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Consultation

ECO4 scoring methodology: part 1

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We are consulting on a scoring methodology for the forthcoming Energy Company Obligation scheme, ECO4. We would like views from anyone with an interest in energy efficiency and fuel poverty. We particularly welcome responses from obligated energy suppliers, and companies and organisations involved in the delivery of energy efficiency measures, as well as other stakeholders and the public.

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

Contents

Executive summary

Ofgem has been named by the Department for Business, Energy and Industrial Strategy (BEIS) as the intended administrator of the Energy Company Obligation (ECO) scheme. BEIS are currently consulting on their proposed policy[1]. This document sets out our proposals on the scoring methodology for ECO4, which we have developed in line with core requirements put forward by the BEIS. This consultation seeks your views on the proposed methodology and will allow us to finalise our approach in advance of the launch of the ECO4 scheme. We have described the government position where needed, however for an outline of the full policy the government consultation should be referred to. As BEIS are currently consulting on their proposals for ECO4, the final scheme design may deviate from these proposals as a result of their consultation process.

Reasons for updating the scoring methodology

The current scheme, ECO3, uses a measure-specific 'deemed scoring' approach, where the property archetype and the current main heating type of the premises impact the score given to an individual measure. The scores are based on a set of predictable assumptions that are not impacted by the presence of any other energy efficiency measures in the premises, and therefore the approach is well suited to single measure delivery.

For ECO4, BEIS propose to move towards a whole-house approach as they feel it is better suited to targeting the worst performing domestic premises and improving as many fuel poor homes to EPC band C as is cost effective and practicable by 2030[2]. They propose scores will also be based on annual, rather than lifetime, bill savings. Therefore, ahead of the next iteration of ECO, a new scoring methodology must be created to account for these changes.

Priorities for ECO4 scoring

The key priorities, as set out by BEIS, are to provide a whole-house scoring methodology that:

- Is based on the difference in expected annual energy bills between the starting SAP rating of the domestic premises (pre-retrofit) and its finishing SAP rating (post-retrofit).
- Allows interim scores to be awarded to individual measures which represent a proportion of the full bill saving.

[1] BEIS ECO4 consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026
[2] The Clean Growth Strategy sets out proposals for decarbonising all sectors of the UK economy through the 2020s: https://www.gov.uk/government/publications/clean-growth-strategy

- Enables new technologies, which are not included in SAP, to be scored.
- Is consistent across measure types and verifiable.
- Is unambiguous and easy to use.

Our approach to ECO4 scoring

We have worked closely with BEIS to develop detailed proposals for the ECO4 scoring methodology. The core of the approach consists of 'full project scores', which will be awarded in respect of the installation of packages of measures in households, rather than individual measures. We propose to implement a system of pre-calculated deemed scores (section 0), which can be selected from tables based on a domestic premises' intermediate SAP band before and after the package of measures is installed.

BEIS also intend that partial project scores (PPS) will be awarded when each measure within a package is approved. These are interim scores which represent a proportion of the full annual bill saving of the measure, and are intended to reduce risk throughout the supply chain when moving to a whole-house approach. We propose a second system of pre-calculated deemed scores (section 0), based on the measure type installed and the starting intermediate SAP band of the premises.

The proposed scores included in this consultation were developed using modelling and analysis we commissioned from the Building Research Establishment (BRE). They have produced a methodology document which explains the assumptions and data sources used, which will be published alongside this consultation.

BEIS propose two routes whereby suppliers may apply for scores to be created for new measures which emerge during the scheme (section 0). These build on the existing 'alternative methodology' route in ECO3, and enable the inclusion of measures not recognised in SAP. Section 4 of this consultation sets out our plans for implementing these routes.

Next steps

Following this consultation, we will review all responses before finalising our approach. We are consulting on scoring in two parts: this consultation covers our proposed scoring approach, including full project scores and example partial project scores. The second stage of the ECO4 scoring consultation will cover the full set of partial project scores and is planned for autumn 2021.

We are consulting on updates to the scores now to provide stakeholders with as much lead-in time as possible before their implementation. However, the scores published alongside this

consultation must be considered provisional. Changes may result from our ongoing development work, and from adjustments to BEIS's core requirements as part of their consultation process.

1. Introduction

What are we consulting on?

1.1. This consultation outlines our proposed scoring methodology for the future energy efficiency and fuel poverty scheme, ECO4, which will run from April 2022 to 31 March 2026.

1.2. A 'score' means the contribution that a whole-house retrofit project or individual energy efficiency measure makes towards a supplier's total obligation. Scores are based on the bill saving likely to be achieved by a project or measure when installed in a domestic premises.

1.3. Ofgem have developed a scoring methodology for ECO4 in line with core requirements proposed by BEIS. This methodology reflects the overarching BEIS objectives of targeting the worst performing domestic premises and improving as many fuel poor homes to EPC band C as is cost effective and practicable by 2030.

1.4. Within this consultation, we have set out sections that outline our proposed scoring methodology, and we seek your views on our approach.

Section 1: Full project scores

1.5. BEIS intend ECO4 will move to a whole-house approach. Full project scores are the central element of this approach. These will be awarded to multi-measure projects, and will be based on the annual energy bill saving implied by the improvement in a premise's SAP rating. This section sets out our proposal for a system of deemed full project scores. Under this system, scores are pre-calculated and can be selected from tables using a premises' starting and finishing SAP ratings and floor area. This section also outlines two approaches we are considering for determining finishing SAP ratings.

Section 2: Partial project scores

1.6. Partial project scores (PPS) will be awarded as each measure within a project is notified. These are interim scores which represent a proportion of the full expected annual bill saving of the measure and are intended to reduce risk throughout the supply chain when moving to a project-based approach. They are superseded by the full project score when the project is complete. We propose a system of deemed partial project scores, which would be selected from pre-calculated tables based on measure type, premises' starting SAP rating and floor area.

Section 3: Alternative methodologies

1.7. BEIS propose two routes whereby suppliers may apply for scores to be created for new measures which emerge during the scheme. One is a standard alternative

methodology route[3] for measures which are included in SAP, or which are not in SAP but have a large amount of robust evidence to support savings. The second is a new "data light" route. This is intended to allow the creation of scores based on less extensive evidence. This section sets out our plans for implementing these routes.

Context and related publications

1.8. The Energy Company Obligation (ECO) is a government scheme that requires obligated energy companies to deliver energy efficiency measures to domestic premises in Great Britain. The policy and legislation for ECO is set by the Department for Business, Energy and Industrial Strategy (BEIS). ECO is administered by Ofgem.

1.9. The current scheme, ECO3, runs from 3 December 2018 to 31 March 2022 and is the successor to the ECO2t scheme, which ran from 1 April 2017 to 30 September 2018.

1.10. BEIS have recently published a consultation[4] for a new Energy Company Obligation, ECO4, which will run from 1 April 2022 to 31 March 2026. BEIS's consultation describes their policy proposals for the new scheme, and sets out their intent to require Ofgem to publish the scoring methodology for the scheme. It proposes core requirements that the scoring methodology must meet.

1.11. With input from BEIS, we have developed a scoring methodology which fulfils these core requirements. The purpose of this consultation is to describe our proposed methodology and obtain stakeholder's views on it. Views on the core requirements themselves should be submitted to BEIS's consultation.

1.12. We are currently working closely with BEIS to develop our plans for the administration of ECO4, following the proposals outlined by BEIS in their consultation. We have a range of policy areas to consult on, some of which can be progressed in advance of BEIS publishing their consultation decision. As such, we will consult on these plans in two parts. There will be an initial administration consultation which is planned to be our next publication, in autumn, followed by our main ECO4 consultation later in the year.

1.13. As the scoring methodology is a central aspect of the scheme, we are developing the details of the methodology separately to the general administration consultations listed above. This consultation sets out our overall approach to scoring and includes

[3] Under ECO3, where it is not possible to score a measure using deemed scores, a supplier may apply to Ofgem for approval of an 'alternative methodology'. More information is available at: https://www.ofgem.gov.uk/publications-andupdates/eco3-alternative-methodologies
[4] BEIS ECO4 consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

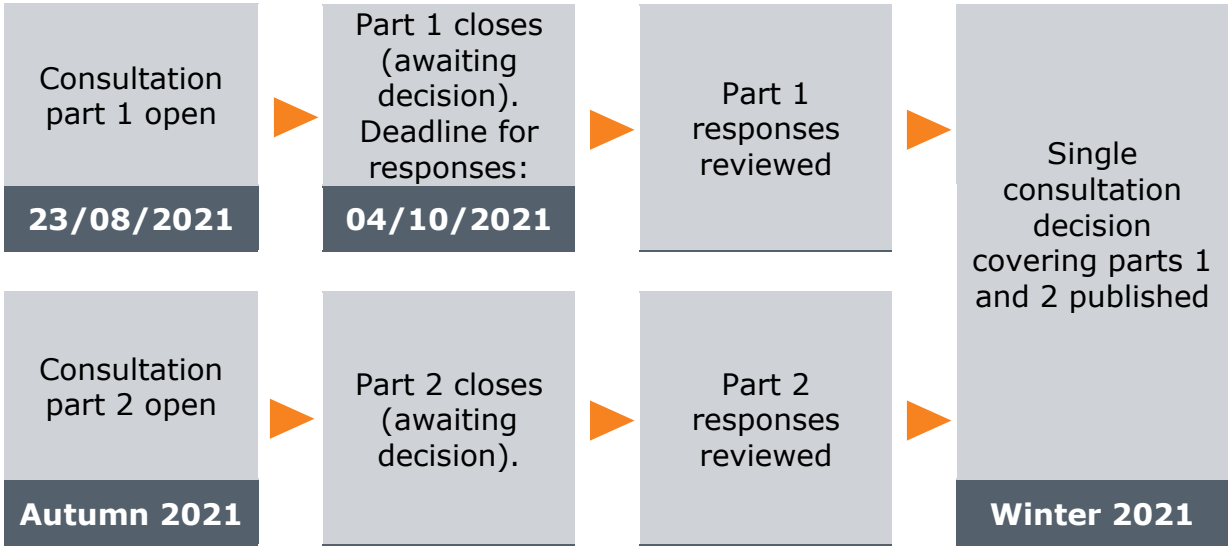
illustrative examples. Alongside this document we will publish example scoring tables and a report describing their development.

1.14. We intend to issue part two of our consultation on the scoring methodology in autumn 2021, which will include complete scoring tables.

Consultation stages

1.15. Our consultation will be open for six weeks from 23 August 2021. Figure 1 gives an overview of our plan for consulting on the ECO4 scoring methodology.

Figure 1: Consultation stages



How to respond

1.16. We want to hear from anyone interested in this consultation. Please send your response to eco@ofgem.gov.uk.

1.17. We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

1.18. We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, data and confidentiality

1.19. You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us

explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

1.20. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not* wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.21. If the information you give in your response contains personal data under the General Data Protection Regulation 2016/379 (GDPR) and domestic legislation on data protection, the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 6.

1.22. If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

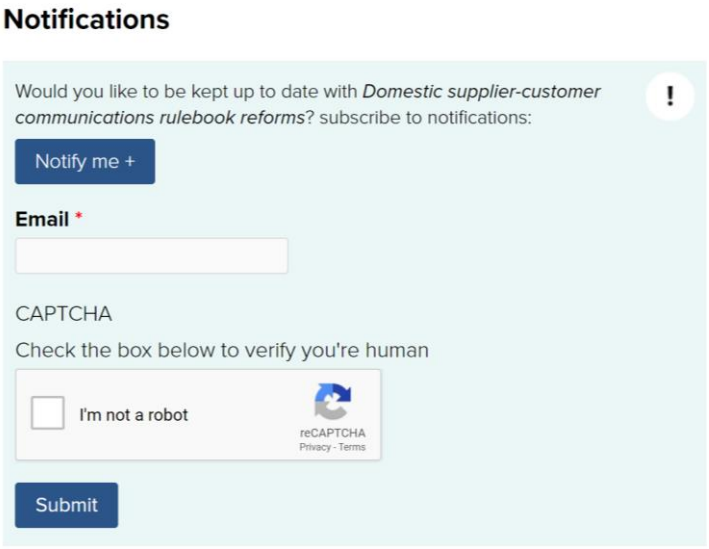
1.23. We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

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

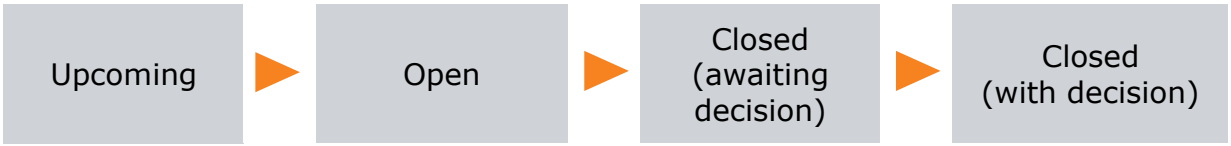
1.24. Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

1.25. You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Ofgem.gov.uk/consultations.



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:



2. Full project scores

Section summary

BEIS have set out their intent for ECO4 to move to a whole-house, multi-measure approach. Under their proposals, full project scores would be awarded in respect of packages of measures installed in eligible premises. Scores must be based on the difference in expected annual energy costs between the starting and finishing SAP rating of the premises. We propose to implement this using a system of pre-calculated 'deemed' scores. This section describes the system and the process used to calculate the scores.

Questions

Question 1: Do you agree that full project scores should be based on starting and finishing intermediate SAP bands?

Question 2: Do you agree that scores should be segregated into four floor area segments?

Question 3: Do you agree with the methodology used to determine the full project scores?

Question 4: Are you aware of any further advantages or disadvantages in respect of the options presented to determine the finishing SAP band?

Question 5: What are your views on the advantages and disadvantages identified?

Proposed legislative requirements for full project scores

2.1. BEIS intend that ECO4 will move to a whole-house, multi-measure approach. In line with this, the ECO4 consultation published by BEIS proposes new core requirements for the ECO4 scoring methodology.

2.2. Under these proposals, full project scores would be awarded in respect of packages of measures installed in eligible premises. The scores are proposed to be based on the difference in expected annual energy costs between the starting SAP rating of the premises (pre-retrofit) and its finishing SAP rating (post-retrofit). The scores should have regard to floor area. The move from individual measure to project-based scoring, as well as the change from lifetime to annual bill savings, are significant changes from ECO3.

2.3. BEIS also propose a minimum requirement for the SAP band improvement to be achieved by premises treated under ECO4. Band G and F premises should be improved

to at least a band D, and band E and D premises should be improved to at least a band C. There will be exemptions to the minimum requirement in limited circumstances. Premises with a starting SAP band of C or higher will not be eligible for ECO4.

2.4. The requirements are intended to better support BEIS's overarching objectives of targeting the worst performing domestic premises and improving as many fuel poor homes to EPC C as is cost effective and practicable by 2030.

2.5. In addition to the above requirements, BEIS's consultation expresses a preference for pre-calculated deemed scores for full project scores, rather than using energy costs from bespoke SAP assessments directly. BEIS highlight that evidence from previous ECO schemes shows bespoke scores are more complicated and likely to be open to fraud. BEIS found that pre-calculated deemed scores will result in a measure agnostic final score and ensure support is evenly distributed across property types.

Proposed approach to full project scores

2.6. In accordance with the above, we propose a system of deemed full project scores. Under this approach, pre-calculated scores can be selected from a table based on the intermediate SAP band before and after the retrofit project, and the size segment that the floor area of the premises falls within. The draft scores can be downloaded from our consultation webpage. The approach is explained further in the below sections.

Intermediate SAP bands

2.7. In a SAP assessment, the energy efficiency of a domestic premises is expressed by assigning it a band from A to G. The band is determined by the SAP rating, a numerical value between 1 and 100 based on calculated energy costs for the premises. Higher ratings indicate better energy efficiency. A rating between 1 and 20 relates to band G, 21 to 38 relates to F and so on. For the purposes of ECO4 scores, we have split SAP bands further into intermediate SAP bands (table 1).

2.8. Taking account of input from BEIS, we have developed full project scores based on intermediate SAP bands. We believe intermediate SAP bands provide a sufficiently granular scoring system, whilst reducing opportunity for score inflation, however we would welcome views on this approach.

2.9. Whilst SAP ratings are usually rounded to a whole number, one of our proposed options for determining the post-retrofit intermediate SAP band (see below section, "Determining starting and finishing SAP ratings") will give ratings to one decimal place. The intermediate band boundaries are therefore given to one decimal place.

Table 1: SAP rating range and corresponding intermediate SAP band.

SAP rating	Intermediate SAP band
Below 10.5	Low G
10.5 to 20.4	High G
20.5 to 29.4	Low F
29.5 to 38.4	High F
38.5 to 46.4	Low E
46.5 to 54.4	High E
54.5 to 61.4	Low D
61.5 to 68.4	High D
68.5 to 74.4	Low C
74.5 to 80.4	High C
80.5 to 85.9	Low B
86.0 to 91.4	High B
91.5 to 95.9	Low A
96.0 and above	High A

2.10. Scoring will be based on the improvement between intermediate SAP bands. For example, a band G premises will be categorised either a high or low band G, dependent on its starting SAP point.

2.11. Under the minimum requirement, the premises will be improved to a band D. The premises will be categorised as either a low or high band D dependant on its finishing SAP point, and the minimum requirement is met as long as the premises reaches the lower intermediate band (the low D band). The score awarded will consider if the premises began at a low or high G band and improved to either a low or high D band.

Total floor area segments

2.12. The size of a premises has a significant impact on energy costs and savings, as such the methodology will take floor area into consideration in accordance with the core requirements proposed by BEIS.

2.13. We propose to divide premises into four floor area segments and have produced a set of full project scores for each segment.

2.14. This categorisation of properties by floor area recognises the increased bill saving available in larger properties. Systems with different numbers of floor area segments were considered, but modelling carried out by BEIS indicated the above approach was most likely to result in an even spread of delivery across domestic premises sizes.

Table 2: Total floor area range by segment.

Floor area segment	Total floor area (TFA) range
1	<73m²
2	73m² ≤ TFA < 98m²
3	98m² ≤ TFA < 200m²
4	200m² ≤ TFA

Process used to develop full project scores

2.15. Ofgem have commissioned the Building Research Establishment (BRE) to produce the full project scores published with this consultation. The process used by BRE to determine the full project scores (FPS) is outlined below, and further detail can be found in the BRE methodology document on the consultation webpage.

2.16. The SAP specification defines the procedure for calculating the SAP rating from the annual running costs using the energy cost rating formulae[5] from SAP 2012. These equations are rearranged to make running costs the subject of the equations, and the following formulae can be used to calculate the annual running costs from a SAP rating and total floor area (TFA).

2.17. If SAP rating is less than 51.175, then:

$$\textbf{\textit{Annual running costs}} = \frac{\textbf{\textit{TFA}} + \mathbf{45}}{\mathbf{0.42}} \times \mathbf{10}^{(\mathbf{117} - \textbf{\textit{SAP rating}})/\mathbf{121}}$$

Otherwise:

$$\textbf{\textit{Annual running costs}} = \frac{(\textbf{\textit{TFA}} + \mathbf{45}) \times (\mathbf{100} - \textbf{\textit{SAP rating}})}{\mathbf{0.42} \times \mathbf{13.95}}$$

2.18. The set of full project scores was determined by calculating the annual running cost for each intermediate SAP band and floor area segments using the above equations and computing the difference between each possible pair.

2.19. The midpoint SAP rating of each intermediate SAP band was used in this process, as SAP ratings should be randomly distributed within each band. For example, to compute the annual running cost for the low F band, a mid-point SAP rating of 25.25 is used. The floor areas used were the median floor areas of ECO-eligible premises in

[5] SAP 2012 - Chapter 13: Energy Cost Rating, p.35. Further information can be found here: https://www.bregroup.com/sap/standard-assessment-procedure-sap-2012/

each segment, based on English Housing Survey data. For example, the median floor area of the properties in 73m²≤TFA<98m² segment is 83.5m².

Determining starting and finishing SAP ratings

2.20. In order to determine the full project score for a premises, suppliers will need to establish its starting and finishing SAP rating and floor area.

2.21. BEIS propose in their ECO4 consultation that the starting SAP rating and floor area can be determined via a pre-installation SAP assessment as part of PAS 2035[6] or a valid pre-installation EPC. The use of either SAP assessment or EPC will be covered in more detail in future consultations, as such will not be considered as part of this consultation. References to SAP assessments in this document should be taken to include RdSAP.

2.22. BEIS propose to allow Ofgem to determine appropriate evidence for the finishing SAP rating. This section outlines the two options we have developed and highlights the benefits and disadvantages of each. Our preferred option is to require an updated SAP assessment post-installation. We consider that this option best supports BEIS policy intent and, as outlined below, has a number of benefits.

2.23. However, we recognise the use of updated SAP assessments would also involve challenges. For example, a further update may be required where a measure is rejected[7]. A mechanism to take account of new measures not recognised in SAP is also required[8]. We have therefore developed an alternative option, which makes use of the partial project scores ("PPS", see section 3) to calculate the finishing SAP rating.

SAP assessment

2.24. To determine the finishing SAP rating of a premises, a SAP assessment could be carried out at the end of the project. This could be achieved by lodging a post-installation EPC or an updated SAP assessment. The latter could be completed as part of the PAS 2035 process. As at the start of a project, the retrofit coordinator must

[6] PAS 2035:2019 covers how to assess dwellings for retrofit, identify improvement options, design and specify Energy Efficiency Measures (EEM) and monitor retrofit projects.
[7] If an individual measure is rejected, with PAS 2035:2019 in place we would not expect to see a retrofit coordinator sign off on a project, the trigger point for the post SAP assessment to take place. Additionally, TrustMark now manages Technical Monitoring and we expect a reduction in the overall time for this process to take place, reducing the likelihood of rejections impacting the project after its completion.
[8] This is also a problem more generally for the project, as the Retrofit Co-ordinator may be unlikely to include a measure in the Medium-Term Improvement Plan where they can't determine the benefits to the premises

agree intended outcomes[9] and one of the suggested outcomes, outlined in PAS, is an improvement in SAP energy rating.

2.25. An updated SAP assessment would ensure the actual post-retrofit SAP rating for each specific premises is known. This would give greater certainty that the FPS, based on the starting and finishing intermediate SAP band, is correct for that premises.

2.26. The details of a SAP assessment would be held in TrustMark's Data Warehouse. Ofgem will also seek to gain direct access to any relevant data from the EPC register, and we understand there could be a similar option in future for the Data Warehouse although this is still to be confirmed.

2.27. It would also enable credit to be given for some higher-performing measures. For example, the PPS for the installation of a ground source heat pump (GSHP) assumes that the GSHP has an average seasonal performance factor (SPF). Where the finishing SAP rating is deemed based on PPS, a supplier would receive no benefit for installing an GSHP with greater than average SPF. In contrast, if an actual SAP assessment is carried out, the GSHP's specific details could be used.

2.28. This option would support additional benefits beyond scoring. For example, the finishing SAP assessment required at the end of each project would provide better data on the housing stock. This data could be used to develop future retrofit projects and to inform future policy development.

2.29. We understand that BEIS aim to ensure consumers are aware of the overall impact of the improvements made to the premises and are provided with a post-installation energy efficiency rating. A further benefit of this option is that ECO recipients would know the finishing SAP rating of the premises[10].

2.30. One disadvantage is that scores could be more open to misrepresentation, as determining the finishing SAP rating using a bespoke assessment could create an incentive to deliberately manipulate inputs to achieve a higher FPS. This would result in fewer properties meeting the minimum requirement in ECO4.

2.31. It's worth recognising that a Retrofit Coordinator must agree the intended outcomes for the project with the client. For the purposes of projects completed for ECO4, we would anticipate that one of these intended outcomes would include an improvement in energy rating to be in line with the minimum requirements set out in the BEIS

[9] PAS 2035:2019 – section 6.2. Further information can be found here: https://shop.bsigroup.com/ProductDetail/?pid=000000000030438503

[10] This is of increasing importance when letting or selling a house, particularly with Domestic Minimum Energy Efficiency Standard (MEES) Regulations designating specific SAP bands to comply with.

consultation. As part of the PAS 2035 process, an initial SAP assessment is carried out to determine the measures that must go into a project in order to reach the intended outcomes and meet the minimum requirements set by BEIS. The final SAP assessment validates the intended outcome has been met. The initial and final SAP assessments would be overseen by the Retrofit Coordinator. This limits the ability of any fraudulent behaviour to take place solely through this final assessment.

2.32. Opportunities for misrepresentation could be further mitigated where updated SAP assessments are used. For example, we expect that software solutions would emerge which can compare the XML data files underlying two SAP assessments, to help ensure that any differences are appropriate to the measures installed. The standardisation of PAS documents and lodgement on the Data Warehouse could also aid verification.

2.33. The method used to determine the finishing SAP rating will have an impact on the policy deflator BEIS choose to apply (see section 0). If a SAP assessment is used, the FPS would be based on an accurate representation of the premises, whilst the PPS would be based on a simplified deemed approach and will not be accurate for individual premises. A larger deflator will therefore be required to accommodate the variation between the two approaches and maintain the incentive to meet the minimum requirement. The precise impact of the methods on deflator size can only be assessed once we have developed the full set of PPS. Further information will be given in our second scoring consultation in the autumn.

2.34. A further disadvantage is that, if a measure is rejected after a project is notified as complete, a further updated SAP assessment would need to be calculated to omit the rejected measures. A lodged post-installation EPC may not be viable in this scenario, as EPC rules would prevent the omission of a measure which is present in the property, even if it is not ECO-eligible.

Calculated finishing SAP rating

2.35. We have developed an alternative option for determining a premises' finishing SAP rating. In this option an estimated finishing rating is calculated using the partial project scores and the starting SAP rating.

2.36. PPS give the typical bill saving of a measure in pounds. Under this approach, the typical single-measure SAP rating improvement would also be given. When a project is complete, the finishing SAP rating could be calculated by adding each measures' typical SAP rating improvements to the starting SAP point of the premises. This is illustrated in Appendix 2.

2.37. Initial feedback from stakeholders highlighted the importance of the certainty and ease of use provided by deemed PPS. If the above approach is used, the finishing SAP

rating would be easy to determine as the single-measure SAP rating improvements could simply be summed together. This means that only the premises' starting SAP rating, floor area and the installed measures would be required to work out the final score. The expected FPS would be easily determined at the start of the project, providing clarity to stakeholders.

2.38. Another benefit of this approach is that new measures which emerge during ECO4 (see section 0), which would not be included in a SAP assessment, could be easily integrated with existing measures[11]. Section 4 outlines a method for determining a single-measure SAP rating improvement for new measures, which does not require their inclusion in SAP.

2.39. This option would also simplify the exclusion of rejected measures from scores. If a measure is rejected after project completion and not rectified, but the project still meets the minimum requirement, the rejected measure is not included in the FPS. Under the previous option, a further updated SAP assessment would be required, however a new calculated finishing SAP rating could be much more rapidly determined.

2.40. The main disadvantage of this simplified approach is that PPS are based on averages taken across the national housing stock, and will not accurately represent bill savings and SAP improvements in each individual case. . This means that a calculated finishing SAP rating will not always match a premises' actual finishing SAP rating. Some discrepancy between awarded scores and actual savings is acceptable for PPS themselves as they are largely an interim mechanism. However, a discrepancy between FPS and actual savings is a potential issue, as FPS are the primary scoring methodology for the scheme.

2.41. For example, an initial SAP assessment determines a premises has a low G starting SAP band and a project devised by the retrofit coordinator[12] indicates that the installation of three measures will move the premises to a low band D. If the sum of the typical single-measure SAP rating improvements determines the premises is only a high E, then the project does not meet the minimum requirement.

[11] Although it is still to be determined how a Retrofit Co-ordinator would actually choose to include these measures in a project

[12] Retrofit coordinators are qualified to provide end-to-end project coordination (ie, from the inception of a retrofit project to handover and beyond, including undertaking basic monitoring and evaluation work), and to identify, assess and manage the technical and process risks associated with domestic retrofit projects.

2.42. If adopting this approach, we would require that the calculated SAP rating is used for scoring, even where it differs from a post-installation SAP assessment. This would help ensure that the calculated SAP improvements average out over the scheme to the actual SAP improvements. If delivery within the scheme favours particular types of projects or premises however, calculated SAP improvements and actual SAP improvements may no longer average out, undermining the Government's core objectives for the scheme.

2.43. We will continue to analyse these options as we fully develop the scores. At this stage our preference is to require an updated SAP assessment, however we recognise that there may be some instances where a calculated approach has more benefits.

2.44. We would welcome initial views on the options presented. We will combine these with the results of our ongoing analysis and present a full proposal in the second part of our scoring consultation in the autumn.

Table 3: Summary of options for determining the finishing SAP band.

Approach	Benefits	Disadvantages
Calculated finishing SAP rating	Easy to determine and verify Only one SAP assessment required for scoring purposes Easily updated if measure is changed or rejected	May not match the SAP rating for a specific property Does not encourage better performing measures
Updated SAP assessment	Accurate finishing SAP band Rewards better performing measures Provides data for future policy development and scheme evaluation Occupants receive a finishing SAP assessment	Higher gaming risk as SAP inputs could be manipulated PPS require a larger deflator Increased cost of an additional SAP assessment

3. Partial project scores

Section summary

BEIS intend that partial project scores will be awarded as each measure within a project is notified and approved. These are interim scores which represent a proportion of the bill saving improvement of the measure. Once the project is complete, the partial project score will be replaced by a full project score. We propose a system of deemed partial project scores, which would be selected from pre-calculated tables based on measure type, premises' starting SAP rating and floor area. We seeks views on this approach and our process for developing partial project scores. Example scores for ten measure types are set out, but we continue to develop scores for other measure types.

Questions

Question 6: Do you agree with the proposal to use pre-calculated deemed partial project scores based on the floor area, and starting intermediate SAP band?

Question 7: Do you agree with the process used to develop the partial project scores?

Question 8: Do you agree with the use of a single fixed correction factor to account for interactions between measures?

Question 9: Do you agree with the use of the actual percentage of property treated to determine the partial project score for a measure?

Question 10: Do you agree with our proposal to calculate the innovation measure uplift by using the partial project score for the innovation measure?

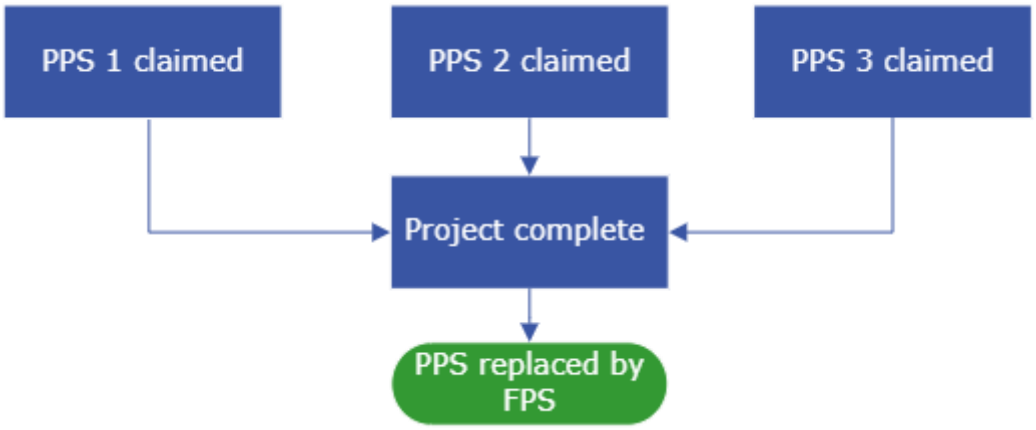
Proposed legislative requirements for partial project scores

3.1. The Government's consultation set out a requirement that a partial project score (PPS) must be awarded as each measure within a project is notified and approved. These are interim scores which represent a proportion of the full bill saving improvement of the measure. They are intended to reduce risk throughout the supply chain when moving to a whole project approach.

3.2. Furthermore, PPS will enable packages with individual rejected measures to be awarded a score and allow the innovation measure uplift to be applied to individual measures to support specific policy aims.

3.3. For the PPS to be claimed, the notified measure will need to be in line with the PAS2035 retrofit design and Medium-Term Improvement Plan (MTIP). Once a project is complete, if it meets the minimum requirement for SAP band improvements, all the PPS will be replaced with a full project score (FPS) (Figure 2).

Figure 2: PPS for each measure claimed and then replaced by FPS.



3.4. We understand that development of a methodology for determining partial project scores will be part of our role as administrator for ECO4.

3.5. As set out by BEIS in their consultation, the PPS must comply with the same core requirements as full project scores. That is, they should be based on the difference in average annual energy bill expenditure between the starting SAP rating (pre-installation) and the finishing SAP rating (post installation), with regard given to the floor area of the premises.

3.6. BEIS also propose that all PPS are deflated, by a rate of 30-40%, to maintain an incentive on industry to complete the project and meet the minimum requirement for each property.

3.7. The calculation-based approach for determining the finishing SAP rating of a premises described in section 2 requires average SAP rating improvements to be determined for each measure, in addition to PPS. The development of these individual measure SAP rating improvements is also covered in this section.

Proposed approach to partial project scores

3.8. We propose creating a system of deemed scores, based on the average annual bill saving achieved by a measure when installed in a premises with a given starting intermediate SAP band and floor area segment. To support the calculation-based option for determining a project's finishing SAP rating, each PPS also has an associated typical single-measure SAP rating improvement.

3.9. A set of example PPS have been generated for ten common ECO measures. These are available on the consultation webpage, and their use within projects is illustrated in appendix 2. It is important to note that the measure types and scores have been created to illustrate our approach and are not final. We continue to develop PPS for all ECO measures, and will seek views on these in our second consultation on ECO4 scoring, planned for the autumn.

3.10. Our approach to PPS will enable ECO participants to determine the PPS for a measure with just three variables:

- the measure type,
- the starting intermediate SAP band,
- and the floor area segment for the premises.

3.11. For example, a cavity wall insulation (CWI) measure installed in a premises with a low E starting SAP band and floor area of 80m^2 (73≤TFA<98) would be awarded a deflated PPS of £111[13].

3.12. We propose that the PPS for all measures within a project will be determined using the same starting intermediate SAP band. In practice, the premises' SAP rating will improve as measures are installed, however reassessing the SAP rating after each measure would introduce additional complexity for participants. It would also mean that the PPS for a measure is dependent on the order of installation.

3.13. Once a project is complete, all of the individual PPS will be replaced by a full project score based on the finishing intermediate SAP band. As set out in section 0, we have developed two options to determine the finishing SAP band.

3.14. We believe pre-calculated deemed PPS will provide clarity to stakeholders, as the PPS for each measure will be known from the start of a project. Using a deemed approach for PPS is also likely to be more familiar for stakeholders, as a deemed score approach has been used in ECO3.

3.15. The option to calculate the PPS using a SAP-based software tool was also explored. In this option, a bespoke PPS could be calculated for each measure installed in each individual premises.

3.16. However, we identified a number of potential issues with this option. Principally, we felt there was a risk that inputs could be altered to falsely achieve a higher score and potentially lead to the minimum requirement not being met in practice.

[13] The tables with example partial project scores have been published alongside this consultation.

3.17. Furthermore, this option would not give the supply chain the same level of certainty, as the PPS would be unknown until after the SAP assessment is complete and retrofit project is developed. The PPS would also depend on the order of installation, with earlier measures receiving higher scores.

3.18. Given the number of potential issues identified for the bespoke SAP calculation and feedback from stakeholders suggesting that they are strongly in favour of deemed PPS, we have chosen to consult on our preferred deemed PPS approach.

3.19. We recognise that deemed PPS based on averages may not be reflective of the actual bill savings achieved by a measure. However, using deemed PPS simplifies the process by removing the need to collect the data required for a bespoke SAP assessment, and removes the layer of complexity associated with making the relevant measurements.

3.20. Another benefit of using a deemed PPS approach is that measures which are not included in SAP can be integrated within this approach, and have a deemed PPS created (see section 0).

Process for developing partial project scores

3.21. We have worked closely with the BRE to develop the process used to produce the PPS. The process has been used to create PPS for ten example measures, and we continue to develop PPS for other measure types.

3.22. To calculate the PPS associated with a measure, typical dwellings in each floor area segment and starting intermediate SAP band were modelled, both with and without each example measure. For each measure type, intermediate SAP band and floor area segment, the differences in annual energy cost and SAP rating were averaged. Adjustments were applied to smooth the results and account for discontinuities in the modelling. This process is described further in the methodology document published with this consultation.

3.23. The final step in the development of the PPS is the application of a correction factor, to account for interactions between measures.

Correction factor

3.24. To create the PPS and single measure SAP rating improvement, a proposed correction factor of 6.8% is applied to the average annual bills saving and SAP rating improvements determined by modelling.

3.25. The simplified nature of the scoring methodology means the interaction between measures would not otherwise be accounted for, and the PPS and single-measure SAP rating improvements would be overestimated as projects get larger.

3.26. This is best illustrated when an insulation measure and a heating measure are installed as part of the same project. In this example, the insulation measure is installed in the premises first. As insulation reduces the heating demand of the premises, the saving achieved by the subsequent installation of the heating system is reduced. Conversely, the installation of a more efficient heating system will also reduce the saving achieved by the subsequent installation of insulation in a premises. Ultimately, the combined savings of both measures will be less than the sum of their individually calculated savings.

Determining the correction factor

3.27. To derive the correction factor, a set of test projects were developed using ten measures for which example PPS have been created. The impact on SAP ratings and annual energy costs of the projects were then determined two different ways. In the first, the project was modelled as a whole, to determine the combined impact of all measures including their interactions. In the second, the impact of each measure on the premises was modelled individually, and added together at the end. The first method gives the actual impact of the project, whereas the second mirrors the proposed PPS approach.

3.28. Across the test projects, it was found that the average ratio between the results of the first and second methods was 0.932. To account for this when creating the PPS and single-measure SAP rating improvement tables, a correction factor of 6.8% is applied to the modelled results for the individual measures. This means that, across a large number of projects, the sum of the PPS should on average match the actual cost saving of the projects.

3.29. In practice the reduction caused by the interaction between measures will vary with the measures being combined. For example, the correction factors we propose are higher than would be required if considering insulation-only projects in isolation. This is due to there being less interaction between insulation measures.

3.30. We are considering different approaches to the correction factor which would enable differences such as the above to be accounted for. For example, a second set of scores with a lesser correction factor could be produced for insulation-only projects – or alternatively, an uplift could be applied to PPS in such projects. Both these approaches would mean that the correction factor applied to PPS for mixed (insulation plus heating) projects would be increased.

3.31. Another option to minimise the correction factor involves altering the starting SAP band with each measure installed. For example, an insulation measure installed to a premises with a low F intermediate SAP band improves the premises to a low E. If a

heating measure was subsequently installed, the supplier could claim a PPS based on the premises having a low E intermediate SAP band. This option would mean the PPS depend on the other measures installed within a project.

3.32. On balance, our preferred option is single fixed correction factors for PPS and SAP rating PPS, as it will reduce complexity and simplify administration. We believe a single factor will also provide certainty the supply chain, as the PPS will remain independent of other measures installed in the project.

3.33. Further analysis of correction factors will be carried out as we develop the full set of PPS for ECO4. The factors set out above illustrate our intended approach but will be updated in our second scoring methodology consultation.

Policy deflator

3.34. As proposed by BEIS, all PPS will be deflated to maintain the incentive on industry to complete the confirmed projects and reach the minimum requirement for each premises. BEIS intend for deflation rates to be set at around 30-40% of the full PPS, subject to the final PPS methodology. We have used a deflation rate of 40% in our consultation for illustrative purposes.

3.35. BEIS expect a rate within this range to result in the deflated PPSs remaining high enough to allow installers to be paid for work at least in part. However, this is a provisional rate, and more analysis is required for BEIS to determine the final deflation rate.

3.36. Uplifts awarded mid-retrofit (see Appendix 1) will be deflated until the minimum requirement is met and the project is complete.

3.37. The policy deflator is in addition to the correction factor (described above) as both rates serve a different purpose. The correction factor is part of the process of determining the PPS, and under our current preferred approach would not be visible to scheme participants in score tables or guidance.

3.38. Once a project is complete, and the minimum requirement is met, all the PPS will be upgraded to a full project score (see section 0). The full project score is based on the difference in starting and finishing SAP band achieved by the whole package of measures. As the full project score is not measure specific, there is no need to apply a correction factor.

Percentage of property treated

Partial project scores

3.39. Where a measure does not treat the entire property, the score should be scaled down to reflect the proportion of the property which was actually treated. We call this approach 'Percentage of Property Treated' (POPT).

3.40. In the current ECO3 scheme, an average treatable area factor is applied to the deemed scores for each measure type. This means suppliers can claim the full deemed score for a measure provided that at least 67% of the property is treated. Where less than 67% of the property is treated, suppliers are currently required to calculate a more appropriate score using the exact percentage of property treated.

3.41. However, in some cases this policy has resulted in a score of more than 100% of a score being claimed. For example, in ECO3, if a heating system is installed with two pre-main heat sources it is possible for the POPT to be notified as more than 100%.

3.42. In ECO4, percentage of property treated will apply to the partial project score claimed for each measure installed. The PPS for each measure does not have an average treatable area factor applied.

3.43. We propose to simplify the policy in ECO4 and allow the POPT to be calculated based on the actual percentage of property treated for each measure. Using the formula below:

$$\boldsymbol{A\ X\ B = PPS\ claimed}$$

Where:
'A' is the relevant PPS for the measure.
'B' is the percentage of the property treated, rounded to the nearest 10.

3.44. We propose to capture POPT as part of a measure notification. This is so that the score claimed for a measure can be verified taking this information into account.

Full project scores

3.45. The above POPT calculation only applies to the PPS for each measure. For the full project score, the POPT will be accounted for through the methodology used to determine the finishing SAP rating.

3.46. The option to calculate the finishing SAP rating based on PPS (see section 0), would already have POPT included in PPS for each measure. This means there would be no need to apply POPT separately to the FPS.

3.47. If the finishing SAP rating is determined by a post-retrofit SAP assessment (see section 0), then this will automatically take account of partial installations. This means there is no need to apply POPT separately to the FPS.

Use of partial project scores for the application of uplifts, caps and rejections

3.48. The PPS will also be used as a method of assigning scores to individual measures to allow:

- uplifts to be applied to individual measure types,
- minimum requirements or maximum caps to be placed on the delivery of certain measure types and
- scores to be awarded to packages with rejected measures.

3.49. As set out by BEIS in their consultation, innovation measures will be eligible for either a 25 or 45% uplift. We understand the intent is that, the uplift should be applied to the proportion of the full project score that the innovation measure accounts for.

3.50. We propose to calculate the value of an innovation measure uplift by applying the relevant percentage directly to the PPS for the innovation measure. This mechanism would allow the innovation uplift to be applied to the deflated PPS as soon as the innovation measure installation is notified and approved.[14] After project completion, the uplift would be recalculated using the un-deflated PPS. The uplift will not count towards the minimum requirement. An example project with an innovation measure can be found in Appendix 2.

3.51. BEIS set out their intention for certain measures to be capped at a percentage of a supplier's obligation. This includes innovation measures and pay for performance measures, both capped at no more than 10% of a supplier's obligation. Partial project scores will also be capped at between 20-30% of a supplier's obligation.

3.52. The deemed PPS enables a fuel bill saving to be assigned to each individual measure, based on the starting intermediate SAP band and floor area. This will allow progress towards the above caps based on the supplier's obligation to be monitored.

3.53. Where a rejected measure cannot be rectified, either a deflated PPS or a full project score can be claimed for the remaining compliant measures[15]. This is designed to

[14] Although BEIS's consultation stated the innovation measure uplift would only be awarded once a retrofit project is complete, we understand this may be reconsidered.
[15] Outlined in BEIS ECO4 consultation – paragraph 262 -271.

ensure that suppliers, and in turn installers, are not penalised by the entire package score being rejected.

3.54. Where a measure is rejected, and the project does not meet the minimum requirement at the point of notification, deflated PPS will be awarded to the remaining compliant measures.

3.55. This also applies to uplifts based on the full package score. If the project does not meet the minimum requirement, the uplift will be applied to the deflated PPSs for the eligible compliant measure.

3.56. In all rejection instances, the rejected measure would not count towards the supplier's score for that package. An example demonstrating a project with a rejected measure can be found in Appendix 2.

4. Alternative methodology

Section summary

BEIS propose two routes whereby suppliers may apply for scores to be created for new measures which emerge during the scheme. One continues our existing alternative methodology route for measures which are included in SAP, or which are not in SAP but have a large amount of evidence to support savings. The second is a new "data light" route for measures not recognised in SAP. This is intended to allow for the creation of scores based on less extensive evidence than that required for SAP inclusion. Delivery of measures approved through this latter route will be capped. This section sets out our plans for implementing these routes.

Questions

Question 11: Do you agree with our proposal to have two routes for new measures to enter the ECO4 scheme – a standard alternative methodology route and a new "data light" route?

Question 12: Do you agree with our proposed evidence requirements for the data light route? If not, please inform us of your preferred requirements.

Question 13: Do you think we should have additional mechanisms, such as a review stage or an open call for evidence, to account for the inherent risk associated with data light scores?

Proposed alternative methodology requirements

4.1. The alternative methodology process is intended to allow for cases where there has been development in the energy efficiency market, so that measures which can achieve quantifiable energy bill savings can be included in ECO4.

4.2. The current scheme, ECO3, uses a measure-specific deemed scoring approach. Where no suitable deemed score is published for a new energy efficiency measure, a supplier can apply for a new set of deemed scores or an alternative scoring methodology.

4.3. However, only a small number of measures have successfully gone through this route in ECO3, and we have received feedback which indicates the application process may be too onerous, which could act as a barrier for new technologies to enter the scheme.

4.4. BEIS intend that the ECO4 scheme's scoring requirements should not be prohibitive of new measures being delivered through the scheme. We also want to ensure the

process is clear and the evidence requirements are reasonable, while still being robust enough to form the basis of an ECO score.

4.5. The overarching scoring methodology in ECO4 is based on the SAP, as such only measures recognised in SAP can be scored through this approach. SAP is reviewed periodically, and new measures are included where robust data is available to support the scores achieved. However, we understand the data requirements required for new measures to enter SAP may be a barrier for some newer technologies.

4.6. Therefore, two routes are proposed whereby suppliers may apply for scores to be created for new measures which emerge during the scheme. One is a standard alternative methodology route for measures which are included in SAP, or which are not in SAP but have a large amount of evidence to support savings. For the latter, we would expect evidence to be of a similar quality as is required for SAP inclusion[16].

4.7. The second is a new "data light" route for measures not recognised in SAP. This is intended to allow for the creation of scores based on less extensive evidence than that required for SAP inclusion.

4.8. The flow chart in the Appendix 4 details the mechanism we propose for determining new scores.

Scope

4.9. To be eligible under ECO4, measures must be able to demonstrate an energy saving when heating domestic premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas. We also expect the assumptions underlying calculated savings for measures to be consistent with the SAP methodology.

4.10. As set out by BEIS, any new measures will be required to be recognised within the TrustMark Framework and PAS and MCS standards where possible. Where a measure falls outside of the scope of TrustMark, PAS and MCS, BEIS intend to mandate a suitable equivalent standard of installation and consumer protection[17].

4.11. We propose that applications are considered for measure types, rather than specific products. This is in line with our ECO3 policy where a score cannot be reserved for a named product.

[16] The SAP Appendix Q process allows new technologies to be recognised in SAP. More information at: https://www.ncm-pcdb.org.uk/sap/page.jsp?id=20
[17] Outlined in BEIS ECO4 consultation – paragraph 407 -415. BEIS consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

4.12. Creating a score for a measure type is more efficient than for a product type as there will be fewer updates needed to the register, guidance documents and monitoring questions. It also ensures scores which can be used by any supplier and ensures we do not favour specific products.

4.13. However, we recognise that there can be variations within measure types, and it may be challenging for a single product manufacturer to work with a supplier and develop an application to fit a whole measure type.

4.14. Therefore, where possible, we will encourage manufacturers of similar products to work together with a supplier to apply for a new measure type. This will allow the application to be based on more supporting evidence and ensure the measure description fits a greater range of products.

4.15. Once the alternative methodology application is approved for a new measure type, if a specific product can demonstrate an improvement compared to other similar systems, the named product can be rewarded with an uplifted score through the Innovation Measure route[18].

Alternative methodology routes

Data light score route

4.16. If a measure is not recognised in SAP, an obligated supplier can partner with the product manufacturer to develop an application for a new measure type and a new data light score.

4.17. We suggest that the supplier provides the following information as part of an application for a data light score:

- Description of measure type and how the measure meets the eligibility criteria.
- Is the applicant working towards SAP inclusion for the measure. If not, details on why the measure cannot be included in SAP at this stage.
- Energy bill saving mechanism and details of the calculation methodology.
- Supporting evidence for bill savings.
- All relevant installation standards, technical specifications and expected guarantees.
- Provisional technical monitoring questions.

[18] Outlined in BEIS ECO4 consultation – chapter 8. BEIS consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

4.18. Our aim is to ensure the process for obtaining a data light score is more accessible to new technologies and we propose that the evidence requirements are less demanding than those required for ECO3 or SAP inclusion.

4.19. However, we will expect evidence and supporting studies to be scientifically robust and sufficiently independent of commercial bias. We expect to see evidence from smaller scale field trials, laboratory tests, or analysis which supports the claimed bill savings. We will also require evidence to include a detailed methodology description, such that we can have confidence that the measure itself has been the cause of bill savings being achieved.

4.20. We acknowledge that the supporting evidence requirements for bill savings will differ depending on the measure type. Therefore, we propose that the scale of any study varies depending on how the measure results in a bill saving. For example, a measure which results in a saving independently of user interaction would require a smaller sample size than a measure that relies on user behaviour. Further guidance will be provided on the supporting evidence requirements.

4.21. We propose all applications submitted by a given date (e.g. each quarter) are reviewed together. As part of the review process, we will seek input from industry experts. The review will be based on the data provided at the time of application, and any other data we consider relevant.

4.22. If the application is approved, we intend to create a set of data light partial project scores for the measure and convert the proposed bill saving into a SAP rating improvement. For example, an average deemed cost and SAP rating improvement for each floor area segment and starting intermediate SAP band could be produced (table 4). This would allow the data light measure to be integrated with the existing PPS.

4.23. The SAP rating improvement can be derived without the measure being included in SAP. This would be done by adapting SAP's procedure for calculating the SAP rating from the annual running costs using the energy cost rating formulae[19].

4.24. The data light measures would be installed as part of the retrofit project and the PPS would be notified and claimed in the same manner as PPS for existing ECO4 measures (see section 0).

4.25. However, we recognise that this may be more challenging for measures not included within PAS standards as the measure is less likely to be included in the Medium-Term

[19] SAP 2012 – Chapter 13: Energy Cost Rating, p.35. Further information available at: https://www.bregroup.com/sap/standard-assessment-procedure-sap-2012/

Improvement Plan. We understand BEIS and BSI are currently evaluating the PAS review process to allow amendments and the addition of new measures on more of a continuous basis.

Table 4: Example set of PPS for a data light measure

73≤TFA<98	Starting SAP Band							
Data light measure	High D	Low D	High E	Low E	High F	Low F	High G	Low G
Saving (£/yr)	37	38	41	44	50	56	64	73
SAP rating improvement	3.5	3.7	3.8	3.8	3.8	3.6	3.4	3.0

4.26. BEIS propose that the measure will contribute towards the minimum requirement and the full project score claimed. However, the measure would not be reflected in a SAP assessment of the premises, as the measure is not actually recognised in SAP.

4.27. We intend to require that, before determining the finishing intermediate SAP band for a project and its full project score, the SAP rating improvement created for the data light measure is added to the finishing SAP rating determined for the premises based on the other measures in the project. This method would ensure the contribution of the data light measure is recognised, whichever approach to determining the finishing SAP rating of a premises is taken forwards (see section 0). The method is illustrated in Appendix 2.

4.28. There is an inherent risk that scores produced using a reduced amount of data are less accurate. As a mechanism to mitigate this risk BEIS propose that, across the scheme no more than 5,000 of each 'data light' measure can be delivered per year. This will be distributed across suppliers based on the size of their obligation.

4.29. We have considered additional potential mechanisms to mitigate this risk and would welcome views on the options outlined below.

4.30. For example, assigning a data light PPS to a measure type for a set amount of time. This could be for the remainder of the obligation phase. At the end of the phase, we would have the ability to review any new evidence and potentially revise the PPS associated with the data light measure type. Any revision would only be applied to future measures and would not be applied retrospectively to notified measures.

4.31. During the review stage we could implement an open call for evidence for other parties who may have data to come forward and have their findings considered. If there is no new evidence, the existing data light score could be offered an extension to the end of the next obligation phase. This would ensure scores produced using a reduced amount of data are regularly reviewed and any new evidence is considered.

Standard alternative methodology route

4.32. The standard alternative methodology route applies to:

- Measures which are recognised in SAP but are not yet an ECO4 measure.
- Measures which are not in SAP but have a significant amount of evidence to support energy bill savings.

4.33. Applications can be made in respect of measures which have previously been awarded a data-light score, where SAP inclusion has been achieved or additional evidence collected. We would expect evidence to be of a similar quality as is required for SAP inclusion[20]. For these measures, a successful application would mean delivery is no longer subject to the data light measure annual cap.

4.34. The application is designed to ensure the measure can be notified correctly and can be integrated with partial project scores.

4.35. A supplier will partner with the product manufacturer to develop the application. We propose the application is reviewed against the following areas:

- Description of measure type and how the measure meets the eligibility criteria.
- If not included in SAP - details on why the measure cannot be included in SAP at this stage.
- Energy bill saving mechanism and details of the calculation methodology. This should be logical and consistent with the ECO4 scoring framework.
- Supporting evidence for the bill saving – we would expect this to be of a similar level required for SAP inclusion.
- All relevant installation standards, technical specifications and expected guarantees.
- Provisional technical monitoring questions.

4.36. The application will be reviewed in accordance with the process described above and if approved, the measure can be installed under ECO4 as part of a package of measures.

4.37. As above, the measure will contribute towards the minimum requirement and the full project score claimed. Deemed PPS could be created for each new measure, following the same process as above, which would enable the measure to be integrated with existing PPS (see section 0).

[20] The SAP Appendix Q process allows new technologies to be recognised in SAP. Further information available at: https://www.ncm-pcdb.org.uk/sap/page.jsp?id=20

4.38. We suggest that the measure scores awarded via this route apply for the remainder of ECO4. This is due to the savings being supported by a significant amount of evidence which allows a greater degree of confidence.

5. Appendices

Table 5: Index of appendices

Appendix 1 – Uplifts and exemptions

This appendix outlines score uplifts and minimum requirement exemptions, and their point of application within the scoring methodology. Uplifts and exemptions are covered in detail in BEIS's ECO4 consultation[21].

Uplift	Point of application
Broken efficient boiler and electric storage heater repair and replacement uplifts	Partial project score
Innovation uplift	Partial project score
Hard-to-treat uplift	Partial project score
Off mains-gas uplift	Full project score
Pay-for-performance	Full project score
LA flex route 4 - bespoke targeting	Full project score

Hard-to-treat homes

- Properties that require remedial work to rectify faults, such as cracks in the building fabric or damp issues, ahead of energy efficiency measure installation are referred to by BEIS as 'hard-to-treat' (HTT) homes and is outlined in their consultation.
- BEIS propose to allow hard-to-treat uplifts to be claimed for E, F and G premises. The uplifts aim to cover the cost of rectifying hard-to-treat issues ahead of measures being installed.
- The uplift is applied using the following equation:

$$Uplift = \frac{HTT\ spend\ (mid\ point\ of\ cost\ category)}{cost\ per\ £\ bill\ saving\ of\ improving\ the\ household}$$

- The HTT spend is determined by one of three cost range categories, which the actual cost falls into, to the nearest pound: low (£0-200), medium (£201-500) and high (£501-£1000) and the HTT spend is based on the mid-point of the relevant cost range category.

[21] BEIS ECO4 consultation – Chapter 4. BEIS consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

Minimum requirement exemptions

- BEIS recognises that not all eligible domestic premises will be able to meet the minimum requirement due to unique circumstances.
- BEIS proposes allowing exemptions to the minimum requirements in defined circumstances. Exemptions refer to situations where it is determined that measures that are needed to meet the minimum requirement cannot be installed, or where meeting the minimum requirements would create unacceptable or undesirable outcomes.
- The proposed exemptions for minimum requirements are legislative requirements and are outlined in the BEIS consultation document. Properties improved that meet one of the exemption criteria will be scored using the full project score.
- The proposed exemptions for minimum requirements are legislative requirements and are outlined in the BEIS consultation document.

Appendix 2 - Project examples

Project A – Standard project

- As part of PAS 2035, a pre-retrofit SAP assessment will be carried out. This is used to inform the design of the retrofit project and the required measures.
- The starting point of the premises is shown in the table below:

Starting SAP rating	34
Starting intermediate SAP band	High F
Floor area segment	73 – 98m^2
Minimum requirement	Band D

- Three measures are identified to be installed in the premises: solid wall insulation (SWI) 1.7, floor insulation and a gas boiler upgrade[22].
- The measures are installed in the order set out by the PAS retrofit design and the supplier notifies each measure individually to the ECO4 Register.
- Each measure notification is approved, and a deflated partial project score (PPS) can be claimed by the supplier. It is anticipated this will enable suppliers to release some funds to installers without waiting for the whole project to be approved.

Measure	Deflated PPS (£/yr)
Solid Wall Insulation (SWI) 1.7	219
Floor insulation	40
Gas boiler upgrade	143
Total interim PPS score	**402**

- Once all three measures are installed, the premises will move from **a high F** starting SAP band to a **low D** finishing SAP band.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment.

Measure	SAP point improvement
Solid Wall Insulation (SWI) 1.7	14.5
Floor insulation	2.3
Gas boiler upgrade	8.8
Total SAP point improvement	25.6
Finishing SAP rating	**59.6** [34 + 25.6]

[22] Upgrade of an inefficient boiler (non-condensing) to an efficient boiler (condensing)

- Evidence of a Certificate of Lodgement, denoting that the project has completed, will be required for the PPS to be upgraded to a full project score of **£576**[23].

Project B – Rejected measure

- In Project A above, if the gas boiler upgrade measure is flagged as an invalid duplicate measure, then the boiler measure will be rejected.
- The rejected measure score will not count towards the supplier's total score for that package.
- The rejected measure means the premises no longer meets the minimum requirement in practice.
- A deflated PPS can be claimed for the remaining compliant floor insulation and SWI 1.7 measures.
- The total score awarded based on the sum of the deflated PPS is **£259.**

Measure	Deflated PPS (£/yr)
Solid Wall Insulation (SWI) 1.7	219
Floor insulation	40
~~Gas boiler upgrade~~	~~143~~
Total interim PPS score	**259**

Project C – Innovation uplift

- A "standard" 25% uplift will be awarded to innovation measures that demonstrate a relative improvement against their standard counterparts.
- If the SWI 1.7 measure in Project A is a "standard" innovation measure, it is eligible for a **25% uplift**.
- As each measure is notified and approved, a deflated PPS can be claimed.
- The innovation measure uplift will be calculated by applying the percentage to the deflated partial project score for the innovation measure:

  0.25 x 219 = 54.75

- Once the project is complete, and the minimum requirement is met, the PPS will be upgraded to a full project score of **£576**.
- The total score claimed is **£667.50** [576 + 91.50]. This is the FPS plus the un-deflated uplift for the innovation measure.

[23] The tables with proposed full project scores and example partial project scores have been published alongside this consultation.

Project D – Exemptions

- Exemptions are intended to cover situations where a premises is not suitable for specific measures that are needed to meet the minimum requirement.
- The starting point of the premises is shown in the table below:

Starting SAP rating	16
Starting intermediate SAP band	High G
Floor area segment	98-200m²
Minimum requirement	Band D

- Three measures are identified to be installed in the premises: solid wall insulation (SWI) 1.7, floor insulation and an air source heat pump (ASHP).
- If the premises is a listed building which cannot receive the SWI measure, and the PAS improvement option evaluation (IOE) does not contain any other suitable measures, the minimum requirement cannot be met.
- The premises is still eligible for the floor insulation and ASHP measures.
- Deflated PPS can be claimed for both measures as they are notified and approved.

Measure	Deflated PPS (£/yr)
Replace direct electric heaters with ASHP	759
Floor insulation	63
Total interim PPS score	**822**

- Once the project is complete, the premises will go from a **high G** starting SAP band to a **high E** finishing SAP band.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment

Measure	SAP point improvement
Replace direct electric heaters with ASHP	32.6
Floor insulation	2.0
Total SAP point improvement	34.6
Finishing SAP rating	50.6 [16 + 34.6]

- A final Certificate of Lodgement will be required for the PPS to be upgraded to a full project score of **£1329**.

Project E – Hard to treat uplift

- If a premises has cracks in the building fabric it could be eligible for the hard-to-treat uplift to rectify the issues.
- The starting point of the premises is shown in the table below:

Starting SAP rating	27
Starting intermediate SAP band	Low F
Floor area segment	98 - 200m^2
Minimum requirement	Band D

- The installer spends £400 rectifying the cracks in the premises, meaning the project is eligible for an uplift of 11.68.[24]
- The uplift is claimed mid-retrofit as part of PPSs and is deflated by 40%:

$$11.68 \times 0.6 = 7.01$$

- Two measures are identified to be installed in the premises: Replacement of the direct electric heaters with an air source heat pump, and double glazing.

Measure	Deflated PPS (£/yr)
Replace direct electric heaters with ASHP	620
Double glazing	134
Total interim PPS score	**754**

- Once the project is complete, the premises will go from a **low F** starting SAP band to a **high D** finishing SAP band.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment.

Measure	SAP point improvement
Replace direct electric heaters with ASHP (no controls)	30.7
Flat roof insulation	5.7
Total SAP point improvement	36.4
Finishing SAP rating	63.4 [27 + 36.4]

- Once the project is complete, and the minimum requirement is met, the PPS will be upgraded to a full project score of **£1080** and the uplift is un-deflated to **£11.68**, giving a total score of **£1091.68**.

[24] Methodology outlined in BEIS ECO4 consultation – paragraph 311-316. BEIS consultation can be found here: https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

Project F – Broken boiler uplift

- If a premises has a broken efficient boiler, the project is eligible for the boiler replacement uplift of £60.
- The starting point of the premises is shown in the table below:

Starting SAP rating	30
Starting intermediate SAP band	High F
Floor area segment	Under 73m^2
Minimum requirement	Band D

- Once the new boiler is installed and notified, the deflated uplift can be claimed for the boiler measure.
- The PAS retrofit design has also identified the following measures to be installed in the premises:

Measure	Deflated PPS (£/yr)
Solid Wall Insulation (SWI) 1.7	93
Flat roof insulation	222
Double glazing	64
Broken efficient boiler replacement	60 x 0.6 = 36
Total interim PPS score	**415**

- Once all measures are installed, the premises will move from a **high F** starting SAP band to a **low D** finishing SAP band.
- The boiler uplift does not contribute towards the minimum requirement.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment

Measure	SAP point improvement
Solid Wall Insulation (SWI) 1.7	6.2
Flat roof insulation	15.9
Double glazing	4.0
Broken boiler uplift	_
Total SAP point improvement	26.1
Finishing SAP rating	56.1 [30 + 26.1]

- A final Certificate of Lodgement will be required for the PPS to be upgraded to a full project score of **£485.**
- The deflation rate on the broken boiler uplift is removed, giving a total score of **£545.**

Project G – Band D project

- If a premises has a **low D** starting SAP band, to meet the minimum requirement the premises must be improved to at least a **band C.**
- The starting point of the premises is shown in the table below:

Starting SAP rating	60
Starting intermediate SAP band	Low D
Floor area segment	98-200m²
Minimum requirement	Band C

- The PAS retrofit design identified only one measure to be installed in the premises: flat roof insulation.

Measure	Deflated PPS (£/yr)
Solid Wall Insulation (SWI) 1.7	203

- Once the measure is installed; the premises will go from a **low D** starting SAP band to a **low C** finishing SAP band.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment

Measure	SAP point improvement
Solid Wall Insulation (SWI) 1.7	14.4
Finishing SAP rating	74.4 [60 + 14.4]

- The minimum requirement is met and the full project score of **£382** can be claimed.

Project H – Data light measure

- The starting point of the premises is shown in the table below:

Starting SAP rating	42
Starting intermediate SAP band	Low E
Floor area segment	<73m^2
Minimum requirement	Band C

- Three measures are identified to be installed in the premises: flat roof insulation, cavity wall insulation (CWI) and a data light measure.
- The measures are installed in the order set out by the PAS retrofit design and the supplier notifies each measure individually to the ECO4 Register.

- Each measure notification is approved, and a deflated partial project score (PPS) can be claimed by the supplier.

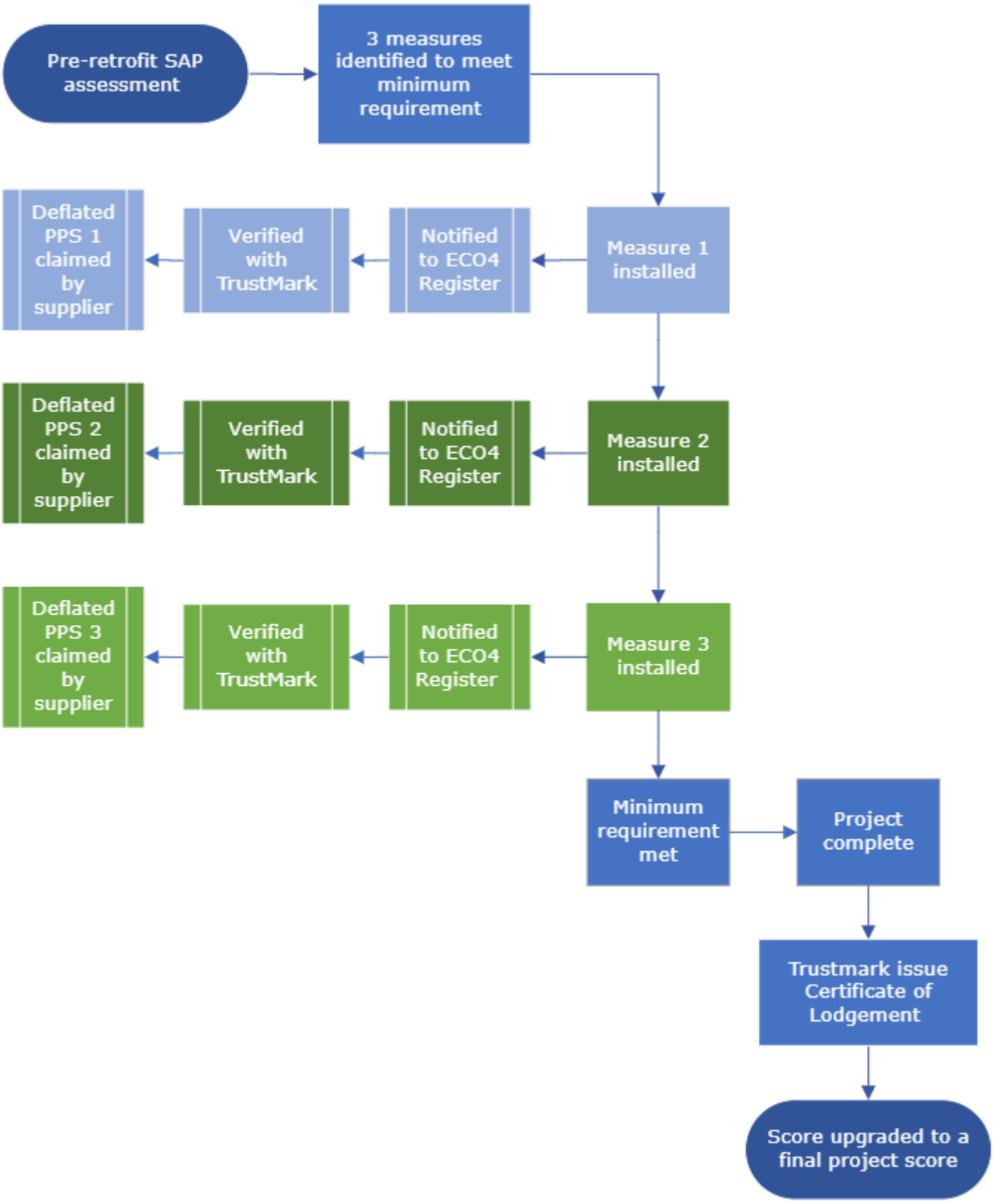
Measure	Deflated PPS (£/yr)
Flat roof insultation	178
Cavity wall insultation	42
Data light measure	*114*
Total Interim PPS score	**334**

- Once all three measures are installed, the premises will move from **a low E** starting SAP band to a **low C** finishing SAP band.
- The finishing SAP band could be determined by adding the sum of the typical single-measure SAP rating improvement to the starting SAP point (outlined below) or by an updated SAP assessment.
- The SAP point improvement created for the data light measure is included in this calculation. This allows the data light measure to contribute towards the minimum requirement.

Measure	SAP point improvement
Flat roof insultation	16
Cavity wall insultation	3.6
Data light measure	*9.0*
Total SAP point improvement	28.6
Finishing SAP rating	70.6 [42 + 28.6]

- Evidence of a Certificate of Lodgement will be required for the PPS to be upgraded to a full project score of **£537**.
- The data light measure will not be reflected in a SAP assessment of the premises, as the measure is not actually recognised in SAP.

Appendix 3 - Project flow diagram



Appendix 4 – Alternative methodology process

Appendix 5 – Glossary

A

Alternative methodology is a process to enable new eligible measure types to be included in ECO, where they emerge during a scheme.

Annual bill expenditure the money that is spent on heating fuel bills over a year.

Annual bill savings is the money that would be saved by a measure or project over a year in heating domestic premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas.

B

BEIS means the Department for Business, Energy and Industrial Strategy

BRE means the Building Research Establishment

C

A **Certificate of Lodgement** is required for measures to be approved as a qualifying action. TrustMark will issue a Certificate of Lodgement once the project retrofit coordinator has signed off the project and submits a lodgement.

A **correction factor** is a fixed percentage decrease of all partial project scores. A correction factor is implemented to avoid a higher saving being awarded to the installation of an individual measure than would be due when installed as part of a package of measures.

D

Data light is the proposed alternative methodology route for measures not recognised in SAP. This route would enable scores to be produced using a reduced amount of data than through the standard alternative methodology route.

Deemed scores are pre-calculated scores that can be selected from a table based on the intermediate SAP band before and after the retrofit project, with consideration to the total floor area of the premises.

All partial project scores will be subject to a **deflator**, to maintain the incentive on industry to complete the confirmed projects and reach the minimum requirement for each premises. The deflator is in addition to the correction factor

Dwelling is a structure being used as a home.

E

Eligible premises is a domestic premises which meets ECO's eligibility criteria.

F

Final or **finishing intermediate SAP band** is the intermediate SAP band of a premises once all energy efficiency measures in a project have been installed.

Full SAP band is the band determined by the SAP rating, a numerical value between 1 and 100 based on calculated energy costs for the premises. The energy efficiency of a domestic premises is expressed by assigning it a band from A to G, as illustrated in a full SAP assessment.

Full project scores are proposed to be awarded in respect of packages of measures installed in eligible premises. Full project scores would be based on the difference in expected annual energy costs between the premises pre-retrofit starting intermediate SAP band and its post-retrofit finishing intermediate SAP band.

We propose to divide eligible premises into four **floor area segments** when awarding full project scores. We have produced a set of full project scores for each segment.

H

Hard-to-treat uplifts are proposed for existing construction defects or structural defects or leaks, that need to be repaired before any retrofit work can proceed.

I

Innovation measure is a product which we consider demonstrates a moderate or significant improvement on other products within the same measure type. We will set out an application process for products to be recognised as innovation measures in subsequent consultations.

An **intermediate SAP band** is the division of a full SAP band into 'low' and 'high' sub-bands based on the full SAP band's midpoint.

M

Measure types are categories of ECO-eligible energy efficiency measure, each of which will have distinct partial project scores.

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

Midpoint SAP rating is the median within the range of SAP points that constitutes an intermediate SAP band.

The **minimum requirement** is a legislative requirement proposed by BEIS, where the SAP band improvement achieved by premises treated under ECO4 must reach a certain threshold. It is proposed that band G and F premises should be improved to at least a band D, and band E and D premises should be improved to at least a band C.

P

A **partial project score (PPS)** is an interim score that is awarded as each measure within a project is notified. Partial project scores represent a proportion of the full bill saving improvement of the measure.

PAS means Publicly Available Specification – see https://shop.bsigroup.com/ProductDetail/?pid=000000000030438503**.**

Phase means one of the phases of the scheme as follows:

- **Phase 1:** 1 April 2022 – 31 March 2023,
- **Phase 2: :** 1 April 2023 – 31 March 2024,
- **Phase 3: :** 1 April 2024 – 31 March 2025, and
- **Phase 4: :** 1 April 2025 – 31 March 2026.

Policy deflator (see deflator)

Pre-installation SAP assessment is a SAP assessment carried out at the start of a project and before the installation of energy efficiency measures.

Q

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

R

A **rejected measure** is an individual measure that does not comply with scheme requirements.

S

SAP rating a numerical value between 1 and 100 based on calculated energy costs for the premises. The SAP rating is expressed on a scale of 1 to 100, the higher the number the lower the running costs.

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

Seasonal performance factor (SPF) is the average Coefficient of Performance (CoP) of a heat pump over the full heating season. The CoP is the ratio of heat output (in kilowatts) over the electrical input (in kilowatts) at any one time.

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. References to SAP in this document should be taken to include RdSAP.

Starting intermediate SAP band is the intermediate SAP band of a premises prior to the installation of energy efficiency measures under ECO4.

T

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

U

Un-deflated in relation to scores, is the partial project score without the policy deflator applied.

Uplifts are applied to scores where required by legislation and mean that the score for a measure is higher than would be the case were it based on bill savings alone.

V

Valid EPC means an EPC which has been lodged and is less than ten years old, and has been produced in accordance with the SAP/RdSAP methodology.

W

Whole-house approach is a concept which considers the house as an energy system with interdependent parts, each of which affects the performance of the entire system.

Appendix 6 – Privacy notice on consultations

Personal data
The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer
The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data
Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data
As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

3. We will not be sharing personal data with any organisations outside of Ofgem.

4. Your personal data will be held until 6 months past the beginning of the scheme.

5. Your rights
The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law.

  You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

6. Your personal data will not be sent overseas

7. Your personal data will not be used for any automated decision making.

8. Your personal data will be stored in a secure government IT system.

9. More information For more information on how Ofgem processes your data, click on the link to our "Ofgem privacy promise".