

Guidance

Energy Company Obligation (ECO3) Guidance: Innovation v1.1

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| Publication date: | 14 February 2020 | Contact: | Chris Mack, Senior Policy Manager |
| | | Team: | E-Serve, Policy |
| | | Email: | eco@ofgem.gov.uk |

This document sets out Ofgem’s approach to administering applications and measures notified under demonstration actions, innovation measures and monitored measures as provided for by the Energy Company Obligation (ECO) 2018 Order. This guidance is additional to the ECO3: Supplier Administration and ECO3: Delivery guidance documents, and should be read in conjunction with that guidance.

It outlines:

- a) limits on the delivery of demonstration actions, innovation measures and monitored measures,
- b) eligibility requirements for these measures,
- c) scoring requirements,
- d) the application process and the application forms,
- e) the key requirements in the applications,
- f) the role of the panel and the decision making process,
- g) how measures should be notified and how we will administer measures delivered under these provisions,
- h) what any monitoring requirements are, and
- i) safety and aftercare arrangements for these measures.

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1. Introduction

- 1.1. The Industrial Strategy¹ commits the Government to supporting innovative manufacturers and installers, including small and new manufacturers and installers, who are developing new products. The Government wants to encourage new products that help to improve the energy efficiency of our housing stock further (when compared to more traditional measures), or that are designed and delivered using more cost-effective and efficient installation techniques.
- 1.2. Under ECO3, energy suppliers will be able to deliver up to 10% of their obligation through the installation of innovative measures to eligible households. There are two innovation routes under the scheme:
 - **Demonstration actions** – measures that have previously been tested in a laboratory setting and now require testing at scale in a live environment, or are marketable products that are being sold in the market and may need additional support.
 - **Innovation measures** – a measure that is different from those delivered under ECO3, as well as previous energy efficiency schemes², by having, for example, an improved material that can demonstrate improved energy efficiency performance, or an improved installation technique.
- 1.3. These routes are optional and energy suppliers do not have to deliver measures under them. However, to encourage participation by obligated suppliers, and to deliver new and improved measures into the scheme, a Lifetime Bill Saving score (for demonstration actions) or a deemed score uplift (for innovation measures) will be awarded to measures that are delivered under these routes within ECO3.
- 1.4. In addition to innovation, suppliers will be able to use a new monitored measures route to deliver up to 10% of their obligation. This is also voluntary and is intended to allow suppliers the opportunity to use modern monitoring technology to measure the actual

¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

² Previous energy efficiency schemes for these purposes means ECO1 and ECO2. Article 2 of the ECO3 Order.

energy efficiency performance of homes that have received energy efficiency measures over time. Suppliers who use the monitored measures route will receive a score uplift if the measures that are being monitored are proven to deliver more savings than that assumed by the standard deemed score.

NOTE

The ECO3 Order³ and this document refer to the three innovation and performance monitoring streams as (i) Demonstration Actions, (ii) Innovation Measures and (iii) Monitored Measures. The BEIS policy guidance document refers to the same streams as (i) Demonstration Actions, (ii) Innovation Score Uplifts and (iii) In-situ Performance respectively.

Ofgem's role

- 1.5. Ofgem (the Office of the Gas and Electricity Markets Authority) is the ECO administrator. This document provides guidance on how Ofgem ('we', 'our' and 'us' in this document) will administer the provisions relating to demonstration actions, innovation measures and monitored measures in the ECO3 scheme, in line with the ECO3 Order.

This guidance

- 1.6. This guidance is aimed at suppliers and the broader supply chain, setting out Ofgem's approach to administering applications and measures notified under demonstration actions, innovation measures and monitored measures as provided for by the ECO3 Order.
- 1.7. Given that demonstration actions, innovation measures and monitored measures are new delivery routes under the ECO scheme, we expect that further guidance and clarifications may be required with respect to these provisions as the scheme progresses. We will review and update this Guidance document as necessary.

³ The Electricity and Gas (Energy Company Obligation) Order 2018.

- 1.8. It is important to note that only obligated suppliers can make an application under one of these routes. If a member of the broader supply chain wishes to have their innovation or monitoring proposal supported under the scheme they need to work with an ECO obligated supplier who will liaise with and submit the application to Ofgem. We will not provide a view on the suitability of any proposal in advance of submission of a completed application.

Associated documents

The Electricity and Gas (Energy Company Obligation) Order 2018:⁴

<http://www.legislation.gov.uk/uksi/2018/1183/contents/made>

The Electricity and Gas (Energy Company Obligation) (Amendment) Order 2019:

<http://www.legislation.gov.uk/uksi/2019/1441/contents/made>

Energy Company Obligation 2018-2022: Policy guidance for obligated suppliers, manufacturers and installers on applying for Demonstration Actions, Innovation Score Uplifts and In-situ Performance:

<https://www.gov.uk/government/publications/energy-company-obligation-innovation-guidance>

Energy Company Obligation 2018-22 (ECO3) Guidance: Supplier Administration:

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2018-22-eco3-guidance-supplier-administration>

Energy Company Obligation 2018-22 (ECO3) Guidance: Delivery:

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2018-22-eco3-guidance-delivery>

ECO3 Innovation website:⁵

<https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

⁴ The ECO3 Order was amended with effect from 1 January 2020. For a detailed summary of how these new provisions apply to ECO3 measures, refer to paragraph 1.4 of the ECO3 Guidance: Delivery.

⁵ This page includes application forms, TAP meeting minutes, approved innovation measures, and a summary of updates to this document.

2. Delivery caps and meeting of obligations

Section summary

Demonstration actions, innovation measures and monitored measures are all subject to delivery caps in ECO3. This section describes these caps, and their relationship to a supplier's overall HHCRO obligation. It also includes information on delivering 'excess innovation measures' once the relevant cap has been reached.

Delivery caps

- 2.1. Overall delivery of demonstration actions and innovation measures (other than excess innovation measures) cannot exceed 10% of an obligated supplier's total obligation (the innovation cap).⁶ Demonstration actions and innovation measures are also subject to their own sub-caps: Individual demonstration actions cannot exceed 5% of an obligated supplier's total obligation (the demonstration sub-cap).⁷ Monitored measures cannot exceed 10% of an obligated supplier's total obligation.⁹
- 2.2. Suppliers are responsible for monitoring their delivery of demonstration actions, innovation measures and monitored measures in relation to their caps.

Meeting of obligations

- 2.3. Any measure delivered under the scheme, including demonstration actions, innovation measures (inclusive of excess innovation measures), or monitored measures, cannot count towards a supplier's Home Heating Cost Reduction Obligation (HHCRO) unless the installation is complete **by 31 March 2022** (the end of the overall obligation period). Please see Chapter 6: Notification of completed measures for further information on

⁶ Article 12(2) of the ECO3 Order.

⁷ Article 12(4) of the ECO3 Order.

⁸ Article 12(5) of the ECO3 Order.

⁹ Article 12(3) of the ECO3 Order.

when a demonstration action, innovation measure or monitored measure is considered complete.

- 2.4. Ahead of our final determination, and after the trading, transfer, re-election and final notification deadlines, we will determine the percentage of a supplier's HHCRO delivered through demonstration actions, innovation measures or monitored measures.
- 2.5. Where a measure is delivered under more than one of these routes, eg the measure is both an innovation measure and a monitored measure, the measure will count towards each of the respective caps.
- 2.6. Where the savings for demonstration actions exceed a supplier's 5% demonstration sub-cap, we will revoke our earlier approval of some of these measures to the extent necessary (but no further) to ensure that the cap is no longer exceeded.
- 2.7. Where the savings for innovation measures which fall within the same innovation measure description exceed a supplier's 5% innovation sub-cap, we will revoke our earlier approval of some of these measures to the extent necessary (but no further) to ensure that the cap is no longer exceeded.
- 2.8. Please note that the contribution of innovation measures toward the caps is calculated inclusive of the innovation score uplift.
- 2.9. Once we are satisfied that the sub-caps are not exceeded, we will assess whether the savings for a supplier's demonstration actions and innovation measures exceed the 10% innovation cap. If they do, we will revoke our earlier approval of some of these measures to the extent necessary (but no further) to ensure that the cap is no longer exceeded.
- 2.10. In advance of any revocation of innovation measures, we will liaise with the relevant supplier and may encourage the supplier to apply for notified innovation measures to be designated as 'excess innovation measures' to ensure that the savings for the measures do not exceed the relevant caps. Please see the section "Excess innovation measure' application" below for further information on how to apply to designate innovation measures as 'excess innovation measures'.

- 2.11. Where the savings for monitored measures exceed the 10% monitored measures cap, we will revoke our earlier approval of some of these measures with total savings equal to the amount by which the limit has been exceeded.
- 2.12. In advance of any revocation of monitored measures, we will liaise with the relevant supplier and may encourage the supplier to apply to remove the 'monitored measure' classification from certain monitored measures, and re-score them to their original deemed score, to ensure that any additional savings for monitored measures do not exceed the cap.
- 2.13. If we are required to revoke approval of measures, we expect suppliers to work with us in order for us to determine which measures this will apply to. For further information on our refusal and revocation process, please refer to Chapter 7 of the ECO3 Guidance: Supplier Administration.

Trading of obligations

- 2.14. All caps take into account any obligation trading made by the supplier. This means that the cap is the percentage of the supplier's final deliverable net obligation.¹⁰ For further information on trading please refer to Chapter 6 of the ECO3 Guidance: Supplier Administration.

Transfers of qualifying actions

- 2.15. Demonstration actions, innovation measures and monitored measures can be transferred in the same way as other measures. For further information on transfers, please refer to Chapter 8 of the ECO3 Guidance: Supplier Administration.
- 2.16. Suppliers should be aware that, once a qualifying action has been transferred, that measure will be counted towards the respective innovation or monitored measure caps of the supplier who is receiving the transfer.

¹⁰ See Chapter: Eligibility Criteria of the [BEIS Policy Guidance](#).

‘Excess innovation measure’ application

- 2.17. Following notification of an innovation measure, a supplier can apply to Ofgem to designate that innovation measure as an ‘excess innovation measure’.¹¹ Once a measure is designated as an ‘excess innovation measure’ that measure will no longer count towards the supplier’s relevant innovation caps. The measure will also be rescored to the original deemed score for the measure type (ie the 25% uplift will be removed). Please see Chapter 4: Determining ECO Savings for further information on how it will be rescored.
- 2.18. A supplier can also apply to redesignate an ‘excess innovation measure’ as an innovation measure.¹² If redesignated, the measure will again count towards the supplier’s relevant innovation caps and be rescored.
- 2.19. An application must be made in writing to the ECO team by no later than 30 June 2022.¹³ The application should include a list of each notified measure the supplier is intending to designate or redesignate. If the application is approved, the supplier will be required to amend the measure details on the ECO Register.
- 2.20. A supplier may wish to continue delivering innovation measures beyond their cap. In such cases, the supplier must continue to notify the measures as innovation measures and submit an application as above, to designate them as excess innovation measures. There is no cap on the number of excess innovation measures notified under ECO3.
- 2.21. If a supplier wishes to submit an application to us, we encourage them to contact us as early in the process as possible.

¹¹ Article 29(4)(a) of the ECO3 Order.

¹² Article 29(4)(b) of the ECO3 Order.

¹³ Article 29(5) of the ECO3 Order.

3. Eligibility

Section summary

This section sets out the eligibility requirements that measures notified as demonstration actions, innovation measures and monitored measures must meet. All have to meet the general ECO scheme eligibility requirements. Heating measures must meet additional criteria which depend on the specific innovation route chosen.

Measure eligibility

- 3.1. In addition to the specific eligibility criteria below, measures notified under demonstration actions, innovation measures and monitored measures must meet the general eligibility requirements of the ECO3 scheme. Suppliers should consult Chapter 3 of the ECO3 Guidance: Delivery for further information about these requirements.
- 3.2. In general, for innovation and monitored measures these eligibility requirements include those relating to the standards for installation of ECO measures ie they must be installed in accordance with PAS 2030¹⁴ (where relevant), building regulations and any other applicable regulations.
- 3.3. Additionally, as of 1 January 2020, innovation and monitored measures need to be installed in accordance with TrustMark requirements.¹⁵ As a result, innovation and monitored measures need to be installed by, or under the responsibility of, a person who is registered with TrustMark for the purposes of that measure. A minimum two year warranty and a unique certificate of lodgement¹⁶ issued by TrustMark are also required for each measure. These requirements do not apply where the measures are subject to arrangements for quality assurance and consumer protection, including arrangements for repairs and other remedies, which are equivalent to the requirements under

¹⁴ This is available for purchase on the BSI website:
<http://shop.bsigroup.com/ProductDetail/?pid=000000000030297314>.

¹⁵ Article 7 of the ECO3 (Amendment) Order 2019.

¹⁶ "Certificate of lodgement" means a document entitled "TrustMark Certificate of Lodgement" which sets out the address at which a measure has been installed and the type of measure.

TrustMark. Please refer to Chapter 2 of the ECO3 Guidance: Delivery for further information about TrustMark and standards relating to the installation of ECO measures.

- 3.4. An innovation measure may, in certain circumstances, not have specific installer standards associated with it. This could occur where the element of the application that is 'materially different' (ie innovative) is the installation method. Please refer to Chapter 8: Safety and Aftercare for information on what we expect regarding installation standards in these circumstances.
- 3.5. We recognise that a demonstration action may not be included in PAS 2030, or be at a point where it has been assessed against building regulations or other applicable regulations. The product may also have less comprehensive product certification than standard ECO measures. Suppliers should refer to Chapter 8: Safety and Aftercare to understand what we expect regarding installation standards and product certification for demonstration actions. Information relating to our requirements for monitoring equipment for demonstration actions and monitored measures can also be found in that chapter.
- 3.6. Where a product has not been assessed against building regulations or other applicable regulations, a supplier should confirm with the product owner that the product has been developed in accordance with them. Information regarding the status of the measure with respect to building regulations or other applicable regulations should be provided to the householder in writing in advance of the installation of a demonstration action.

Social Housing

- 3.7. Demonstration actions and innovation measures can be installed in social housing with an Energy Performance Certificate (EPC) energy efficiency rating of D (or below) under the ECO3 scheme.¹⁷ Monitored measures can only be delivered to social housing if they are insulation or first time central heating measures, and the property has an EPC energy efficiency rating of E or below.¹⁸ Please refer to Chapter 2 of the ECO3 Guidance:

¹⁷ Article 15, 16(1)(b)(ii) and (iii) of the ECO3 Order of the ECO3 Order.

¹⁸ Article 16(1)(b)(i) and (iv) of the ECO Order.

Delivery for information on how to determine whether a premises is social housing, including how to determine that it is let below market rate.

- 3.8. A supplier must be able to either produce an EPC completed *after* installation of the measure which states that the energy performance of the premises is rated as band D or below for demonstration actions and innovation measures and band E or below for monitored measures, or produce an EPC completed *before* installation of the measure which states that the energy performance of the premises was rated as band D or below for demonstration actions and innovation measures, or band E or below for monitored measures. Pre-installation EPCs must be valid (the date of issue must be no more than 10 years before the date on which the installation of the measure is completed) and be the latest to be lodged for that premises. The EPC report reference number (RRN) must be provided at notification.
- 3.9. The supplier must also collect a declaration signed by or on behalf of a social landlord providing assurance that the EPC reflects the current characteristics of the property. The signatory should have sufficient and appropriate authority to act on behalf of the social landlord.
- 3.10. The declaration must be made available to us on request.

Fuel source, repair and DHS ineligibility

3.11. For demonstration actions, innovation measures and monitored measures that are heating measures there are different eligibility requirements regarding heat generation sources, whether they are a repair and whether they are a District Heating Scheme (DHS) connection. These are set out in Table 1 below.

Table 1: Fuel source, repair and DHS ineligibility

| | Eligible if equipment generates heat wholly or partly from oil? | Eligible if equipment generates heat wholly from a non-renewable source (other than oil)? | Eligible if a repair? | Eligible if DHS connection? |
|-----------------------------|---|---|-----------------------|-----------------------------|
| Demonstration action | No | No | No | Yes |
| Innovation measure | No | No | No | No |
| Monitored measure | No | Yes | No | No |

3.12. Renewable sources of energy or technology include biofuels, biomass or solar power. A list of renewable sources and technologies is set out in section 100(4) of the Energy Act 2008.¹⁹

3.13. Demonstration actions and innovation measures that generate heat wholly or partially from renewable sources are eligible under the scheme, provided they are 'materially different'. Please refer to the section 'Material difference and improvements' below for more information on this requirement.

3.14. Where the measure generates heat partially from a non-renewable source, the renewable aspect of the measure must be integral to its functionality, and the heat

¹⁹ The Energy Act 2008 is available at: <https://www.legislation.gov.uk/ukpga/2008/32/section/100>.

generated by the renewable source must contribute a significant proportion of the heat generated by the measure. This information will be assessed by the Technical Advisory Panel (TAP)²⁰ and a recommendation made to Ofgem as to whether the renewable source is significant.

Number of premises

- 3.15. A measure installed at a single domestic premises is not eligible as a demonstration action.²¹ However, the number of domestic premises proposed to receive an installation under a demonstration action must not be more than necessary to demonstrate the effectiveness of the measures at achieving cost savings.²² Please see section 'Monitoring Cost Savings' below and Chapter 7: Monitoring for other considerations relating to this requirement.
- 3.16. Information about the number of premises that a demonstration action is intended to be installed at, how the number was determined, and that the intended installations are necessary to demonstrate the effectiveness of the measure, must be provided as part of the application. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the number of planned installations is appropriate. Please see the Performance Monitoring section of Chapter 7 for more information on sample sizes for Demonstration Actions.

²⁰ The Technical Advisory Panel (TAP) is a group of experts convened by Ofgem to aid in its assessment of the technical eligibility criteria in demonstration actions, innovation measures and monitored measures applications. For further information on the TAP please refer to Chapter 5 of this document.

²¹ Article 20(1) of the ECO3 Order.

²² Article 20(4)(d) of the ECO3 Order.

Material difference and improvements

3.17. Demonstration actions and innovation measures must be 'materially different' to measures promoted by suppliers under ECO1 and ECO2. The following requirements also apply to demonstration actions and innovation measures respectively:

- Demonstration actions must be materially different to any measures delivered under ECO3 which are notified to Ofgem prior to the date the application is made.
- Innovation measures must be materially different to any measures delivered under ECO3 which are notified to Ofgem prior to the date the application is made, unless they fall within an existing innovation measure description.

3.18. Further information about the measures that have already been promoted by suppliers under ECO1 and ECO2 can be found in Annex 1. Suppliers should seek confirmation from the manufacturer or other relevant third party that the measure has not previously been delivered under ECO1, ECO2, or ECO3.

3.19. For clarity, only the supplier who has submitted the demonstration action application can deliver that demonstration action. However, once an innovation application has been approved, any supplier can deliver measures that fall within that innovation measure description.

3.20. For the purposes of innovation, we will consider a range of factors when determining whether a measure is 'materially different'.²³ These include, but are not limited to:

- a) the production method,
- b) the installation method,
- c) the materials used,
- d) the technology used,
- e) the expected costs of promoting the measure,

²³ Article 20(6) of the ECO3 Order.

- f) the expected cost savings, and
- g) other benefits of the measure. For example:
 - o improved indoor air quality,
 - o improved thermal comfort,
 - o improved installation quality,
 - o greater ease of use to comparable measures,
 - o reduction in noise pollution, and
 - o reduced cost of heating water (see 3.45 for further detail).

3.21. We may also take into consideration the length of time the technology has been on the market. Where a product or technology has been on the market for the duration of all ECO schemes²⁴ and falls within an existing measure type, the presumption will be that it is not materially different to previously delivered measures. Applications for such technologies may still be approved if we are satisfied that, despite the product or technology being on the market for the duration of ECO and falling within an existing measure type, it is materially different.

Application Advice

3.22. An explanation as to how the measure is materially different must be included in the application. This should include a description of the specific aspects of the measure which make it materially different to those currently provided under ECO. For demonstration actions, the mechanism by which cost savings are achieved will be addressed in a separate question (please see paragraphs 3.36 - 3.46 on cost savings for further information).

3.23. The answer to the question on material difference should focus on what makes the product different to other similar products. Suppliers must ensure that this description is sufficiently clear in order for Ofgem to determine whether a measure is in fact materially different. It may be helpful to use comparisons with similar products to

²⁴ This refers to ECO1, ECO2, and ECO3. ECO1 began on 1 January 2013.

demonstrate how the product is materially different, as the panel members may not be aware of what it is being compared to.

- 3.24. For innovation measures, suppliers must separately explain how an innovation measure is an improvement on measures that would otherwise be promoted under the scheme,²⁵ or that have been promoted under ECO1 and ECO2.²⁶ This should be addressed separately in the response to the relevant question.
- 3.25. For example, if a measure uses an improved installation technique, the differences between this technique and those currently used in ECO should be explained in the response to the question on material difference. The improvements resulting from these differences (eg faster installation time and reduced disruption to the occupant) should be reserved for the question on 'improvements'. These improvements could be demonstrated, for example, by a time and motion study.
- 3.26. If specialised expertise is required to determine if a product is materially different or an improvement, a report by an independent specialist in the field will be required from the applicant. This should explain in non-specialist terms how the product being applied for is different to, and an improvement on comparable products, and verify any claims made. Applicants are encouraged to engage with Ofgem early if they are unsure if specialised expertise is required. The credentials of the independent expert should also be provided to demonstrate they are suitably qualified to assess the product.

3.27. Suppliers should consider the following when providing information as to how an innovation measure is an improvement to other measures promoted under the scheme:

- a) The energy efficiency of the measure,
- b) the ease of installation,
- c) the speed of installation,
- d) the cost of installation,

²⁵ Article 21(2)(b)(i) of the ECO3 Order

²⁶ Article 21(2)(b)(ii) of the ECO3 Order

- e) whether the measure can be installed in a greater variety of homes, and
- f) whether disruption or other inconvenience caused by installation is reduced for the householder.

3.28. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the measure is materially different and additionally, for innovation measures, whether the measure is an improvement on measures that would otherwise be promoted under the scheme.

3.29. For clarity, materially different does not include:

- installation of the same measure type at a different premises,²⁷ or
- delivering multiple measures to achieve economies of scale.

3.30. Economies of scale are already realised by delivery under the scheme.

Technology readiness

3.31. In order for a demonstration action to be eligible, the measure must be at Technology Readiness Level (TRL)²⁸ 8 or 9.²⁹ Where the measure is made up of multiple components, the system as whole must be tested and at the required TRL.

3.32. TRLs are indicators of maturity of evolving technology. Levels 8 and 9 are assigned to the most developed technologies which have already been proven to work through completed tests and demonstrations and are ready to be rolled out, or have already been deployed in the market. This is to ensure that they work reliably, and are capable of making meaningful cost savings when installed under the ECO3 scheme.

²⁷ Article 20(6)(a) of the ECO3 Order

²⁸ BEIS' ECO Innovation Policy Guidance: <https://www.gov.uk/government/publications/energy-company-obligation-innovation-guidance>

²⁹ Article 20(4)(f) of the ECO3 Order.

3.33. To be considered at **TRL 8**, a product must be / have:

- a) incorporated in commercial design and have a production prototype (or process)
- b) completed the development stage, with the final design and features set
- c) limited release to an appropriate number of clients, with trials having taken place under client or users control and operation
- d) all fulfilment procedures trialled and documented
- e) proven to work through completed test and demonstrations
- f) ready to be rolled-out, subject to a full product beta test.

3.34. To be considered at **TRL 9**, a product must be:

- a) proven in repeated use,
- b) being sold in the market, and scaling up in sales volumes,
- c) in its final form, and
- d) proven through successful operations.

3.35. A supplier must provide information and supporting evidence regarding the TRL of the measure. This could include, but is not limited to, independent laboratory test reports, field test results, sales figures, and grant aided project milestones.

Cost savings

3.36. Innovation measures and monitored measures must be *capable* of resulting in a reduction in the cost of heating the premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas. Demonstration actions are eligible if it is shown that the measures are *reasonably expected* to result in a reduction in the cost of heating the premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas.³⁰

³⁰ Article 13(1)(b) of the ECO3 Order.

3.37. The information and evidence required to assure the panel that the product is capable of / reasonably expected to result in cost savings will differ depending on the product.

3.38. To provide further clarity, the following may contribute to satisfactory evidence that a demonstration action is *reasonably expected* to provide cost savings:

- A detailed description of the mechanism that results in cost savings.
- Results of independent laboratory and/or in-situ testing, along with an explanation of the findings.
- A cost study based on modelling (eg SAP).

3.39. The following may contribute to satisfactory evidence that an innovation measure is *capable* of providing cost savings:

- Certification to confirm that the measure is at least as effective at achieving cost savings as current measures delivered under ECO (eg BBA certificate to confirm R-value).
- Results of independent laboratory and/or in-situ testing.

Application Advice

3.40. When providing the predicted cost saving of a measure, please ensure that this reflects the average saving for a property typical of the housing stock. For context, the National Energy Efficiency Data-Framework (NEED)³¹ shows that the the average cost saving for solid wall insulation measures is 13.2%, 3.9% for loft insulation, and less than 8% for cavity wall insulation. The average saving for the installation of a new condensing boiler is around 6%. It may be useful to refer to the savings attributed to measures in NEED data.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812561/National_Energy_Efficiency_Data_Framework_NEED_report_summary_of_analysis_2019.pdf

- 3.41. Please note that in order to be considered satisfactory, evidence (including case studies) must be able to demonstrate a causal link between the deployment of the measure and the cost savings achieved.
- 3.42. We expect evidence to be supported by a rigorous and detailed methodology such that we can have confidence that the measure itself has been the cause of cost savings being achieved. For example, a simple before and after comparison of heating costs would not be considered a satisfactory methodology. We would expect, for example, controls to be in place to reduce the impact of other variables on the results and statistical analysis to determine the confidence in the results.
- 3.43. Customer testimonials which do not include a detailed methodology and results as described above should not be submitted.
- 3.44. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether this requirement is considered to have been met.

- 3.45. Measures may save money via mechanisms other than a reduction in the cost of heating a premises, for instance by heating water or generating electricity for use by the household. For example, a measure that heats water which is used to both heat the home and as hot water would be eligible under the scheme (as this measure is capable of or reasonably expected to reduce the cost of heating a household). However, a measure that only reduced the cost of heating water for other purposes (eg for showers and baths) would not be eligible as this would not reduce the cost of heating a home.
- 3.46. We expect the assumptions underlying calculated savings for measures to be consistent with the Standard Assessment Procedure (SAP) methodology. Measures for which the savings cannot be calculated in accordance with SAP may not be eligible for the scheme.

Monitoring cost savings

- 3.47. Suppliers must detail how they intend to monitor the cost savings achieved by a demonstration action,³² and how effective the measure is at achieving them,³³ in the application. Both the performance monitoring and assessment methodologies must be reasonable.³⁴ Monitored measures also require arrangements for monitoring the cost savings achieved by the measure, and these arrangements must be reasonable.³⁵ The arrangements for monitored measures must also demonstrate that they are likely to improve the information available about the cost savings achieved by the measure.³⁶ This information should be provided in the application. The TAP will assess this information and make a recommendation to Ofgem as to whether the proposals are reasonable.
- 3.48. For monitored measures, suppliers must also include a methodology based on the performance of the measure at the premises where it is installed for calculating the cost savings achieved by the measure in the application.³⁷ This methodology must be reasonable.³⁸ Please refer to Chapter 4: Determining ECO Savings for further information on what we expect this methodology to be. The TAP will assess the methodology and make a recommendation to Ofgem as to whether the methodology is reasonable or not.
- 3.49. For further information on monitoring requirements, including the considerations we will take into account when determining whether a proposed arrangement is reasonable, please refer to Chapter 7: Monitoring.

Value for money

- 3.50. Demonstration actions must be reasonably expected to provide value for money.³⁹ When determining value for money, we will consider the estimated cost savings expected from

³² Article 20(2)(a)(iii) of the ECO3 Order.

³³ Article 20(2)(a)(iv) of the ECO3 Order.

³⁴ Article 20(4)(c) of the ECO3 Order.

³⁵ Articles 22(2)(a)(i) and 22(4)(b) of the ECO3 Order.

³⁶ Article 22(4)(b) of the ECO3 Order.

³⁷ Article 22(2)(a)(iii) of the ECO3 Order.

³⁸ Article 22(4)(c) of the ECO3 Order.

³⁹ Article 20(4)(b) of the ECO3 Order.

the measures against the expected costs incurred through delivery of the action. We expect suppliers to deliver demonstration actions in the most cost effective way, and for the cost estimate provided to reflect this. Other considerations include, but are not limited to:

- a) the TRL of the measure,
- b) the installation method and skills required for it to be installed,
- c) the level of monitoring intended to be conducted,
- d) the aftercare arrangements required,
- e) whether the supplier intends to remove the measure after the demonstration action is complete,
- f) the number of households receiving the measure, and
- g) the future benefits of the measure once rolled out to market.

3.51. Applications for demonstration actions must include the estimated cost the supplier expects to incur through delivering the demonstration action. Costs must be itemised, and each item should be supplemented with a short explanation describing how the cost has been determined, and why other options with different costs have not been used. The following costs, where appropriate, can be included as part of the application:

- a) Installation of the measure (eg installer costs, cost of purchasing the product, cost of removal of the measure if planned at completion of the action).
- b) Recruitment costs.
- c) The arrangements for monitoring whether the measure achieves cost savings.
- d) The arrangements for reporting the performance monitoring results to Ofgem.
- e) The arrangements for assessing the effectiveness of the measure at achieving cost savings.
- f) The arrangements for technical and score monitoring.
- g) The arrangements for ensuring the safety of the measure, and aftercare arrangements. Please see Chapter 8: Safety and Aftercare for further information.

- 3.52. This list is intended as a guide. We anticipate costs will differ between applications depending on the product and methodology proposed. The costs should be broken down into greater detail than that listed above. VAT can be applied to any costs where VAT is payable by the participant.
- 3.53. The supplier's administrative costs can be included in the cost of delivery of the action. However, in order for the demonstration action to demonstrate value for money, we expect these costs to not be greater than 5% of the overall costs incurred by the supplier in delivering the action.⁴⁰ Any costs not associated with delivery of the action must not be included in the cost estimates.
- 3.54. Measures which are not an integral part of the innovative aspect of the application, but are to be used in conjunction with it (for example PV panels or a specific heating system), should not be included in the project costs. We would expect that properties with the relevant equipment already installed will be targeted during the recruitment process.
- 3.55. We expect the manufacturer or installer to be responsible for resolving any faults with the product or installation in the same way as for standard measures under the scheme and expect these costs to be included in the delivery costs. Suppliers must ensure that there is no double counting of costs in relation to faulty installations.
- 3.56. The TAP will assess the technical cost information and make a recommendation to Ofgem as to whether the demonstration action can reasonably be expected to provide value for money.

Safety and aftercare

- 3.57. Demonstration actions are required to have specific safety and aftercare arrangements in place in order to be eligible under the scheme. Information relating to these arrangements must be provided in the application. The TAP will assess this information

⁴⁰ See Chapter: Demonstration Actions of the [BEIS Policy Guidance](#).

and make a recommendation to Ofgem as to whether these arrangements are reasonable.

3.58. Suppliers should also ensure that there are safety and aftercare arrangements in place relating to the monitoring equipment and measure(s), if appropriate, for monitored measures.

3.59. Further information on the requirements for safety and aftercare arrangements for demonstration actions, monitored measures, and innovation measures can be found in Chapter 8: Safety and Aftercare.

Interaction with other scheme criteria

3.60. Demonstration actions, innovation measures and monitored measures can all contribute towards a supplier's Solid Wall Minimum Requirement (SWMR) and Rural sub-obligation, provided the relevant eligibility criteria are met. Suppliers should refer to Chapter 3 and Chapter 4 of the ECO3 Guidance: Delivery for further information on SWMR and the Rural sub-obligation respectively.

3.61. As the score for a demonstration action is not determined using a deemed score, demonstration action measures cannot be classified as a solid wall alternative measure.⁴¹ Innovation measures and monitored measures can both be classified as solid wall alternative measures.

⁴¹ See the definition of "solid wall action" in Article 11(5) of the ECO3 Order.

4. Determining ECO Savings

Section summary

Demonstration actions, innovation measures and monitored measures are subject to separate scoring provisions under ECO3. This section outlines how measures delivered under each of these routes should be scored.

- 4.1. As of 1st January 2020, demonstration actions, innovation measures, and monitored measures are eligible for a 1.2x uplift if they meet certain PAS criteria. A measure is eligible for the uplift if it meets the following criteria:
- a) it is referred to in PAS 2030:2019,
 - b) it is installed in accordance with PAS 2030:2019 and PAS 2035:2019 by, or under the responsibility of, a PAS 2030:2019 certified installer, and
 - c) the installation of the measure is completed before 1st July 2021.⁴²
- 4.2. How this uplift should be applied to each of the innovation routes is outlined in the relevant sections below.

Scoring of demonstration actions

- 4.3. For a measure which is notified as a demonstration action, the score is calculated in accordance with the following formulae:
- a) In the case of a measure which meets the conditions outlined in paragraph 4.14.1:
 $M \times 6.24$
 - b) In all other cases:

⁴² Articles 10, 11, and 12 of the ECO3 (Amendment) Order 2019.

$M \times 5.2$

Where '**M**' is the lower of –

- the actual cost of delivering the measure as stated in the notification of the demonstration action, and
- the estimated cost of delivering the measure as stated in the demonstration action application.

4.4. In order to determine '**M**' for each measure in a demonstration action, suppliers should divide the total cost (actual or estimated as applicable) of delivering the demonstration action by the number of measures included in the action.

4.5. The cost in this instance is the cost **incurred by the supplier** in delivering the demonstration action. Please refer to the 'Value for Money' section in Chapter 3: Eligibility for further information about what costs should be included when calculating '**M**'.

Scoring of innovation measures

4.6. For a measure which is notified as an innovation measure, the score is calculated in accordance with the following formula:

$$\mathbf{A \times B \times C}$$

Where:

'**A**' is the deemed score for the measure, and

'**B**' is either – 1.2, for measures which meet the criteria outlined in paragraph 4.1, or

1, for all other innovation measures, and

'**C**' is either – 1, for a measure designated to be an excess innovation measure, or

1.25, for all other innovation measures.

- 4.7. Further information on excess innovation measures can be found in Chapter 2: Delivery caps and meeting of obligations.
- 4.8. Suppliers should refer to Chapter 6 in the ECO3 Guidance: Delivery when calculating 'A' (the deemed score) for innovation measures.⁴³ Suppliers should ensure that all requirements for deemed scores in that document are also met for innovation measures. The innovation measure uplift above is also discussed in that chapter. Suppliers must ensure that the innovation measure uplift is not applied to the deemed score for that measure twice.
- 4.9. There may be instances where there is no existing deemed score for a new measure type, or where the applicant believes that the measure is sufficiently different to warrant its own score. Please see paragraphs 5.12 - 5.15 for more information on applying for a score for a new measure type for which an innovation measure application is planned.
- 4.10. Where the measure is a wall insulation measure, the appropriate guarantee requirements still need to be met in order for the measure to be awarded a score.

Scoring of monitored measures

- 4.11. For a measure which is notified as a monitored measure, the score will be the higher of:
- the deemed score for the measure, and
 - the score as calculated in accordance with the methodology stated in the monitored measure application.
- 4.12. A measure notified as a monitored measure will receive the 1.2x PAS uplift to the score as determined above, if it meets the criteria outlined in paragraph 4.1.
- 4.13. In practice, the initial score notified will be the deemed score for the measure. It is only after monitoring is completed that a supplier would know whether the measure has

⁴³ 'A' includes any other uplift applicable to the measure as calculated in accordance with article 32.

resulted in additional cost savings in line with the methodology stated in the application and that the score is higher than the original deemed score.

- 4.14. We expect suppliers to use the methodology outlined by BEIS in their policy guidance⁴⁴ for calculating the revised score for a monitored measure. This method applies an adjustment factor to the monitored cost savings achieved by the measure. Under this methodology the score will be calculated in accordance with the following formula:

Cost savings / adjustment factor

- 4.15. Cost savings in the above formula refers to the savings calculated by multiplying the annual energy savings achieved by the measure (as determined by the monitoring of the measure) by the appropriate retail fuel price⁴⁵ and measure lifetime,⁴⁶ in accordance with the following formula:

$$\text{Cost savings} = (\text{Energy use}_t - \text{Energy use}_{(t+1)}) \times \text{retail fuel price} \times \text{measure lifetime}$$

- 4.16. The adjustment factor to be applied will depend on the measure and property type. Adjustment factors are provided by BEIS in their policy guidance.⁴⁷ Please note that adjustment factors are only currently available for certain measure types. If a supplier wishes to monitor a measure type for which the adjustment factor is not currently provided, they should contact us as soon as possible.
- 4.17. If a supplier wishes to use a different methodology to calculate the score for a monitored measure, they should contact us as soon as possible.
- 4.18. Suppliers should refer to Chapter 6 in the ECO3 Guidance: Delivery when calculating the deemed score for monitored measures. Suppliers should ensure that all requirements for deemed scores in that document are also met for monitored measures.

⁴⁴<https://www.gov.uk/government/publications/energy-company-obligation-innovation-guidance>

⁴⁵ See 'RdSAP fuel prices from July 2018' under Downloads at <https://www.bre.co.uk/sap2012/>

⁴⁶https://www.ofgem.gov.uk/sites/default/files/docs/2014/12/energy_companies_obligation_-_measures_0.pdf

⁴⁷ See <https://www.gov.uk/government/publications/energy-company-obligation-innovation-guidance>

- 4.19. Where a supplier wishes to amend the score for a monitored measure to one calculated in accordance with the methodology stated in their application, they should contact the ECO team. They will need to provide evidence that the monitoring has confirmed that the measure's monitored performance is better than that assumed by the deemed score for the measure (when multiplied by the relevant adjustment factor). Once Ofgem is satisfied that the measure's performance is better, the supplier will need to request to change the score of the measure to one calculated in accordance with the formula stated in the application.
- 4.20. Where the score for a monitored measure has been changed to one calculated in accordance with the methodology included in the application, we will publish a summary of the methodology used on our website.
- 4.21. Where the measure being monitored is a wall insulation measure, the appropriate guarantee requirements still need to be met in order for it to be awarded a deemed score or score calculated using the methodology for calculating cost savings included in the application.
- 4.22. Only measures that are included in an application for monitored measures will receive the uplift to their deemed score. Any measures subsequently notified but installed outside of those included in the application will only be awarded the original (ECO) deemed score for the measure.

Scoring of measures delivered under more than one route

- 4.23. If a measure is delivered under more than one innovation and monitored measures route, the supplier must notify the measure with a score calculated in accordance with the following provisions:
- For a measure which is a demonstration action and either or both an innovation measure and monitored measure, the score notified must be the score calculated in accordance with the demonstration action scoring provisions.
 - For a measure which is an innovation measure and a monitored measure, the score notified must be the score calculated in accordance with the monitored measures scoring provisions.

5. Applications

Section summary

Before a supplier can deliver a demonstration action, innovation measure, or monitored measure, an application must be submitted and approved. The requirements for making an application are outlined below, as well as information on applying for a new score. This section also describes the application process, and how applications will be assessed by Ofgem and the Technical Advisory Panel (TAP).

Application requirements

General requirements

- 5.1. An application for demonstration actions, innovation measures or monitored measures can only be made by an obligated supplier and must be made before the installation of any relevant measure(s). Installers, manufacturers or others intending to use any of the innovation or monitored measure routes will need to work with an obligated supplier in order for measures to be supported under the scheme.
- 5.2. There are separate application forms for demonstration actions, innovation measures and monitored measures.⁴⁸ Suppliers will be required to provide information relating to the eligibility criteria described in Chapter 3: Eligibility, as well as any other information we require in order to make a decision to approve or reject the application. Where appropriate, supporting information should directly relate to a specific question asked in the application form. The relevant content in the supporting document should explicitly set out how that relates to the question.

⁴⁸ <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

- 5.3. As part of the application, applicants for demonstration actions are required to provide their consent to the publication of information that relates to the promotion, monitoring and assessment of the measure.⁴⁹
- 5.4. Applicants for monitored measures are required to provide their consent to the publication of information that relates to the methodology for calculating cost savings achieved by the measure.⁵⁰
- 5.5. If we approve an application for an innovation measure, we will publish details of the innovation measure on our website. These details include:
- a) the innovation measure type,
 - b) description / key characteristics of the innovation measure,
 - c) any additional technical monitoring or other requirements for delivery of the measure,
 - d) the date on which the application was approved,
 - e) the 'innovation measure number' which should be used to notify the measure, and
 - f) approved products which can be delivered under this innovation measure.
- 5.6. A supplier should contact us if they wish to deliver a product which they believe meets one of the published innovation measure descriptions, but which is not listed as an approved product.
- 5.7. Successful innovation measure applications may also require the development of further guidance to ensure that the measure or method can be clearly understood by the wider ECO supply chain.
- 5.8. An application for innovation measures must be approved before any related innovation measure can be installed.

⁴⁹ Article 20(2)(b) of the ECO3 Order.

⁵⁰ Article 22(2)(b) of the ECO3 Order.

- 5.9. A supplier may choose, for the same measures, to make concurrent applications under each of the innovation and monitored measures routes. See paragraphs 2.5, 4.23 and 6.6 for further information about the potential implications in this instance. Please be aware that a measure may be an 'innovation measure' under ECO3 even if the supplier has not submitted an innovation measure application. See paragraph 6.6 for more information on this.

Applications for a new score

Demonstration actions

- 5.10. We recognise that following the delivery of a demonstration action, a supplier may wish to apply for that measure to be included in the ECO scheme as a standard measure going forward. In order for this to happen, an appropriate score (based on SAP where possible) will need to be established for that measure. In this instance suppliers should ensure that monitoring arrangements are in place to allow for evidence to be collected that can also be used to develop a score for the measure. Suppliers may wish to contact a relevant organisation directly or discuss with Ofgem the appropriate organisation to contact for ensuring the appropriate evidence or monitoring arrangements are in place for any potential new score.
- 5.11. Where a score is established based on SAP, this will often be done by assessing the product for entry onto the 'Appendix Q' database,⁵¹ which is part of SAP. Entry onto this database has the additional benefit of the measure having its specific performance being recognised in SAP assessments for new homes, as well as under ECO, potentially widening the market for the measure.

Innovation measures

- 5.12. We expect an innovation measure in most cases to already have a deemed score. However, there may be circumstances where the application is for a new measure type which does not have a deemed score, or where the applicant believes that the measure is sufficiently different to other measures of that type supported under the scheme to

⁵¹ <https://www.ncm-pcdb.org.uk/sap/page.jsp?id=18>

warrant its own score. In these cases it may be possible to apply for a new score using the alternative methodology process, as described in chapter 5 of the ECO3 Guidance: Delivery, provided the criteria in that chapter are met.

- 5.13. Note that where a proposed innovation measure is a variant of an existing measure type and, compared to the existing measure type, offers increased heating cost savings and no other improvements, it cannot receive both a new score *and* the innovation uplift.
- 5.14. Where the measure demonstrates other improvements to an existing measure type as well as cost savings, and a supplier wishes to apply for a new score in addition to the innovation uplift, the alternative methodology application must be submitted alongside (or before) the innovation application, and must be approved before the innovation measure is notified to Ofgem. We encourage early engagement with Ofgem in such cases: if during our review of the alternative methodology application we require further evidence, the assessment of the innovation measure application may also be delayed.
- 5.15. In some circumstances it may be more appropriate for the supplier to apply under the demonstration action or monitored measures routes, particularly where further monitoring is required to provide evidence to support the new scoring methodology.

Monitored measures

- 5.16. Where the results for monitored measures evidence that the performance of those measures is significantly better than that assumed by the deemed score, a supplier may wish to establish a new score for that measure type. In this instance, as per demonstration actions, suppliers should ensure that the monitoring arrangements allow for evidence to be collected that can also be used to develop a new score for the measure. Suppliers may wish to contact a relevant organisation directly or discuss with Ofgem the appropriate organisation to contact for ensuring that appropriate evidence or monitoring arrangements are in place for any potential new score.

The Application Process

- 5.17. Suppliers must submit completed applications, including supporting documents, to Ofgem. Completed applications should be submitted via a supplier's Huddle account.

- 5.18. An application process map can be found in Annex 2. A TAP recommendation process map, which details the outcomes of each of the possible TAP recommendations following an application review, along with expected timeframes, can be found in Annex 3.
- 5.19. TAP meeting dates, application deadlines, and application forms can be found on our website.⁵²

Application Advice

- 5.20. Before submitting an application, suppliers should determine whether a measure is eligible under the criteria set out in Section 3: Eligibility.
- 5.21. Applicants are also encouraged to consult the minutes from previous TAP meetings to get a better understanding of the panel's requirements. These are published on our website.

Initial assessment

- 5.22. Once submitted to Ofgem, all non-technical aspects of an application will first be assessed. This includes, but is not limited to:
- a) general ECO3 eligibility,
 - b) the eligibility of the application under the relevant innovation route (eg fuel source, TRL, and cost saving mechanism),
 - c) non-technical aspects of the explanations of how a product is 'materially different' (demonstration actions and innovation measures only) and an 'improvement' (innovation measures only) to existing measures,
 - d) for demonstration actions, the non-technical aspects of the project costs and the level of detail provided,

⁵² <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

- e) non-technical aspects of the performance monitoring proposal (demonstration actions and monitored measures only),
- f) non-technical aspects of safety and aftercare arrangements,
- g) suitability of proposed technical monitoring, and
- h) the overall completeness of the information on the application form. This includes supporting evidence for cost savings, safety requirements, and appropriate guarantees where relevant.

5.23. Additional evidence and supporting documents must be either embedded in the application form, or provided in a single document. The document must reference the relevant questions, and be structured to match the order of questions. Any additional documents not in this format may be disregarded.

5.24. At this stage we will advise the applicant that their application is either (1) complete and will be put forward for further assessment, (2) is being referred back for further information (in which instance the applicant may re-submit the application), or (3) that it has been rejected.⁵³

The TAP Process

5.25. Applications that pass the initial assessment will be referred to the TAP for further review. The TAP is an advisory panel made up of representatives from Ofgem, BEIS, and independent experts who will review the application in accordance with paragraph 5.26 below, and provide a recommendation to Ofgem as to whether to approve the application or not.

5.26. The TAP will meet regularly to assess submitted applications. The frequency of TAP meetings may be increased where a significantly high volume of applications are received. The TAP will consider the responses to each question in the application and

⁵³ An application will be rejected at this stage if it does not meet one of the eligibility criteria for the scheme. For example, it is a heating measure that is fuelled wholly or partially by oil.

discuss the technical aspects of the application form and the supporting documentation. The TAP will have particular regard to the following, depending on the innovation route:

- a) The robustness and reasonableness of the performance monitoring methodology, including sample size.⁵⁴
- b) The reasonableness of the expected savings.⁵⁵
- c) The proposed scoring methodology.⁵⁶
- d) Technical aspects of the claim a product is 'materially different' and/or 'an improvement' to existing measures.⁵⁷
- e) Technical aspects of the costs of the action and whether these represent Value for Money.⁵⁸
- f) Technical aspects of the safety and aftercare arrangements.⁵⁹

5.27. As per the above, applications are required to comply with all relevant safety legislation, and the onus is on the applicant to demonstrate this clearly within their application. The TAP and Ofgem may query any issues with the applicant if there are any particular areas of concern relating to safety, however the responsibility for ensuring robust health & safety standards and arrangements associated with the application rests with the supplier.

5.28. The TAP will make a recommendation to Ofgem that the application should be either approved, approved subject to clarifications, referred back to applicant for further (specified) evidence or information to be provided, or rejected. Since the TAP operates on a consensual rather than voting basis, it may on occasion need to report to Ofgem that it could not reach agreement.

⁵⁴ For Demonstration Actions: Article 20 (2)(a)(iii), (iv) and (vi) of the ECO3 Order.

For Monitored Measures: Article 22 (2)(a)(i) and (ii) of the ECO3 Order.

⁵⁵ For Demonstration Actions: Article 20 (2)(a)(i) and (ii) of the ECO3 Order.

⁵⁶ For Monitored Measures: Article 22 (2)(a)(iii) of the ECO3 Order.

⁵⁷ For Demonstration Actions: Article 20 (4)(g) the ECO3 Order.

For Innovation Measures: Article 21(2)(b) and 21(3)(e) of the ECO3 Order.

⁵⁸ For Demonstration Actions: Article 20 (2)(a)(vii) and 20(4)(b) of the ECO3 Order.

⁵⁹ For Demonstration Actions: Article 20 (2)(a)(v) of the ECO3 Order.

- 5.29. In the case where the TAP's recommendation is to refer the application back to the applicant for further information, a "TAP offline process" will be triggered. This process will enable the TAP to assess the additional information provided by the applicant without having to delay its recommendation until the next TAP meeting.
- 5.30. The offline process is described in the TAP recommendation process map in Annex 3, and may involve more than one iteration. Following the necessary iterations the TAP will recommend to Ofgem that the application be either approved or rejected (or that the TAP could not reach agreement).
- 5.31. For each application, the TAP will submit to Ofgem a completed written assessment which includes the TAP's reasoning against each response in the application and its overall recommendation. We will take the TAP's written recommendation into account when making our decision to approve the application or not. If we approve an application, we will inform the supplier that their application has been successful. If we do not approve the application, we will provide reasons to the supplier as to why it has not been approved.
- 5.32. In circumstances where the TAP is unable to make a recommendation, the TAP will provide a written assessment of the application with an explanation as to why the TAP could not agree a recommendation. In this case, we will consider the assessment and other relevant evidence and make a decision on the application.
- 5.33. We intend that all completed applications submitted no later than 20 working days in advance of a TAP meeting will be assessed in the next meeting. Suppliers may wish to submit applications earlier, so that any issues identified in our initial eligibility and completeness checks can be resolved for the application to be resubmitted in time for the upcoming TAP meeting. If the application does not meet the eligibility and / or completeness checks it may result in that application not being assessed by the TAP at that meeting. Suppliers are encouraged to inform Ofgem of any potential applications as early as possible ahead of any given TAP meeting. We will publish the TAP meeting schedule on our website, and the minutes of each TAP.

6. Notification of completed measures

Section summary

Due to the nature of their delivery, demonstration actions, innovation measures and monitored measures have different notification requirements to standard ECO measures. This section outlines these requirements and includes information on over and under delivery of measures.

Notification of measures

- 6.1. Demonstration action measures, innovation measures and monitored measures should be notified to Ofgem in the same way as other measures under the scheme, once the measure is complete. Please refer to Chapter 7 of the ECO3 Guidance: Supplier Administration for further information on the notification of completed measures.
- 6.2. Demonstration actions are considered to be complete once the arrangements for monitoring, as specified in the application, have ended. Innovation and monitored measures must comply with the completion requirements as specified in Chapter 7 of the ECO3 Guidance: Delivery.
- 6.3. Each individual installation completed as part of a demonstration action should be notified as a single measure, with the score calculated as described in paragraph 4.3. There are some fields in the notification template which have different requirements for demonstration action installations. These requirements are outlined below, and are included in the data dictionary.
 - Measures which are part of a demonstration action should be notified with a unique 'Measure_Type' specific to that demonstration action. This will be confirmed with the supplier following the approval of a demonstration action, and will be of the format 'DA_[name of demonstration action]'.
 - Because standard scoring methods don't apply to measures delivered as part of a demonstration action, the 'Scoring_Method' field should be notified as 'DA'.

- Demonstration action measures are considered complete when the planned performance monitoring of the demonstration action is completed.⁶⁰ The 'Date_of_Completed_Installation' for these measures should be filled out using the date on which the planned monitoring was completed.

6.4. For innovation measures, demonstration actions and monitored measures, suppliers must complete the "Innovation_Measure" field in the notification template,⁶¹ in accordance with the formatting prescribed within the data dictionary,⁶² in order to identify which measures fall under these categories.

6.5. For innovation measures, the 'Innovation_Measure_Number' and 'Innovation_Measure_Uplift' fields should also be completed in accordance with the prescribed formatting within the data dictionary. The 'innovation measure number' can be found in the 'ECO3 approved innovation measures' document on our website⁶³.

6.6. Where the measure has been approved under more than one route, the relevant route combination should be selected. Suppliers should be aware that in some instances, a measure included in a demonstration action or monitored measure application may already be an innovation measure under the scheme. A supplier should check whether the innovation measure descriptions published on our website match the demonstration action or monitored measure it is notifying and if it does, notify the relevant route combination (eg "Innovation Measure/Monitored Measure").

Additional notification requirements

6.7. As demonstration actions and, in some instances, innovation measures, may result in new measure types being notified under the scheme, changes to the ECO Register may be required before they can be notified via the Register. We will work with suppliers to ensure that affected measures can be notified in a timely manner once an application has been approved. In order for the notification of a demonstration action to be

⁶⁰ Article 24(3)(a) of the ECO3 Order.

⁶¹ <https://www.ofgem.gov.uk/publications-and-updates/eco3-notification-template>

⁶² <https://www.ofgem.gov.uk/publications-and-updates/eco3-data-dictionary>

⁶³ <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

considered complete, suppliers must provide information, in addition to the data provided in the notification template, relating to delivery of the measure.⁶⁴ Please refer to paragraphs 7.15 - 7.21 for further information on what is to be included in the final report. The information that a supplier must provide is:

- a) The total cost incurred by the supplier in promoting and monitoring the demonstration action (including VAT where applicable).
- b) A comprehensive breakdown of this cost.
- c) Information as to whether the demonstration action has achieved cost savings.
- d) An assessment as to how effective it was at achieving cost savings.
- e) A report on the findings from technical and score monitoring, along with any learnings.
- f) Information on specific timeframes of the demonstration action, including installation dates for each property.

6.8. This information must be provided to Ofgem separately to the notification template by the notification deadline for the relevant measures. If this information is provided after the deadline, notification of the demonstration action measures will be considered to be incomplete. A supplier should refer to the late measure provisions in this instance.

Late measures

6.9. The rules regarding late measures (automatic extensions and applications for extension to the notification deadline) apply in the same way to demonstration actions, innovation measures and monitored measures as other measures notified under the scheme. Suppliers should refer to Chapter 7 of the ECO3 Guidance: Supplier Administration for further information on these requirements.

⁶⁴ Article 24(1)(c) of the ECO3 Order.

Over and under delivery of measures

6.10. We expect delivery of demonstration actions and monitored measures to align with the delivery as specified in the respective application submitted to and approved by Ofgem. Where a supplier becomes aware that delivery of measures is deviating from that outlined in the application, they should contact the ECO team as early as possible.

Over delivery

6.11. Any measures installed in excess of those specified in the application for demonstration actions, or monitored measures, will not be eligible under these routes (and for demonstration actions, under the scheme as a whole). Suppliers do not need to specify the number of innovation measures they intend to deliver in an innovation measure application and therefore are able to deliver as many as they wish. However, a supplier will only be awarded the innovation uplift for innovation measures where the cost savings do not exceed the innovation sub-cap.

6.12. Where a supplier delivers innovation measures in excess of their cap, they may apply for these measures to be redesignated as 'excess innovation measures' (otherwise they will lose the savings). Please see Chapter 2: Delivery caps and meeting of obligations for further information on this requirement. Where a supplier delivers excess monitored measures, ie where the savings exceed the respective obligation cap, they can choose to notify these measures as standard measures under the ECO scheme.

Under delivery

6.13. In certain circumstances, under delivery of demonstration actions or monitored measures may affect the overall eligibility of the application for the measures. For example, under delivery of measures that are part of a demonstration action may result in the overall action no longer meeting the value for money requirement. This could mean that none of the measures installed as part of that demonstration action are eligible under the scheme. Suppliers should contact us as soon as possible if they become aware of under delivery of demonstration actions or monitored measures.

6.14. Because suppliers do not need to specify the number of properties to which they intend to deliver innovation measures, there is no impact of under delivery of these measures.

Monthly report to the Secretary of State

6.15. We will include the contribution that demonstration action measures, innovation measures and monitored measures make towards a supplier's obligation in our monthly report to the Secretary of State and our public reports.

Fair and Transparent Processing

6.16. A supplier must ensure that any information obtained about the landlord or occupant of a property where a demonstration action, innovation or monitored measure is installed is processed in compliance with all applicable data protection laws. Suppliers should refer to the fair and transparent processing section in Chapter 7 of the ECO3 Guidance: Supplier Administration for more information about these requirements under the scheme.

7. Monitoring

Section summary

This chapter discusses the requirements relating to monitoring of the cost savings (performance monitoring) for demonstration actions and monitored measures. Innovation measures do not require performance monitoring arrangements to be eligible under the scheme. The chapter also details the technical and score monitoring requirements for each of the routes.

- 7.1. As part of the application process, Ofgem will make a decision on the reasonableness of the arrangements for monitoring a measure.⁶⁵ As such, any approval of an application does not represent:
- a) that any installation equipment, or installation methodologies associated with monitoring a measure are compliant with the applicable:
 - (i) health and safety standards, and
 - (ii) Building Regulations (as applicable from time to time in England & Wales or Scotland), or
 - b) any warranty or guarantee in relation to any installation equipment or installation works.
- 7.2. It is the responsibility of suppliers to ensure that the above matters are fully complied with as required.

⁶⁵ As prescribed by articles 20(4)(c) and 22(4)(b) of the ECO3 Order.

Performance monitoring

General requirements

- 7.3. Demonstration actions and monitored measures both require performance monitoring to be conducted as part of the delivery of the measures.⁶⁶ The monitoring arrangements must be able to measure the cost savings achieved by the measure. The arrangements may also be intended to assess other benefits of the measure, for example improvements in speed or cost of installation or a reduction in disruption to the householder. Please see 3.20(g) for further examples of other benefits.
- 7.4. We recognise that these arrangements will differ according to the measure type that is being monitored. Suppliers must include the proposed monitoring methodology in the application. The methodology must be reasonable, and be able to clearly demonstrate the cost savings (and other benefits if applicable) achieved by the measure.
- 7.5. The TAP will review the proposed methodology as part of the application process, and will make a recommendation to Ofgem as to whether it is reasonable or not. The TAP may take a pragmatic approach to the well-known technical and cost constraints on monitoring a sample large enough (and for long enough) to prove strict statistical significance if the expected cost savings are small.
- 7.6. Suppliers must be able to produce, on request, evidence of performance monitoring. This could include receipts for monitoring equipment, contracts for the installation of monitoring equipment, and the monitoring data records.
- 7.7. In order to allow us to assess whether the proposals are reasonable, an explanation of the performance monitoring arrangements, sample size, and timeframes should be provided by the supplier as part of the application. Details of these requirements are outlined below.

⁶⁶ Articles 20(2)(a)(iii) and 22(2)(a)(i) of the ECO3 Order respectively.

Performance monitoring arrangements

- 7.8. The methodology should include the proposed arrangements for monitoring the effectiveness of the measure and collecting data for cost savings. The following points should be addressed as part of the application:
- a) Details on which aspects will be monitored in order to determine the cost savings resulting from the measure, and what equipment will be used.
 - b) Why the monitoring and assessment methodologies are suitable for the measure and the premises.
 - c) Information on how the results can be compared (for example against a control group or NEED⁶⁷) to assess performance.
 - d) Where relevant, how other aspects of the measure will be monitored. For example, monitoring of thermal comfort or any risks associated with the measure, such as increased humidity.
- 7.9. The application should clearly state how the methodology will ensure that the sample of measures being monitored is representative of the wider population, and how any bias introduced by parameters outside the scope of the measures being installed is being accounted for. This includes, but is not limited to:
- external weather conditions (eg an abnormally mild winter),
 - household composition and occupancy patterns (eg number of people, demand temperature, duration of heating period), and
 - house type and size (eg large detached vs. small mid-floor flat, etc).
- 7.10. Innovative methods of monitoring (eg inferring unmeasured results from smart meter data using learning/deductive algorithms, artificial intelligence etc) are acceptable in principle, provided that any innovative method has previously been proven to be as accurate as traditional, more sensor-intensive methods. It should also be noted that

⁶⁷ The National Energy Efficiency Data-framework.

innovative monitoring methods will not remove the need to monitor a representative sample of homes for a suitable period before and after the installation of the measures.

Proposed sample size

7.11. We expect the selected sample size to be justified based on the predicted cost savings of the measure. A greater level of confidence can be achieved by using a larger sample size, particularly for measures with smaller cost savings. However, an increase in sample size also increases project costs, which can reduce value for money. A tool to help determine sample size and confidence levels can be found on our website⁶⁸. The following should be provided as part of the application:

- The sample size required to demonstrate effectiveness of the measure at achieving cost savings.
- How the sample size has been determined. An explanation should be given as to how the sample size is sufficient to provide statistical significance, but not greater than what is necessary to demonstrate the effectiveness of the measures at achieving cost savings.
- Consideration of the potential for drop-outs or data fails.

7.12. We expect the performance monitoring methodology to account for typical events that could impact on the monitoring results, such as the measure or monitoring equipment breaking down. However, during the period of monitoring, if there is an event that impacts the monitoring which has not been accounted for, suppliers must report this to us as soon as possible after they become aware of the event.

7.13. We recognise that the number of measures monitored may be less than the number of measures to which the performance monitoring results are intended to apply to. A supplier will need to provide information in the application which evidences that the performance monitoring methodology can be reasonably extrapolated across the wider population of measures included in the application. If a supplier proposes to monitor

⁶⁸ <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

less than 100% of the measures referred to in an application for demonstration actions, they must explain why this is a suitable approach in the application.

Proposed monitoring timeframe

7.14. The methodology should include a suitable period of performance monitoring, and should include justification for the length of the period. The following should be provided as part of the application:

- The duration of the monitoring (and of any distinct periods within this, such as pre and post installation monitoring).
- The anticipated timeframes for the key steps of the project, from recruitment to notification and submission of the final report to Ofgem. A Gantt Chart or other diagram should be included.

Reporting of results

7.15. A supplier must report the results of performance monitoring to Ofgem once that monitoring is complete. For demonstration actions, this data is required as part of the notification of the measure.⁶⁹ Please see Chapter 6: Notification of completed measures for further information on this requirement.

7.16. For monitored measures, this information is required in order for the supplier to apply to change the score for the measure to one calculated in accordance with the methodology included in the application. Please see Chapter 4: Determining ECO Savings for further information on how we expect this to be calculated.

7.17. The performance monitoring results should be submitted in the format of a summary report which includes confirmation of the measured energy savings, the length of the test, how the measure was monitored, evidence of a lack of bias in the sample selection and proof that the conditions over which performance has been measured are

⁶⁹ Article 24(1)(c) of the ECO3 Order.

representative of in-situ use in normal circumstances (including, but not limited to, the mean internal temperatures and external weather conditions).

- 7.18. For demonstration actions, the report must also include the assessment of the effectiveness of the measures at achieving cost savings⁷⁰ (and other benefits where applicable). It must also include the total cost incurred by the participant in delivering the action,⁷¹ and a breakdown of this cost.⁷² This information is required as part of notification of the measure. Please see Chapter 6: Notification of completed measures for further information on this requirement.
- 7.19. For monitored measures, the report must also include the calculations for the new score for the measures (where applicable). Please see Chapter 3: Eligibility for further information on how we expect this score to be calculated. Please note, we expect suppliers to report the results of all monitoring to us, irrespective of whether the results support an amended score for the measures.
- 7.20. The detailed data which underlies the summary should be provided in an annexe to the report, accompanied by the analysis which led from the data to the summary findings. Where possible, evidence from NEED, a control group and/or other methodology (for example ECO deemed scores) should be cited, against which the monitored performance can be compared.
- 7.21. Where applicable, the supplier should also report the new proposed deemed score or appropriate methodology that might be used on the basis of the monitored data, with the supporting calculations.

Assessment of monitored results

- 7.22. For demonstration actions, we will assess the results of performance monitoring, as well as the cost information, as part of our wider assessment of the measures. Once we are satisfied that the information that has been notified is correct, we will approve the

⁷⁰ Article 24(1)(c)(iv) of the ECO3 Order.

⁷¹ Article 24(1)(c)(i) of the ECO3 Order.

⁷² Article 24(1)(c)(ii).

measure on the ECO Register. More information on notification requirements can be found in Chapter 6: Notification of completed measures.

7.23. For monitored measures, we will assess the performance monitoring information and associated score calculations. Where we are satisfied that the information is correct we will allow the supplier to amend the score for the relevant measures in accordance with the scoring methodology detailed in the application.

7.24. We may, in exceptional circumstances, refer the performance monitoring report information to the TAP for their review. If this occurs, we will inform the supplier.

Technical and Score Monitoring

7.25. Demonstration actions, innovation measures, and monitored measures all have different technical and score monitoring requirements compared to standard ECO measures. Innovation and monitored measures fall within the standard technical/score monitoring process, whereas demonstration actions do not. All three routes have additional requirements, which are outlined below.

7.26. Additional information on the technical and score monitoring of innovation measures and monitored measures will be included in the ECO3 supplementary guidance for monitoring.⁷³ The following section should be read in conjunction with the supplementary guidance.

Demonstration actions

7.27. Demonstration action measures will not be monitored through the normal monitoring process and will not count towards the monitoring measure category or installer analysis.

7.28. In addition to the performance monitoring methodology included in the application for demonstration actions, suppliers must also include a technical and score monitoring methodology. The main aim of the methodology is to test the appropriateness of

⁷³ <https://www.ofgem.gov.uk/publications-and-updates/eco3-monitoring>

technical and score monitoring questions for the measure. This methodology must detail how the measures will be inspected from a technical and score monitoring perspective, who will conduct the monitoring, the proportion of measures to be monitored, as well as the relevant questions and timings of any monitoring. Note that the proportion of measures monitored must be at least 5%, but where the measure is significantly different to current measures, a higher number may be appropriate.

- 7.29. The results of the technical and score monitoring must be included in the final report on the demonstration action submitted to Ofgem at notification. This will replace the standard technical and score monitoring requirements.
- 7.30. We expect technical monitoring of demonstration actions to be conducted by an independent third party. Furthermore, for measures that are intended to be delivered as standard measures under the scheme in the future, any learnings from the monitoring should be made available to other technical monitoring organisations.
- 7.31. Suppliers should ensure that the planned technical and score monitoring aligns as far as possible with existing requirements under the scheme. The 'ECO3 Technical and Score Monitoring Question Set' can be used to review the current questions for relevance, and as a template for the proposal.⁷⁴
- 7.32. The technical and score monitoring plan will be assessed by the TAP and a recommendation made to Ofgem as to whether the plan is reasonable.

Innovation measures

- 7.33. We expect, in most instances, that our existing technical and score monitoring requirements will apply to innovation measures. Where they do, these measures will be required to meet the requirements for the wider scheme. Please see Chapter 8 of our ECO3 Guidance: Delivery for further information on these requirements.
- 7.34. Where the existing requirements do not apply to an innovation measure, suppliers must detail in the application what changes or additional requirements are needed in order to

⁷⁴ <https://www.ofgem.gov.uk/publications-and-updates/eco3-monitoring>

include the measure in technical and score monitoring. A completed Pre-Installation Building Inspection (PIBI) may assist in identifying these.

- 7.35. Once approved, any alternative requirements will be added to the 'ECO3 Approved Innovation Measures' document on our website⁷⁵.

Monitored measures

- 7.36. The existing technical and score monitoring requirements apply to monitored measures in the same way as other standard measures delivered under the scheme. An additional question has been included in the standard TM question set relating to the presence and functioning of monitoring equipment for monitored measures.

- 7.37. Innovation measures and monitored measures will count towards an innovation monitoring measure category. For example, an innovation or monitored measure that is a type of CWI will not count towards the general CWI requirement, but will count towards the Innovation monitoring measure category. At an installer level, all measures (excluding demonstration actions) will go towards an installer's monitoring requirement.

⁷⁵ <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

8. Safety and Aftercare

Section summary

This chapter describes the safety and aftercare requirements for demonstration actions, innovation measures, and monitored measures.

- 8.1. In order to deliver demonstration actions under the scheme, suppliers must ensure that there are reasonable arrangements in place to ensure that these measures are safe, can be installed in a safe way, and that any issues with the measures following installation can be identified and resolved as quickly as possible. We also expect suppliers to ensure that any monitoring equipment installed (as part of a demonstration action or monitored measure) is safe for its intended use and that there are arrangements for resolving any issues with the equipment during and after the monitoring period. These requirements are discussed in further detail below.
- 8.2. The safety and aftercare requirements for innovation measures and monitored measures are also detailed below.
- 8.3. As part of the application process, Ofgem will make a decision on the reasonableness of the arrangements for ensuring the safety of the measure, for repairing or removing any measure that is faulty and for preventing or remedying any adverse impacts caused by the measure on the domestic premises at which it is installed.⁷⁶ In addition, the reasonableness of safety and aftercare arrangements for innovation and monitored measures will be considered in connection with the corresponding application.⁷⁷ As such, any approval of an application does not represent:
 - a) that any materials, equipment or methods used are compliant with the applicable:

⁷⁶ As prescribed by article 20(4)(c) of the ECO3 Order.

⁷⁷ As made under article 21(1) or article 22(1) of the ECO3 Order.

- (i) current version of PAS 2030 at the time of installation,
- (ii) health and safety standards,
- (iii) insulation industry standards, or
- (iv) Building Regulations (as applicable from time to time in England & Wales or Scotland), or

b) any warranty or guarantee in relation to safety or aftercare arrangements.

8.4. It is the responsibility of suppliers to ensure that the above matters are fully complied with as required.

Demonstration actions

Safety

8.5. We recognise that it may not be economically or technically feasible⁷⁸ for a measure intended to be delivered as a demonstration action to have a product standard and/or installation standard. However, in order for a demonstration action application to be approved suppliers need to provide assurance that there are arrangements in place to ensure the product is safe to use for its intended purpose and can be installed safely, and the installation method meets any applicable safety standards.

8.6. Where product and installation standards or certification do exist, suppliers must be able to evidence that the measure meets these.

8.7. Where product standards do not exist, suppliers must provide information in the application about the arrangements for ensuring the safety of the measure, and how they are working to achieve a product standard and/or certification for the measure. They should also explain why the measure does not currently have a product standard or certificate, for example further testing in a live environment is required, or that the

⁷⁸ See Chapter: Demonstration Actions of the [BEIS Policy Guidance](#).

cost of agreeing a standard before submitting an application for a demonstration action is prohibitive. Evidence should be provided to support this information.

8.8. Suppliers should provide details of the following in the application:

- a) The fire safety certification that exists for the measure,
- b) the electrical safety certification that exists (if applicable) for the measure,
- c) the accreditation/testing body they are working with,
- d) the testing that has been conducted to date,
- e) the certification of standards that have been provided by the laboratory, and
- f) confirmation that the product has undergone relevant health and safety checks for its intended purpose.

8.9. Where installation standards do not exist, suppliers should provide information (including supporting documentation) about the arrangements for ensuring that installation of the measure is safe within the scenario for which it has been tested and is being conducted by a competent person. Information about how they are working to achieve installation standards for the measure should also be provided.

8.10. Suppliers should provide details of the following in the application:

- a) The installer they are working with and their relevant accreditation,
- b) confirmation that the measure will be installed in line with PAS 2030 standards where appropriate, and
- c) any other information to support points a) and b) or that is relevant to safety.

8.11. Suppliers should also provide information (including supporting documentation) relating to the safety of the equipment being used to monitor the performance of the measure, and assurance that this equipment will be installed by a competent person.

8.12. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the arrangements are reasonable.

Aftercare

- 8.13. Reasonable aftercare arrangements must be in place to ensure that measures installed as part of a demonstration action do not have a detrimental effect on the householder or their property, during and/or after the action. A supplier must include information detailing the aftercare arrangements for the measure in the application. Installation includes, in these circumstances, the measure and the monitoring equipment.
- 8.14. Energy efficiency measures should also include a handover requirement which includes minimum aftercare provisions. We would expect a handover process (or equivalent) to apply in all circumstances, including for measures not referred to in PAS 2030 or other official standards.
- 8.15. In all circumstances, following installation, repair or removal of a measure, the property should be re-instated to at least the condition it was in prior to the commencement of the installation, repair or removal works.
- 8.16. The aftercare arrangements should make reference to the following non-exhaustive list:
- a) How a faulty installation will be identified and either repaired or removed, including response times.
 - b) Circumstances under which a faulty installation would be either repaired or removed.
 - c) Guarantees or warranties that are in place for the measure (including whether these are insurance backed), and their duration.
 - d) Information regarding the operation and maintenance of the measure that will be provided to the householder, including warranty information and contact details for the householder in case of any questions or arising faults.
 - e) Servicing arrangements in place for mechanical products, as well as information regarding availability of parts.
 - f) Provisions for redressing any damage caused to the property as a result of the installation or removal of the measure (where appropriate).
 - g) Whether or not the monitoring equipment will be removed and (where appropriate) the arrangements that will be put in place to achieve this.

- 8.17. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the arrangements are reasonable.

Innovation measures

Safety

- 8.18. In general, we expect measures installed as part of an innovation measure application to meet relevant product and installer standards, and as such demonstrate that they are safe. However, where it is the installation method of an innovation measure application that is 'materially different', we recognise that existing installation standards may not apply.
- 8.19. In these circumstances, suppliers should provide information about the arrangements for ensuring that installation of the measure is safe and will be conducted by a competent person. Information about how they are working to achieve installation standards for the measure should be provided. Please refer to the list at 8.8 for specific information that should be included in the application form.
- 8.20. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the arrangements are reasonable.

Aftercare

- 8.21. There are no specific aftercare arrangements for innovation measures beyond those that already exist under the wider scheme.

Monitored measures

Safety

- 8.22. Measures installed as part of a monitored measures application must meet the general eligibility requirements of the ECO3 scheme relating to product and installer standards. Suppliers must also ensure that the monitoring equipment installed complies with product standards where applicable, and that the equipment is installed by a competent person.

- 8.23. Information about the monitoring equipment (eg whether it is a data logger, smart meter or other type of equipment) and how the supplier is ensuring it will be installed in a safe way and by a competent person should be included in the application form. The supplier must also confirm that the monitoring equipment will not impact on the validity of any warranty or guarantee relating to the measure, or if it does, the mitigating actions that are being taken to ensure the householder is not adversely impacted.
- 8.24. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the arrangements are reasonable.

Aftercare

- 8.25. There are no specific aftercare arrangements for monitored measures beyond those that already exist under the wider scheme. However, suppliers must ensure that appropriate aftercare arrangements for the monitoring equipment is also provided. The arrangements for the monitoring equipment detailed in the application form should make reference to the following non-exhaustive list:
- a) How faulty equipment will be identified and either repaired or removed, including the response times for responding to householder queries and visiting the household when an issue has been reported.
 - b) The circumstances under which faulty equipment would be either repaired or removed.
 - c) The information regarding the operation and maintenance of the equipment that will be provided to the householder, including contact details for the householder in case of any questions or arising faults.
 - d) The servicing arrangements in place for mechanical equipment, as well as information regarding availability of parts.
 - e) Provisions for redressing any damage caused to the property as a result of the installation or removal of the measure (where appropriate).
 - f) Whether or not the monitoring equipment will be removed and (where appropriate) the arrangements that will be put in place to achieve that.
- 8.26. This information will be assessed by the TAP and a recommendation made to Ofgem as to whether the arrangements are reasonable.

Risks

- 8.27. We anticipate that any demonstration actions or innovation measures will have considered the risks associated with the measure type and / or the product itself before an application is made.
- 8.28. Suppliers should provide information on how the product impacts risks associated with the measure type. For example, there is a moisture risk associated with any insulation measure as thermal bridging can lead to condensation. If the product increases or reduces a risk, this should be explained and evidence provided where possible.
- 8.29. Additional, or secondary risks should also be considered. These may include internal air quality following installation of the measure, or any risks associated with the property being under-heated or over-heated.
- 8.30. Some products may introduce new risks, in which case assurance that any potential risks have been considered is required, along with how the risks will be mitigated.
- 8.31. For demonstration actions, applicants may wish to consider risks in their performance monitoring proposal, in order to develop an understanding of their impact.

9. Appendices

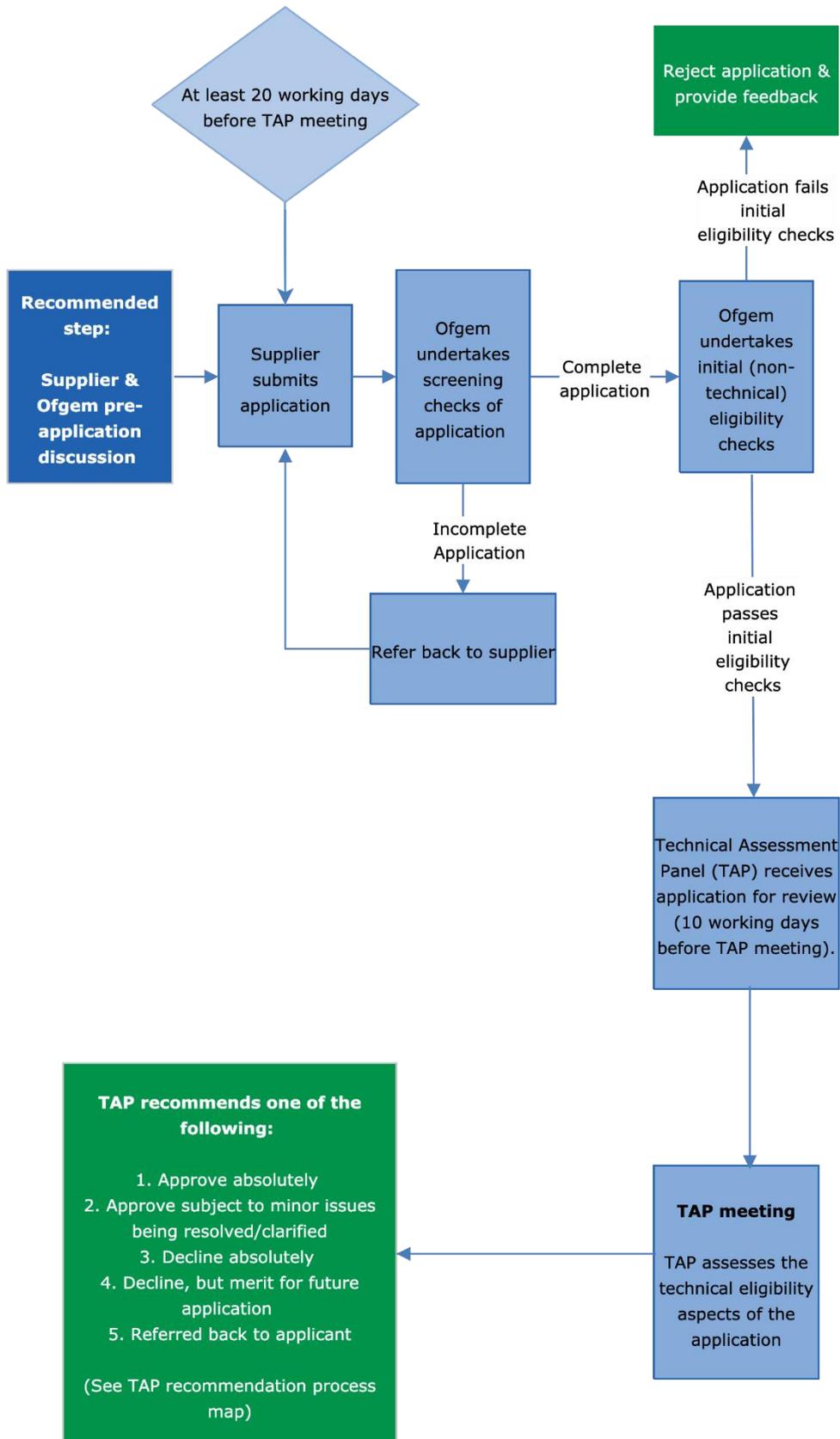
Annex 1: Measures promoted by suppliers under ECO1 and 2

The following table lists the measure types that have been notified to Ofgem under ECO1 and ECO2.

| Heating measures |
|--|
| Boiler |
| District Heating System <ul style="list-style-type: none"> - Biomass - Combined Heat and Power - Gas/Oil - Ground Source Heat Pump - Multi fuel |
| Heat meters for District Heating Systems |
| Air Source Heat Pump |
| Solar Photovoltaics |
| Biomass boiler |
| Electric Storage Heaters <ul style="list-style-type: none"> - Fan Storage - High Heat Retention - Slimline |
| Heating Controls |
| Insulation measures |
| Hard To Treat Cavity <ul style="list-style-type: none"> - Cavity Wall Insulation - Solid Wall Insulation |
| External Wall Insulation <ul style="list-style-type: none"> - Solid walls - Non solid walls |
| Internal Wall insulation <ul style="list-style-type: none"> - Solid walls - Non solid walls |
| Cavity Wall Insulation <ul style="list-style-type: none"> - External wall insulation |

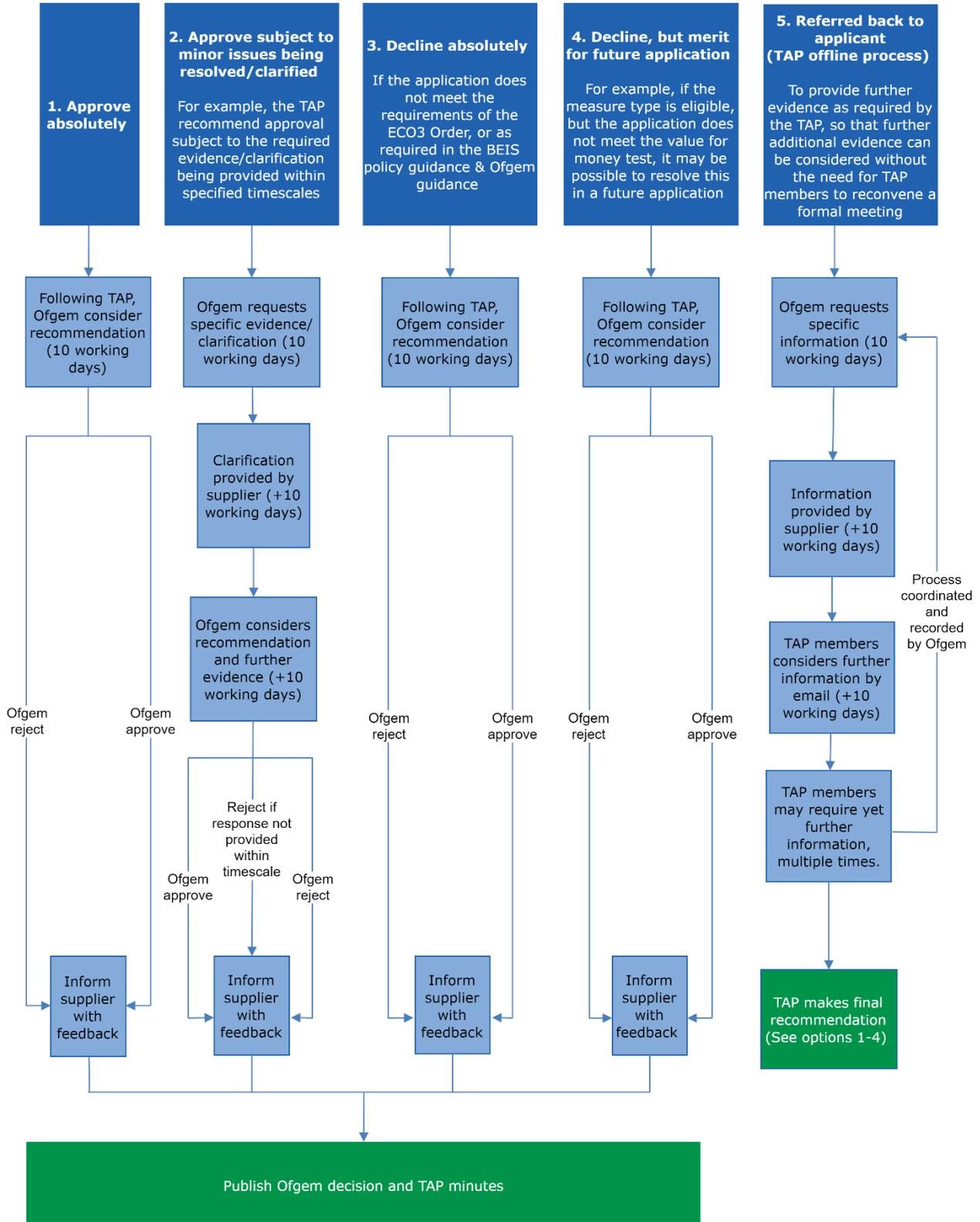
| |
|------------------------------------|
| - Internal wall insulation |
| Standard Cavity Wall Insulation |
| - 0.027 U-Value |
| - 0.033 U-Value |
| - 0.040 U-Value |
| Party Wall Cavity Insulation |
| Park Home External Wall Insulation |
| Loft insulation |
| Rafter insulation |
| Room in Roof insulation |
| Draft Proofing |
| Flat Roof Insulation |
| Hot Water Cylinder Insulation |
| Passageway Walk-through Doors |
| Higher performance external doors |
| Under Floor Insulation |
| Window Glazing |
| - Single to double |
| - Improved double glazing |

Annex 2: Application process map



Annex 3: TAP recommendation process map

Please note that the timeframes provided are intended as a guideline only.



Annex 4: Abbreviations

| Abbreviation | Explanation |
|---------------------|---|
| BEIS | Department for Business, Energy and Industrial Strategy |
| BSI | British Standards Institute |
| DHS | District Heating Scheme |
| ECO | Energy Company Obligation |
| EPC | Energy Performance Certificate |
| HHCRO | Home Heating Cost Reduction Obligation |
| LBS | Lifetime Bill Saving |
| NEED | National Energy Efficiency Data-Framework |
| PAS | Publically Available Specification |
| PIBI | Pre Installation Building Inspection |
| RdSAP | Reduced data Standard Assessment Procedure |
| RRN | Report Reference Number |
| SAP | Standard Assessment Procedure |
| SWMR | Solid Wall Minimum Requirement |
| TAP | Technical Advisory Panel |
| TM | Technical Monitoring |
| TRL | Technology Readiness Level |

Annex 5: Glossary

A

A wall insulation measure accompanied by **appropriate guarantee** receives the relevant standard lifetime. An appropriate guarantee must meet the criteria listed in our guidance. Appropriate guarantees which we have reviewed, and consider meet the criteria, are listed on our website.

B

Building regulations covers the Building Regulations 2010 in England and Wales, and the Building (Scotland) Regulations 2004 in Scotland.

C

Cost savings means, in relation to a measure:

- The money that would be saved by that measure over its expected lifetime in heating domestic premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas.
- Where it also results in savings in the cost of heating water, the money that would be saved by the measure over its expected lifetime in heating water in those premises.

Where it also results in the generation of electricity the money that would be saved by the measure over its expected lifetime in generating electricity for use at those premises, excluding any electricity generated for the purpose of heating the premises or for heating water.

D

Deemed scores determine the contribution certain measures make towards a supplier's HHCR0 obligation. Deemed scores are fixed scores for each measure type that are determined using three or four variables.

Domestic premises are separate and self-contained premises used wholly or mainly for domestic purposes. A mobile home is considered domestic premises if it is a caravan and is used as a dwelling.

E

The **ECO Register** is our IT system which suppliers can use to notify and manage completed ECO measures, and submit applications for approval of transfers.

H

The **Home Heating Cost Reduction Obligation (HHCRO)** is the installation of heating qualifying actions, including insulation and the repair and replacement of boilers and electric storage heaters, to households deemed to be low income or living in fuel poverty. Measures can be delivered to premises that are occupied by someone in receipt of specific benefits (the help to heat group), listed in a local authority declaration, or social housing premises with an EPC energy efficiency rating of E, F or G.

L

Lifetime is the estimated lifetime for measures. Standard lifetimes are available in the ECO3 Measures Table which is available on our website.

M

A **measure** is a qualifying action, including adjoining installations.

N

The **notification deadline** is the end of the month following the month in which installation of the measure was completed.

The **notification template** describes the information that suppliers must include as part of the monthly notification for a particular type of completed measure.

O

The **overall obligation period** is the period from 3 December 2018 to 31 March 2022.

P

Promotion is where a supplier is a cause of a measure being installed. This is normally where a supplier funds all or part of the measure and funding is arranged prior to installation.

Q

A **qualifying action** means a heating qualifying action (HHCRO).

R

The **Reduced data Standard Assessment Procedure (RdSAP)** is a simplified version of SAP that requires fewer data inputs. RdSAP 2012 should be used for all ECO3 measures, where RdSAP is used to calculate the score.

The **rural sub-obligation** requires suppliers to achieve at least 15% of their total HHCRO by promoting measures to premises in a rural area. Where a supplier fails to meet this requirement, it will fail to achieve its HHCRO. Suppliers must install measures against this sub-obligation by 31st March 2022.

S

Savings refers to scores.

A **score** is the contribution that a measure makes towards a supplier's total HHCRO in pounds sterling (£). The score is calculated using the cost saving and the relevant uplift, where applicable.

Score monitoring verifies, through site visits, whether certain inputs used to calculate measure savings, relating to the characteristics of the premises or the measure, are accurate.

Solid wall insulation (SWI) means internal or external insulation of a solid wall (ie internal wall insulation (IWI) or external wall insulation (EWI)). It does not include insulation of a mobile home, which is a separate eligible ECO measure.

The **solid wall minimum requirement (SWMR)** is a requirement that means the amount of cost savings (as detailed in Table 5 of the Supplier Administration Guidance) must be achieved through the delivery of solid wall insulation (SWI) or to solid walled properties achieving the equivalent savings as SWI.

The **Standard Assessment Procedure (SAP)** is a methodology developed by the Building Research Establishment (BRE) on behalf of the Government, to calculate the energy and environmental performance of dwellings. SAP 2012 should be used for ECO2 measures.

A **supplier** is a licence-holder where on 31 December of either 2017, 2018, 2019 or 2020:

- it was supplying more than the minimum number of customers outlined for each stage in Chapter 2 of the ECO3 Guidance: Supplier Administration and,
- had supplied more than the threshold amount of electricity and/or gas (outlined in Chapter 3 of the ECO3 Guidance: Supplier Administration) to domestic customers during the year ending on that date.

T

The **Technical Advisory Panel (TAP)** is a group of experts convened by Ofgem to aid in its assessment of the technical eligibility criteria in demonstration actions, innovation measures and monitored measures applications.

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

TrustMark means the scheme of that name operated by TrustMark (2005) Limited, a company registered in England and Wales with company number 05480144.

U

Uplifts are applied to scores where required by the ECO3 Order, and mean that the score for a measure is higher than would be the case were it based on cost savings alone. They replace the ECO2t concept of “multiplier”. Where a deemed score measure is eligible for an uplift, there will be a version of the score for that measure in the deemed score matrix which incorporates the uplift. Uplifts in ECO3 include:

- non-mains gas insulation uplift
- broken central heating and broken ESH uplifts
- LA flex F&G non-PRS uplifts
- innovation uplifts

U-value is the rate of heat transmission through a material or building element in W/m^2K , and is widely referred to in building standards and SAP/RdSAP.

W

Wall insulation means insulation of a cavity wall or solid wall insulation.