf

[2] The Electricity and Gas (Energy Companies Obligation) (Amendment) (No. 2) Order 2014 http://www.legislation.gov.uk/uksi/2014/3231/pdfs/uksi_20143231_en.pdf

Next steps

The consultation will be open from 30 October to 9am on 30 November 2015. Responses should be directed to eco.consultation@ofgem.gov.uk or:

Claire Valente
Energy Efficiency and Social Programmes
Ofgem, 9 Millbank, London, SW1P 3GE

We plan to publish our decision, including a summary of responses in January 2016. Unless marked confidential, all responses will be published on our website.

2. Lifetime for wall insulation measures without an appropriate guarantee

In this section we set out our proposed approach to determining the lifetime for wall insulation measures installed in ECO2 without an appropriate guarantee[3].

Background

The standard lifetimes[4] for ECO wall insulation measures are awarded in cases where measures are supported by an appropriate guarantee (see table 1 below).

Table 1 Standard lifetime for wall insulation measures

Measure	Standard lifetime (years)
External wall insulation	36
Internal wall insulation	36
Cavity wall insulation	42
Park home insulation	30
Party cavity wall insulation	42

If an appropriate guarantee is not provided, we must determine the lifetime to be awarded.

Our approach under ECO1

The approach we took under ECO1 to determine the appropriate lifetime for each measure without an appropriate guarantee is available on our website[5].

We identified four scenarios when a guarantee may not be available (see table 2 below). We consider that these scenarios also apply under ECO2.

[3] The criteria for an appropriate guarantee are set out in chapter 8 of the ECO Guidance: Delivery (pages 54-55) : https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-delivery
[4] All standard lifetimes are available in the ECO Measures Table: https://www.ofgem.gov.uk/sites/default/files/docs/2015/10/eco2_measures_table_-_oct_2015-_v2_3_-_final.pdf
[5] https://www.ofgem.gov.uk/publications-and-updates/eco1-lifetime-wall-insulation-measures-without-appropriate-guarantee

Table 2 Scenarios where a wall insulation measure is not supported by a guarantee

	Scenario	Details	ECO1 approach
1	Not eligible ECO measure	• The installer is not PAS 2030-certified • There is no evidence the measure has been installed in accordance with building regulations • Other core ECO eligibility criteria are not met	This is not an eligible ECO measure. To be rejected through our standard rejections process.
2	Limited assurance that standard lifetime savings will be achieved	• The installer conceals lack of guarantee from energy company • Guarantee was applied for but not issued due to concerns about quality and/or suitability of the installation • Guarantee was applied for but not issued as no system certificate was valid for the measure and no equivalent assurance provided • Guarantee not issued as applied for retrospectively	We have limited assurance regarding the quality of installation of the measure. These measures will receive the default lifetime of 2 years. *[Note: this was the approach under ECO1. We are consulting on a change for ECO2.].*
3	Some assurance that standard lifetime savings will be achieved	• Proactive discussions pre-installation to find alternative route to supporting lifetime • Guarantee quality assurance rules were followed but guarantee was not issued and installer now ceased to trade	There is some assurance regarding the quality of installation of the measure. There *may* be sufficient assurance for these measures to have up to the applicable standard lifetime. Measures will be assessed on a case-by-case basis
4	No guarantee available	• It is not possible to obtain a guarantee for this measure type as no appropriate guarantee is available *[Note: we are not currently aware of any wall insulation measure types where a guarantee is not available]*	Ofgem to engage guarantee companies to anticipate such cases in advance. If presented, identify whether this is something that could receive a guarantee either in this instance or in future. If not, consider whether additional assurance is available for this measure type. Award up to the applicable standard lifetime for the measure, subject to no other concerns.

In determining this lifetime under ECO1, we considered measures on a case-by-case basis, taking into account the reasons why a guarantee was not in place and any alternative assurance that the standard lifetime savings could be achieved.

Measures delivered without an appropriate guarantee were awarded a default lifetime of 2 years (see scenario 2), unless alternative assurance was available (see scenarios 3 and 4). This lifetime took account of three key factors; greater risk of measure failure, risk of replacement and double-counting under future schemes, and the length of the scheme.

ECO2 is scheduled to run from April 2015 to March 2017. This gave us assurance that a wall insulation measure installed under ECO1 could be remediated by the energy company that delivered it, if it failed within this two-year period. This supported our default lifetime of 2 years under scenario 2 for measures delivered in ECO1.

ECO2 proposal

Wall insulation measures which are delivered in accordance with the ECO guidance will be accompanied by an appropriate guarantee. The proposals set out below relate to wall insulation measures which are installed without an appropriate guarantee. We expect these will be limited to a very small proportion of ECO2 wall insulation measures. These measures may be identified retrospectively through energy company compliance checks and/or Ofgem audits.

We understand that the scenarios that were identified under ECO1 will remain. However, we believe it is appropriate to reconsider our treatment of them under ECO2. We have developed our proposals below with a view to help protect consumers from receiving poor quality installations and to help ensure that, where alternative assurance can be provided, there will be safeguards in place to help address future issues.

Scenario 1

Wall insulation measures in scenario 1 do not meet core ECO eligibility criteria and so are not eligible ECO2 measures.

Scenario 2

Measures in scenario 2 are eligible ECO measures. However, there is insufficient evidence that these measures have been installed in accordance with a suitable quality assurance framework, which suggests that they are at higher risk of failure within the standard measure lifetime, relative to other wall insulation measures. We also consider that they would have inadequate protection for the consumer.

We propose to set a default lifetime of 0 years for wall insulation measures delivered under ECO2 without an appropriate guarantee or alternative assurance (see scenario 2). Measures which are awarded a lifetime of 0 years will receive no ECO savings. Where these measures fail, this lifetime would allow potential for them to be replaced under future schemes.

This default lifetime of 0 years would further reinforce the need for an appropriate guarantee , offering greater consumer protection, supporting high quality and standards of installation, and ensuring that the carbon saving objectives of the scheme are not eroded.

Scenario 3

Where alternative assurance is available for wall insulation measures, rather than an appropriate guarantee, we propose to determine the measure lifetime through a case-by-case assessment of the evidence available. The lifetime awarded could range from 0 up to the applicable standard lifetime for the measure type.

Scenario 4

Where no guarantee is available within industry for a particular type of wall insulation measure, we propose to determine the measure lifetime through a case-by-case assessment of the evidence available. This lifetime could range from 0 up to the applicable standard lifetime for the measure type.

Case-by-case assessments (under scenario 3 &4)

Where a case-by-case assessment is required, we will engage with energy companies to gather the information required and work towards a swift conclusion. The process will reference our criteria for the assessment of a non-standard lifetime, included here in Appendix 3.

Implementation

The outcome of the consultation will apply to all wall insulation measures which are notified during ECO2 without an appropriate guarantee.

Questions for Consultation

Question 1

1.1 Do you agree that the default lifetime for wall insulation measures without an appropriate guarantee is 0 years?

1.2 Please give reasons for your answer.

Question 2

2.1 Where there is alternative assurance available in support of the lifetime, do you agree that we should determine the lifetime through a case-by-case assessment of the evidence, up to a maximum of the standard lifetime for that measure type?

2.2 Please give reasons for your answer.

Question 3

3.1 Do you consider that an alternative approach would be more appropriate in determining the lifetime for wall insulation measures without an appropriate guarantee?

3.2 If yes, please provide details.

3. Technical Monitoring Re-inspections

In this section we propose that, subject to certain requirements, ECO technical monitoring re-inspections may be undertaken remotely following the completion of remedial works. These proposals do not relate to score monitoring.

Background

Each quarter, at least 5% of the measures installed in ECO must be monitored to confirm that our technical requirements have been met and to confirm that the score is correct.

Where an ECO measure fails technical monitoring, the energy company must conduct remedial work on that measure if it is to be eligible under ECO2. This remedial work must also pass a re-inspection to verify that any failures identified through technical monitoring have been resolved.

Proposal

We propose that monitoring agents may be able to conduct re-inspections remotely via a desk-based process, subject to certain requirements.

Remote re-inspections could result in a reduction to the cost of delivering ECO measures and a better customer experience. However, it is necessary to ensure that:

a) remote re-inspections will provide the same levels of assurance as site visits that the necessary remedial work has been completed; and

b) adequate protections are in place for those consumers who have suffered from poor installations.

We are seeking the views of our stakeholders on whether remote re-inspections are appropriate, and on our proposed requirements for safeguarding consumers and providing assurance that necessary remedial works are undertaken.

We believe that there are some types of technical monitoring failure for which remedial work can only be properly re-inspected through a site visit, and some for which a remote re-inspection may be appropriate. Appendix 1 contains our proposals as to which types of failure could be re-inspected remotely. Where the final column is 'yes' we propose that remote re-inspections may be possible depending on the exact nature of the fail and subject to the safeguards set out below.

Note that these proposals relate only to technical monitoring. Existing processes to resolve score monitoring failures will not be affected[6].

[6] Our *Explanatory notes for monitoring* detail the process should a score monitoring question fail. https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-monitoring

Protocols and Safeguards

In order to ensure that remote re-inspections give us assurance that remedial works have been undertaken to the required standard, suitable protocols and safeguards would be put in place.

We propose that:

1. Prior to remedial work taking place, the technical monitoring agent should determine if a fail can be re-inspected remotely. The 18 questions marked as yes in Appendix 1 would only be suitable for remote re-inspection subject to the discretion of the technical monitoring agent.

2. During the original monitoring inspection, the technical monitoring agent should take a photograph of the aspect of the installation that failed monitoring. The installer conducting the remedial work should take a photograph showing the same view which clearly indicates that the fail has been remedied.

3. The photographs taken by the technical monitoring agent and installer should record the date on which the photo was taken, location of the property and the measure being assessed, for example, a timestamped photo with an associated GPS location.

4. In addition to photographic evidence, the technical monitoring agent may request additional evidence.

5. The remote re-inspections should be conducted by the same technical monitoring agent who conducted the original monitoring inspection.

6. If the documentary evidence provided does not provide sufficient certainty for the technical monitoring agent to determine that the necessary remedial work has or has not been completed to the required standard, the technical monitoring agent must undertake a site visit.

7. Monitoring agents must ensure that on-site inspections are conducted for a proportion of work that was re-inspected remotely.

Implementation

8. We will publish the outcome of this consultation in January 2016. Our existing rules for technical monitoring re-inspections will continue to apply to all measures which undergo technical monitoring re-inspections during this consultation period. The proposals set out here, if introduced, will apply to measures that are re-inspected following publication of the outcome of this consultation, subject to all required protocols and safeguards being met.

9. It is not envisaged that any outcome of this consultation will require mandatory remote re-inspections; suppliers will be able to continue to conduct all re-inspections on-site.

Questions for Consultation

Question 4

4.1. Do you agree that in some circumstances, remote re-inspections are appropriate?

4.2 Please give reasons for your answer.

Question 5

5.1 Do you agree that it may be possible to remotely re-inspect the technical monitoring failure types we suggest in Appendix 1?

5.2 Please give reasons for your answer.

5.3 Please identify those questions in Appendix 1 where you disagree with the proposal.

5.4 Please identify any other questions where you consider the proposal would be appropriate.

Question 6

6.1 Do you agree that technical monitoring fails can only be re-inspected remotely in cases where the technical monitoring agent has deemed it possible during their original inspection?

6.2 Do you agree that remote re-inspections must be conducted using photographs taken before and after remedial works, and that original photographs must be taken by the monitoring agent during their original inspection?

6.3 Do you agree that the photographs need to be GPS location-stamped?

6.4 Do you agree that the technical monitoring agent should be able to request additional evidence to assist with the remote re-inspection? If so, please provide examples of suitable evidence.

6.5 Do you agree that the remote re-inspection should be conducted by the same agent who conducted the original site audit?

6.6 Do you agree that the technical monitoring agent must conduct a site audit if there is any doubt in the evidence assessed during the remote re-inspection?

6.7 Do you think that monitoring agents should monitor a minimum percentage of re-inspections on site? If so, what is an appropriate percentage?

6.8 Please provide any further suggestions for processes that may increase the accuracy of remote re-inspections, or enhance consumer protections.

Question 7

7.1. Please estimate the time that could be saved by these proposals?

Appendix 1 – Technical monitoring questions for remote re-inspection

Technical Monitoring Questions

Ref	Measure Type	Inspection Stage	Question	Suitable for remote re-inspection?
BR.1	**Boiler Repair**	**Post-Installation**	Where a boiler and hot water storage vessel have been repaired or replaced, have any associated replacement pipes or pipes that have been exposed as part of the works or are now otherwise accessible been insulated where possible?	**Yes**
BR.2	**Boiler Repair**	**Post-Installation**	Does the boiler produce hot water for the central heating system?	**No**
BR.3	**Boiler Repair**	**Post-Installation**	If the boiler is designed to produce domestic hot water, is the boiler producing domestic hot water?	**No**
NB.1	**New Boiler**	**Post-Installation**	Where a boiler and hot water storage vessel have been repaired or replaced, have any associated replacement pipes or pipes that have been exposed as part of the works or are now otherwise accessible been insulated where possible?	**Yes**
NB.2	**New Boiler**	**Post-Installation**	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)	**Yes**
NB.3	**New Boiler**	**Post-Installation**	Does the boiler produce hot water for the central heating system?	**No**

NB.4	**New Boiler**	**Post-Installation**	If the boiler is designed to produce domestic hot water, is the boiler producing domestic hot water?	**No**
CWI.1	**Cavity Wall Insulation**	**Post-Installation**	Is the insulation material suitable for use with the property's exposure level to wind driven rain?	**No**
CWI.2	**Cavity Wall Insulation**	**Post-Installation**	Does the form of the construction of the property suggest that it was suitable for the material that has been installed?	**No**
CWI.3	**Cavity Wall Insulation**	**Post-Installation**	Does the current condition of the property suggest that it was suitable for the material that has been installed?	**No**
CWI.4	**Cavity Wall Insulation**	**Post-Installation**	Does the drilling pattern conform to the appropriate materials compliance certificate?	**Yes**
CWI.5	**Cavity Wall Insulation**	**Post-Installation**	Have all injection holes been filled?	**Yes**
DP.1	**Draught Proofing**	**Post-installation**	Has the draught proofing been securely fixed to all doors and windows?	**No**
DP.2	**Draught Proofing**	**Post-installation**	Are all newly treated windows and doors fully operational?	**No**
ESHR.1	**Electric Storage Heater Repair**	**Post-installation**	Is the repair to an Electric Storage Heater as opposed to a panel heater or other kind of heater?	**No**
ESHR.2	**Electric Storage Heater Repair**	**Post-installation**	Does the Electric Storage Heater activate and produce heat?	**No**
ESHR.3	**Electric Storage Heater Repair**	**Post-installation**	Is the property on an Economy 7 or differential off-peak tariff?	**No**
ESHR.4	**Electric Storage Heater Repair**	**Post-installation**	Where the property is on a differential off-peak tariff, are the Elecitric Storage Heaters connected to a separate consumer unit?	**No**
NESH.1	**New Electric Storage Heater**	**Post-installation**	Is the installation an Electric Storage Heater as opposed to a panel heater or other kind of heater?	**No**
NESH.2	**New Electric Storage Heater**	**Post-installation**	Does the Electric Storage Heater activate and produce heat?	**No**
NESH.3	**New Electric Storage Heater**	**Post-installation**	Are all storage heaters fitted with an automatic charge control?	**No**
NESH.4	**New Electric Storage Heater**	**Post-installation**	Is the fan on fan-assisted storage heater(s) controlled by a thermostat?	**No**

NESH.5	**New Electric Storage Heater**	**Post-installation**	Is the property on an Economy 7 or differential off-peak tariff?	**No**
NESH.6	**New Electric Storage Heater**	**Post-Installation**	Where the property is on a differential off-peak tariff, are the Electric Storage Heaters connected to a separate consumer unit?	**No**
EWI.1	**External Wall Insulation**	**Competency (mid-installation only)**	Is there at least one carded operative that meets the competence requirements for the relevant tasks as specified in B4-l4 of Table B4 of PAS:2030:2014	**No**
EWI.2	**External Wall Insulation**	**Competency (mid-installation only)**	Has the pre-installation survey been completed fully in accordance to PAS2030:2014?	**No**
EWI.3	**External Wall Insulation**	**Competency (mid-installation only)**	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?	**No**
EWI.4	**External Wall Insulation**	**Competency (mid-installation only)**	Where telecommunications are affected by the EWI installation, has the relevant telecoms provider been contacted?	**No**
EWI.5	**External Wall Insulation**	**Mid-Installation**	Are insulation boards tightly butted together in a break bond pattern?	**No**
EWI.6	**External Wall Insulation**	**Mid-Installation**	Are insulation boards cut at right angles to allow tight butting?	**No**
EWI.7	**External Wall Insulation**	**Mid-Installation**	Are only full or half insulation boards fitted in an interlocking pattern?	**No**
EWI.8	**External Wall Insulation**	**Mid-Installation**	Are all insulation boards undamaged?	**No**
EWI.9	**External Wall Insulation**	**Mid-Installation**	Have cavities within cavity walls been filled or closed off to prevent an air path behind the insulation board?	**No**
EWI.10	**External Wall Insulation**	**Mid-Installation**	Have gaps been sealed to prevent an air path between the insulation board and wall?	**No**
EWI.11	**External Wall Insulation**	**Mid-Installation**	Are the insulation boards appropriately bonded and/or anchored as specified in the system designers instructions?	**No**

EWI.12	**External Wall Insulation**	**Mid-Installation**	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.)	**No**
EWI.13	**External Wall Insulation**	**Post-Installation**	Where services have penetrated the insulation board have these been sealed appropriately?	**No**
EWI.14	**External Wall Insulation**	**Post-Installation**	Are there any visible signs of water penetration?	**No**
EWI.15	**External Wall Insulation**	**Post-Installation**	Has the render/cladding been fully applied?	**No**
EWI.16	**External Wall Insulation**	**Post-Installation**	Have window and door reveals been insulated?	**No**
EWI.17	**External Wall Insulation**	**Post-Installation**	Have all exterior facing wall areas (above DPC) been insulated to reduce the effects of thermal bridging?	**No**
FRI.1	**Flat Roof Insulation**	**Competency (mid-installation only)**	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?	**No**
FRI.2	**Flat Roof Insulation**	**Mid-Installation**	Are boards butted together with no gaps at abutments?	**No**
FRI.3	**Flat Roof Insulation**	**Mid-Installation**	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?	**No**
FRI.4	**Flat Roof Insulation**	**Mid-Installation**	Have existing cavity trays been raised and/or new ones provided at abutment of roof and wall?	**No**
FRI.6	**Flat Roof Insulation**	**Post-installation**	Has a waterproof membrane been applied over the whole of the insulated area, including 'Up Stands' after the laying of the insulation board?	**No**
FRI.5	**Flat Roof Insulation**	**Post-installation**	Is there any evidence of water penetration?	**No**
WG.1	**Window Glazing**	**Post-Installation**	Have all windows and doors in the premises that haven't been treated before now been treated?	**Yes**

HC.1	**Heating Controls**	**Post-Installation**	Are the heating controls linked to a functioning heating system?	**No**
HC.2	**Heating Controls**	**Post-Installation**	Do the heating controls turn on the domestic heating system?	**No**
IWI.1	**Internal Wall Insulation**	**Competency (mid-installation only)**	Is there at least one carded operative that meets the competence requirements as specified in B8.I4 of table B8 of PAS2030:2014	**No**
IWI.2	**Internal Wall Insulation**	**Competency (mid-installation only)**	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?	**No**
IWI.3	**Internal Wall Insulation**	**Mid-Installation**	Have all gaps behind the new insulation been sealed to prevent the circulation of cold air if applicable?	**No**
IWI.4	**Internal Wall Insulation**	**Mid-Installation**	Has the insulation been continued into the inter floor void?	**No**
IWI.5	**Internal Wall Insulation**	**Mid-Installation**	Where services have penetrated the vapour control layer have these been sealed appropriately?	**No**
IWI.6	**Internal Wall Insulation**	**Mid-Installation**	If the floor is suspended timber, is the insulated dry lining bedded on a strip of pre-compressed expanding foam nailed to the floor?	**No**
IWI.7	**Internal Wall Insulation**	**Post-installation**	Is the insulation sealed around all adjoining boards, walls, ceilings and floors?	**Yes**
IWI.8	**Internal Wall Insulation**	**Post-installation**	Is the insulation continued 400mm along all party and solid partition walls?	**No**
LITU.1	**Loft Insulation (Top Up)**	**Post-Installation**	Is the thickness of insulation consistent throughout the loft area?	**No**
LITU.2	**Loft Insulation (Top Up)**	**Post-Installation**	Has insulation been close butted?	**Yes**
LITU.3	**Loft Insulation (Top Up)**	**Post-Installation**	Has insulation been cross laid to prevent cold bridging?	**Yes**
LITU.4	**Loft Insulation (Top Up)**	**Post-Installation**	Has the loft hatch been insulated as specified in PAS 2030:2014?	**Yes**

LITU.5	**Loft Insulation (Top Up)**	**Post-Installation**	Has the loft hatch been draught proofed as specified in PAS 2030:2014?	**Yes**
LITU.6	**Loft Insulation (Top Up)**	**Post-Installation**	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?	**No**
LIV.1	**Loft Insulation (virgin)**	**Post-Installation**	Is the thickness of insulation consistent throughout the loft area?	**No**
LIV.2	**Loft Insulation (virgin)**	**Post-Installation**	Has insulation been close butted?	**Yes**
LIV.3	**Loft Insulation (virgin)**	**Post-Installation**	Has insulation been cross laid to prevent cold bridging?	**Yes**
LIV.4	**Loft Insulation (virgin)**	**Post-Installation**	Has the loft hatch been insulated as specified in PAS 2030:2014?	**Yes**
LIV.5	**Loft Insulation (virgin)**	**Post-Installation**	Has the loft hatch been draught proofed as specified in PAS 2030:2014?	**Yes**
LIV.6	**Loft Insulation (virgin)**	**Post-Installation**	Is a signed and completed virgin loft insulation declaration present in the loft?	**No**
LIV.7	**Loft Insulation (virgin)**	**Post-Installation**	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?	**No**
LIR.2	**Loft Insulation (rafter)**	**Mid-Installation**	Has insulation been installed to all sloping ceilings?	**No**
LIR.4	**Loft Insulation (rafter)**	**Mid-Installation**	Has insulation been installed to those areas external to the main loft area, but within the roof space?	**No**
LIR.5	**Loft Insulation (rafter)**	**Mid-Installation**	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?	**No**
PWI.1	**Party Wall Insulation**	**Mid-Installation**	Does the drilling pattern conform to the appropriate materials compliance certificate?	**Yes**
PWI.2	**Party Wall Insulation**	**Mid-Installation**	Does the lancing pattern conform to the appropriate materials compliance certificate?	**Yes**
PWI.3	**Party Wall Insulation**	**Mid-Installation**	Have all party cavity walls been insulated?	**Yes**

RIRI.1	**Room in Roof**	**Mid-Installation**	Has insulation been installed to all stud walls within the room in the roof?	**No**
RIRI.2	**Room in Roof**	**Mid-Installation**	Has insulation been installed to all sloping ceilings within the room in the roof?	**No**
RIRI.3	**Room in Roof**	**Mid-Installation**	Has insulation been installed to the ceiling within the room in the roof?	**No**
RIRI.4	**Room in Roof**	**Mid-Installation**	Has insulation been installed to those areas external to the room in the roof, but within the roof space?	**No**
RIRI.5	**Room in Roof**	**Mid-Installation**	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?	**No**
UFI.1	**UFI**	**Competency (mid-installation only)**	Is there a carded operative at the site that meets the competency requirements for the measure being installed?	**No**
UFI.2	**UFI**	**Competency (mid-installation only)**	Is the measure/system being installed as specified in the appropriate product certificate and/or system designer's instructions?	**No**
UFI.3	**UFI**	**Mid-installation**	Has insulation been close butted and laid in a break bond pattern on solid concrete floors?	**No**
UFI.4	**UFI**	**Mid-installation**	Has the insulation been tightly fixed between joists to avoid gaps?	**No**
UFI.5	**UFI**	**Mid-installation**	Has the insulation been tightly fixed to the underside of the floor to avoid gaps?	**No**
UFI.6	**UFI**	**Mid-installation**	Has insulation been installed in the gap between the last joist and external walls?	**No**
UFI.7	**UFI**	**Mid-installation**	Has insulation been applied to working pipes below the insulation?	**No**
UFI.8	**UFI**	**Post-Installation**	Have all gaps in the floor around service penetrations been sealed?	**No**

Appendix 2 – Consultation Questions

Lifetime for wall insulation measures without an appropriate guarantee

Question 1

1.1 Do you agree that the default lifetime for wall insulation measures without an appropriate guarantee is 0 years?

1.2 Please give reasons for your answer.

Question 2

2.1 Where there is alternative assurance available in support of the lifetime, do you agree that we should determine the lifetime through a case-by-case assessment of the evidence, up to a maximum of the standard lifetime for that measure type?

2.2 Please give reasons for your answer.

Question 3

3.1 Do you consider that an alternative approach would be more appropriate in determining the lifetime for wall insulation measures without an appropriate guarantee?

3.2 If yes, please provide details.

Technical monitoring questions for remote re-inspection

Question 4

4.1 Do you agree that in some circumstances, remote re-inspections are appropriate?

4.2 Please give reasons for your answer.

Question 5

5.1 Do you agree that it may be possible to remotely re-inspect the technical monitoring failure types we suggest in Appendix 1?

5.2 Please give reasons for your answer.

5.3 Please list those questions in Appendix 1 where you disagree with the proposal. Please explain your reasons.

5.4 Please list any other failure types that you feel should be included. Please explain your reasons.

Question 6

6.1 Do you agree that technical monitoring fails can only be re-inspected remotely in cases where the technical monitoring agent has deemed it possible during their original inspection?

6.2 Do you agree that remote re-inspections must be conducted using photographs taken before and after remedial works, and that original photographs must be taken by the monitoring agent during their original inspection?

6.3 Do you agree that the photographs need to be GPS location-stamped?

6.4 Do you agree that the technical monitoring agent should be able to request additional evidence to assist with the remote re-inspection? If so, please provide examples of suitable evidence.

6.5 Do you agree that the remote re-inspection should be conducted by the same agent that conducted the original site audit?

6.6 Do you agree that the technical monitoring agent must conduct a site audit if there is any doubt in the evidence assessed during the remote re-inspection?

6.7 Do you think that monitoring agents should monitor a minimum percentage of re-inspections on site? If so, what is an appropriate percentage?

6.8 Please provide any further suggestions for processes that may increase the accuracy of remote re-inspections, or enhance consumer protections.

Question 7

7.1. Please estimate the time that could be saved by these proposals?

Appendix 3 – Criteria for the assessment of a non standard lifetime.

Durability:
How will the product, or its components, degrade over time? How will exposure to extreme ranges in temperature, wind and water, etc affect the lifetime of a measure? How long can the products be expected to operate within design specifications without need for repair?

Ways to demonstrate this include, but are not limited to, testing carried out by a UKAS accredited lab.

Maintenance:
Will the product, or any of its components, require maintenance? Will any of the product's components require replacement? What are the implications of a lack of/improper maintenance?

Ways to demonstrate this include, but are not limited to, manufacturer's technical data, installation manual, user manual, etc.

Warranty/Guarantee:
Does the measure come with a Warranty/Guarantee? What is its duration? What does it cover?

Can be demonstrated by the provision of Warranty/Guarantee.

Obsolescence:
Is the measure likely to become obsolete to the user while it is still in working order and thereby not achieve further carbon or cost savings? For instance, a long-life boiler might become obsolete if a new, more efficient heat source comes onto the market.

Ways to demonstrate this include, but are not limited to, examining measure replacement rates for similar measures.

Customer Behaviour:
To what degree are the benefits of the measure dependent on customer behaviour? For example, a subsequent householder may build an extension to a property thereby replacing the wall to which solid wall insulation had been installed.

Ways to demonstrate this include, but are not limited to, industrial or academic evidence of customer behaviour in relation to a measure or property.

Industry Practice:
How does industry treat this product or measure? Did it receive a lifetime under CERT and CESP? If so, what was it and why was it awarded that lifetime? Does it receive a lifetime under Green Deal? If so, what is it and why was it awarded that lifetime?

Ways to demonstrate this include, but are not limited to, industry good practice and/or supporting data, or reference to previous decisions by Ofgem, DECC, etc.