

# Response to ECO2 consultation: Deemed scores

## Consultation Response Document

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### Overview:

On 27 May 2016 we consulted on our proposed approach to the implementation of a system of deemed scores for use in the ECO scheme from 1 April 2017, if introduced in legislation.

This document summarises the responses to our consultation and details our final position. Where relevant, we also explain where we were unable to incorporate suggestions. If deemed scores are introduced in legislation the approach outlined in this document will apply to relevant measures installed under the ECO scheme from 1 April 2017.

## Associated documents

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### **Ofgem E-Serve Guidance**

Energy Company Obligation (ECO2) Guidance: Administration:

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-administration>

Energy Company Obligation (ECO2) Guidance: Delivery:

<https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-2015-17-eco2-guidance-delivery>

### **Legislation**

The Electricity and Gas (Energy Company Obligation) Order 2014:

<http://www.legislation.gov.uk/ukxi/2014/3219/contents/made>

### **Ofgem E-Serve consultation documents**

ECO2 consultation: deemed scores

<https://www.ofgem.gov.uk/publications-and-updates/eco2-consultation-deemed-scores>

### **Department for Business, Energy & Industrial Strategy (BEIS) consultation documents**

Energy Company Obligation (ECO): Help to Heat

<https://www.gov.uk/government/consultations/energy-company-obligation-eco-help-to-heat>

### **Other**

Guidance on Ofgem E-Serve's approach to consultations:

<http://www.ofgem.gov.uk/About%20us/BetterReg/Pages/BetterReg.aspx>

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## Context

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The Energy Company Obligation (ECO) is a Government scheme which requires larger energy companies to deliver energy efficiency measures to domestic premises in Great Britain. The current scheme runs from 1 April 2015 to 31 March 2017 and is referred to as ECO2. It succeeds ECO1, which ran from 1 January 2013 to 31 March 2015. ECO is administered by Ofgem E-Serve.

We published our consultation on deemed scores in May 2016 on the understanding that the Department for Business, Energy and Industrial Strategy (BEIS) intended to consult on changes to ECO2 from 1 April 2017. One change was on the approach used to calculate savings for ECO measures.

Under the current scheme, carbon and cost savings are calculated using the Standard Assessment Procedure (SAP)<sup>1</sup> or the Reduced Data Standard Assessment Procedure (RdSAP) which both require a whole house survey to be completed in order for the savings of an energy efficiency measure to be calculated. This approach results in measure savings which are bespoke to the property where the measure was installed.

We understood that Government would propose a finite system of deemed scores for calculating savings for ECO measures from 1 April 2017. We developed our proposals early on the basis that if deemed scores were introduced from April 2017, the ECO supply chain would need sufficient time to prepare in advance of implementation.

The consultation and associated documents were published on 27 May 2016. The documents published were as follows:

### **Deemed scores consultation**

This document outlined our proposed approach for the implementation of deemed scores should they be introduced from 1 April 2017.

### **Ofgem deemed scores methodology**

This document, co-written by the Building Research Establishment (BRE)<sup>2</sup> and Ofgem E-Serve, describes the methodology for developing the deemed scores.

### **Proposed deemed scores**

The proposed deemed scores, developed using the aforementioned methodology.

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<sup>1</sup> As defined in article 2(2) of the [ECO2 Order](#)

<sup>2</sup> <http://www.bre.co.uk/>

# 1. Consultation overview

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We received 73 responses to the consultation: nine from energy companies (of which eight are obligated suppliers under ECO2), 20 from manufacturers or trade associations, 14 from installers, 12 from consultancies, six from local councils, four from non-governmental organisations, three from scoring/accreditation bodies and three from domestic energy assessors (DEAs) or DEA bodies. Two responses were confidential.

The following chapters consider each consultation question in turn. For each question that had a Likert scale<sup>3</sup>, a chart summarising the responses is given, followed by a discussion of the most pertinent points. Our decision is then outlined, describing any changes we have made to our proposed approach as a result of the responses received.

Several respondents used the consultation to share their disagreement with a move to a deemed scores approach and did not directly address the specific questions asked in the consultation. As the scheme administrator, we sought views on how to administer a replacement of the current scoring approach with deemed scores in the event that BEIS implement the changes as they have proposed. The decision on whether or not to move to deemed scores is addressed as part of the BEIS Help to Heat consultation.

The views on the move to deemed scores as a whole have not been discounted from the charts shown throughout this document but in some cases these views have skewed the results more toward 'disagree' or 'strongly disagree'. Where the feedback to a question has been significantly affected in this way, we have provided the number of responses which had such views.

In developing our final policies, we considered all of the points raised by each of the respondents even if they are not specifically mentioned in this document. All of the responses, apart from the two that are confidential, are published on our website.

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<sup>3</sup> A scale used to represent people's attitudes to a topic, typical responses are 'Agree', 'Disagree', 'Strongly Agree' etc.

## 2. Responses to question 1

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### Q1 Do you agree with our selection of the key variables to use as the main inputs for calculating the deemed scores?

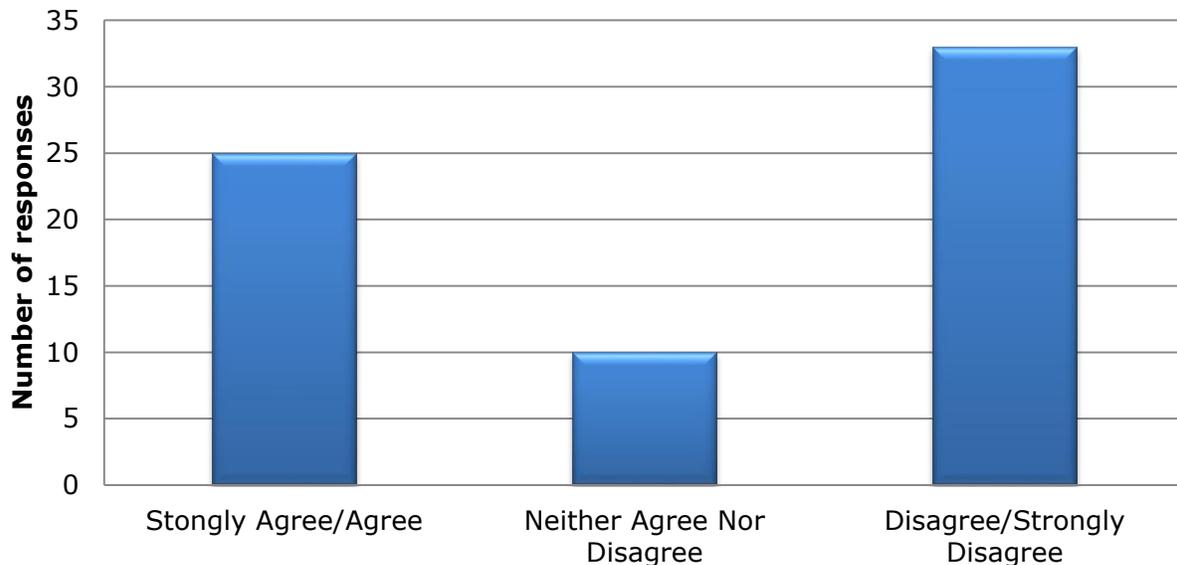


Figure 1: Chart of responses to Q1

- 2.1. Sixty-eight stakeholders responded to Q1 and Figure 1 shows their responses.
- 2.2. The most popular response was 'disagree' or 'strongly disagree'. Fourteen (42%) of these were responses that disagreed with the overall move to deemed scores.
- 2.3. We proposed that deemed scores should be calculated by reference to three variables: property type, measure type and primary heating system. Respondents who selected 'strongly agree' or 'agree' stated that these variables were sensible for use in calculating deemed scores. Many of these respondents agreed that the variables used have a significant impact on the savings and believed that the inputs would be easy to identify and verify. Several respondents said that the use of these variables as main inputs would simplify the scheme.
- 2.4. Some respondents who selected 'disagree' or 'strongly disagree' suggested that the deemed scores be calculated with reference to alternative variables. The most popular of these are outlined below.

#### **Property age**

- 2.5. Several respondents proposed differentiation by property age, suggesting that older properties would be less energy efficient and would therefore have higher associated savings. Many of these cited the example that a house built in the 1980s with cavity walls should not get the same score for a boiler installation as a house built before 1900 with solid walls.

- 2.6. The age of a property is not a defining factor for the size and shape of a dwelling. A split of the scores by age would assume key characteristics about the property, such as ceiling height and floor area, which can differ significantly between properties of any age and which have a big impact on savings. Therefore relying on age alone would lead to situations where the scores are highly inaccurate.
- 2.7. Furthermore, BRE investigations highlighted it would not necessarily be a good indicator of the existing levels of insulation of a property. Energy efficiency schemes have been driving the installation of insulation in poorly performing homes of various ages since the 1990s. As an example, the number of properties treated with loft insulation as a result of government schemes account for a third of the housing stock in Great Britain. Similarly, the number of properties treated with cavity wall insulation as a result of these schemes is equivalent to 23% of the total. The figures based on delivery up to 2013 are in Table 1.

	Total installations through EESop3, EEC1, EEC2, CERT, Warm Front and ECO1 <sup>4</sup>	As % of total GB dwellings <sup>5</sup>
Loft insulation	<b>8,637,920</b>	<b>33%</b>
Cavity wall insulation	<b>5,854,908</b>	<b>23%</b>

*Table 1: Retrofit installations through government schemes up to 2013*

- 2.8. It is not clear exactly which properties have received measures through these schemes but delivery was targeted, to an extent, toward older properties. Therefore we consider that splitting property archetypes based on the year they were built would not accurately reflect the savings of the installation.

### **Wall construction**

- 2.9. We do agree with several of the responses which highlighted that wall type can have a material impact on savings for heating measures. We have therefore chosen to distinguish the deemed scores for heating measures based on the wall type of the property. This approach accounts for the performance of wall types and the average levels of insulation for these wall types. There is more detail in Chapter 7.

### **Regional variation**

- 2.10. Another suggestion put forward by some stakeholders was to include regional variation as a key variable. Some respondents thought that properties in certain regions, particularly those at the outer borders of Great Britain, would perform significantly differently to a 'typical' property and so the savings would vary.

<sup>4</sup> [Green Deal and Energy Company Obligation \(ECO\): headline statistics \(November 2015\)](#), [Warm Front Evaluation Report](#) (March 2014), [Cert Final Report](#) (May 2013), [EEC2 Review](#) (August 2008), [EEC1 Review](#) (August 2005), Audit office report (July 2004)

<sup>5</sup> Approximately 26 million dwellings in Great Britain in 2013 ([UK Housing Fact File 2013](#))

- 2.11. Before the deemed scores were developed, the BRE found that regional variation in Great Britain does not have a significant effect on savings compared to the other factors we are including. We will therefore not introduce this variable.

### **Insulated and non-insulated properties**

- 2.12. Some respondents suggested that we differentiate the deemed scores depending on whether or not a property is insulated. With the exception of the U-value differentiation of solid wall insulation (SWI) measures, the proposed deemed scores did not make this distinction.
- 2.13. We agree that the presence of existing insulation can materially affect savings, however splitting the deemed scores by 'insulated' and 'non-insulated' properties would be contrary to two key objectives for the deemed scores: that the scores are easy to use and easy to verify.
- 2.14. If the scores were differentiated based on the presence of insulation, this would need to be verified in order to select the correct deemed score. This makes it difficult for the ECO supply chain to determine the potential deemed score before visiting a property, and in some cases an intrusive inspection might be needed to see if there is insulation already present.
- 2.15. This is also an issue post-installation. After the measure has been installed, a technical monitoring agent would have to determine the level of insulation that was present before the measure was installed. As previously mentioned, we do not wish to introduce substantial evidence requirements. In the absence of such evidence it would be difficult for a technical monitoring agent to verify that the correct deemed score has been selected.
- 2.16. For the reasons above, we will not pursue this proposal at this time.

### **Wall types for heating measures**

- 2.17. Some respondents considered that external wall type is a key variable when determining savings, particularly with regards to heating measures. Some cited analysis which showed considerable differences between the scores for heating measures in solid wall properties and cavity wall properties.
- 2.18. As mentioned above, we agree that wall type is an important variable for heating measures and have introduced further differentiation in the deemed scores for this category, based on whether a property has solid or cavity walls. More details can be found in Chapter 7.

**Q1 - Key revisions**

- Heating measures will be differentiated by wall type

### 3. Responses to question 2

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**Q2 - Do you agree with the method used in developing typical property archetypes in order to remove the need for measuring property dimensions?**

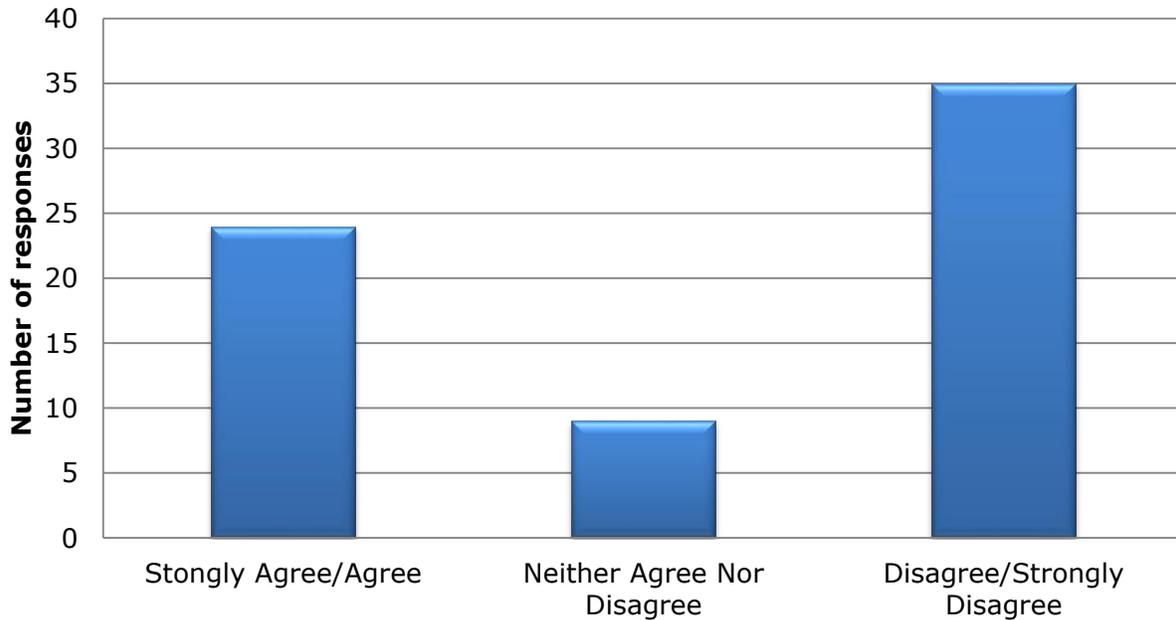


Figure 2: Chart of responses to Q2

- 3.1. Sixty-eight stakeholders responded to Q2 and their responses are shown in Figure 2. Fourteen of those who selected 'disagree' or 'strongly disagree' (40%) disagreed with the overall move to deemed scores.
- 3.2. Several respondents agreed with the proposed differentiation by property types. Respondents who agreed considered that the archetypes achieved a manageable balance of reflecting the housing stock while also delivering ease of use, an objective of the deemed scores.
- 3.3. Of the respondents who disagreed, responses centred on certain key themes which are discussed below.

#### **Background assumptions**

- 3.4. Some respondents highlighted that the proposed scores developed for the 'Flat/Maisonette' archetype were disproportionately low and analysis was provided which supported this. We have investigated this to ensure that the scores are based on robust assumptions. As a result of these investigations we have made a number of adjustments to the assumptions behind the property archetypes, which include:
  - The assumptions relating to corridors adjacent to flats have been amended to better reflect reality

- The assumptions for floor area and number of stories have been adjusted to account for the mean average of the housing stock
- 3.5. These revisions have had varying impacts on all scores. Scores for flats have increased proportionally, bringing them more in line with other archetypes. Scores for certain measure types, such as wall insulation, have also increased.

### **Bedrooms**

- 3.6. Many respondents thought that the guidelines were ambiguous for identifying the number of bedrooms a property has, and that a study, a play room or a connected conservatory may be considered a bedroom under the proposed guidelines.
- 3.7. We appreciate that in some cases determining the number of bedrooms might be an area of uncertainty. In light of the feedback received we have further clarified the guidelines we published alongside the proposed deemed scores, to set out that a connected conservatory should not be considered a bedroom for the purposes of selecting a deemed score.

### **Differentiation of flats and maisonettes**

- 3.8. Some respondents did not agree with the proposal to combine flats and maisonettes in to a single archetype due to the perceived difference in size of the dwelling types and the larger external wall area for a maisonette when compared to a typical flat.
- 3.9. Some respondents highlighted that other attributes of flats could provide further differentiation, such as the number of external heat loss walls and the position of the flat in a high-rise block.
- 3.10. We agree that flats and maisonettes are significantly varied in nature and this should be reflected in the deemed scores. As such we have developed separate deemed scores for flats and maisonettes. Our definition of a maisonette is a flat with two or more storeys. For clarity, we would not consider an enclosed 'porch' area leading to an external door and a staircase to be a full storey.
- 3.11. Furthermore, it is clear from our analysis that the number of external heat loss walls is an important factor in calculating savings in flats. The number of external heat loss walls is also relatively easy to identify. We have therefore split the deemed scores for flats and maisonettes in to 'two or fewer external walled' and 'three or more external walled' options.
- 3.12. It should be noted that splitting the scores for flats and maisonettes by 'two or fewer external walled' and 'three or more external walled' is generally representative of a flat with 50% heat loss external wall area and 75% heat loss external wall area respectively.

- 3.13. Because of the varied shape and size of flats and maisonettes, there may be occasions where the number of external walls may be greater than two, but the overall heat loss area of the property is less than 50%. In this case, the two or fewer external walled option should be used.
- 3.14. We understand that the position of a flat in a high-rise block, specifically whether it is a bottom floor, middle floor or top floor flat, can have an impact on savings. However, we considered this further differentiation would add unnecessary complexity when combined with the above changes.
- 3.15. It is important to note that this factor is not relevant when considering loft insulation savings, and in the case of wall insulation installations, we would expect that every storey in the block would be treated so in these cases taking an average is most appropriate.

#### **Four-bedroom detached bungalows**

- 3.16. Some respondents suggested including an archetype for four bedroom detached bungalows. Some were concerned that the proposed 'three+ bedroom' archetype did not provide a sufficiently accurate estimate for a four-bedroom detached bungalow (which was cited as being a popular property type in the housing stock).
- 3.17. The English Housing Survey<sup>6</sup> includes a small sample (less than 30) of four-bed detached bungalows. This indicates that their prevalence in the overall housing stock is not significant and it isn't a strong basis to develop a new property archetype on. Respondents did not provide any evidence which challenged the English Housing Survey data nor did they provide any additional data which could be used to develop deemed scores for this property archetype. We have therefore not developed an additional archetype for four bedroom detached bungalows and consider that the deemed score for a 'three+ bedroom detached bungalow' (which takes account of four bedroom detached bungalows) should be used instead.

#### **Park homes**

- 3.18. Some respondents highlighted that the assumption used for park homes (ie that park homes meet the building standard BS3632;1981) would not be an accurate reflection of the park homes which are most likely to be treated under ECO.
- 3.19. Respondents stated that many park homes were likely to have been built before this standard was introduced. Generally speaking, park homes built to earlier standards are less energy efficient and so their inhabitants are more likely to experience higher energy costs.

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<sup>6</sup> <https://www.gov.uk/government/collections/english-housing-survey>

- 3.20. However, no evidence was provided which contradicted the building standards assumption used. We will therefore retain the use of this standard as an assumption for park homes.
- 3.21. Some respondents said they were concerned about the accuracy of using a detached bungalow as a proxy for a park home when selecting a deemed score for heating measures. Concerns were centred on the argument that the fabric of a detached bungalow is more energy efficient than that of a typical park home, and so the scores would not accurately reflect savings.
- 3.22. The BRE have advised us that the detached bungalow archetype does reflect the performance of a park home to a reasonable degree of accuracy. This is due to the typically larger size of a bungalow, which would mitigate the fact that the thermal performance of a typical bungalow is better than that of a typical park home. We will therefore continue to follow this approach if the deemed scores are implemented.
- 3.23. For clarity, when using the detached bungalow archetype as a proxy for a park home the number of bedrooms selected should remain the same. For example, when selecting a score for a heating measure installed in a park home with two bedrooms, the two-bedroom detached bungalow archetype should be selected.

### **Hard-to-treat properties**

- 3.24. Some respondents thought that the deemed scores should distinguish between delivery of cavity wall insulation to properties with 'standard' and 'hard-to-treat' cavities.
- 3.25. Although we understand that the costs associated with the insulation of a hard-to-treat cavity may be higher than the insulation of a standard cavity, the deemed scores reflect the savings which can be achieved rather than the cost of installing a measure. Furthermore, no evidence was provided which demonstrated that savings differ between standard cavity and hard-to-treat cavity measures, and based on measure savings notified under ECO1 (when hard-to-treat cavity measures were differentiated), the savings of insulating hard-to-treat cavities do not differ significantly from standard cavities. We therefore will not differentiate the deemed scores for cavity wall insulation in this way.

### **Oversized properties scoring methodology**

- 3.26. A small number of responses proposed introducing a separate scoring methodology for properties which are significantly larger or 'oversized' when compared to the 'average' assumed size for each archetype. This approach was used in previous energy efficiency programmes.
- 3.27. As our proposed approach uses an average floor area for each property archetype, the deemed scores could under-represent the savings for a property of the same bedroom count but with a larger than average floor area. However, introducing a

mechanism for oversized properties would run counter to the objective of simplicity as the floor area of individual properties would need to be accurately measured to determine whether they were 'oversized' and if so, by how much. These measurements would also need to be verified which adds further complexity and cost.

- 3.28. We will therefore not introduce a methodology for scoring oversized properties at this time.

### **Rural distinction**

- 3.29. Two respondents suggested distinguishing between properties in urban, suburban and rural areas, arguing that properties in these regions will perform differently.

- 3.30. Respondents did not outline the factors which would lead to differences in performance of properties in these areas, nor did they provide any evidence to support that such a distinction would result in materially different savings. Therefore, we do not propose to introduce this distinction.

### **Other datasets**

- 3.31. There were some suggestions that datasets other than English Housing Survey data could be used to develop the property archetypes. Suggestions included using existing ECO data or data from Energy Performance Certificates (EPCs).

- 3.32. In ECO2 we collect floor area data for each measure notified but this is not a variable we wish to introduce. The data collected under ECO is not necessarily an accurate reflection of the Great Britain housing stock as the supply chain will tend to target larger properties which offer higher savings. Furthermore, this data reflects the properties which have been treated, rather than those which need to be treated in future.

- 3.33. When notifying measures under ECO, we only collect property information to the level of House, Bungalow, Flat, Maisonette and Mobile Home. We would therefore not be able to develop more detailed archetypes, so there would be a very low level of differentiation that would lead to significant inaccuracies. For example, a small mid-terrace house would have the same score as a large detached house. Additionally, the approach would require measurement of the property before installation, which would need to be verified and would therefore oppose the objective of introducing a simple approach for a deemed score system.

- 3.34. Our experiences under ECO have shown that EPC data can also be prone to error. We have reservations over using this dataset as the basis for the deemed scores. We do not have sufficient confidence that archetypes developed using these data sources would be an accurate reflection of the housing stock.

**Q2 – Key revisions**

- Flat/Maisonette archetype split into separate scores for flats and maisonettes
- Flat and Maisonette archetypes split into two or fewer external heat loss walls and three or more external heat loss walls

## 4. Responses to questions 3 and 4

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### Q3 - Do you agree with the approach to accounting for all primary heating sources present in the housing stock?

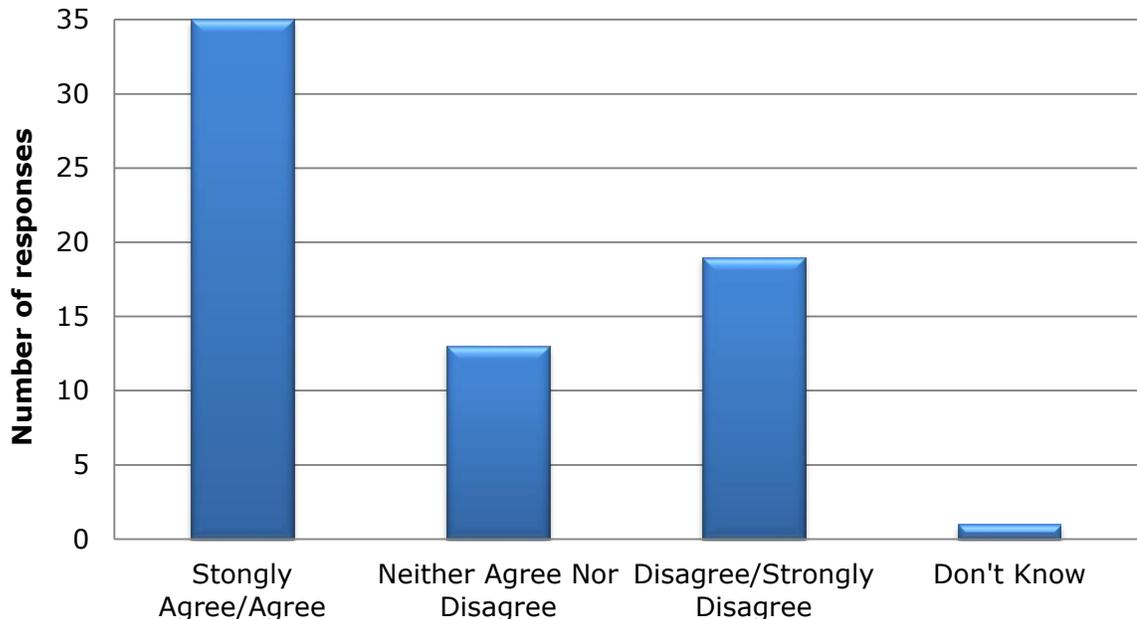


Figure 3: Chart of responses to Q3

- 4.1. Sixty-eight stakeholders responded to Q3 and their responses are shown in Figure 3. Most agreed or strongly agreed with our approach to accounting for heating sources.
- 4.2. Respondents largely agreed that the primary heating sources selected provided a reasonable level of differentiation, that the majority of heating sources in the housing stock were adequately represented and that the primary heating sources selected would be easy to identify. Some respondents did however raise questions around assumed proxies for more rare primary heating sources and some other suggestions were made which are detailed below.

#### Assumed system efficiency for mains gas

- 4.3. Many respondents thought that the assumed system efficiency used for the 'Gas boiler' primary heating source (83%) was not reflective of the properties likely to be treated in ECO, and that such properties would probably have boilers with a lower efficiency.
- 4.4. As outlined in the deemed scores methodology document, the assumed average efficiency was calculated by taking an average or typical efficiency of the related

heating system in the EHS 2013 data and Domestic Energy Fact File<sup>7</sup> data up to 2011. However, we identified that the assumptions used to calculate the average efficiency accounted for a 2% increase on the annual level of improvement of a typical boiler.

- 4.5. We have opted to remove this factor as we consider that the projected figures were not based on sufficiently robust data. Therefore the assumed system efficiency for mains gas as a primary heating source will be set at 81%.

#### **Identification of primary heating source**

- 4.6. Several respondents had concerns that the person required to identify the appropriate deemed score may not have the relevant expertise to select the primary heating source appropriate for the property. This could lead to an erroneous deemed score being selected. Several of these respondents suggested that a Domestic Energy Assessor is more qualified to make this determination.
- 4.7. We appreciate this concern, as selecting the correct primary heating source is a fundamental aspect of selecting a deemed score. However, in the vast majority of cases we do not believe it will be difficult to make this determination. If a member of the supply chain is unsure about the current heating system we would expect them to research the relevant information or seek advice to be satisfied that they have selected the correct input.

#### **Update assumptions annually**

- 4.8. Some respondents thought that the use of SAP 2012 to determine fuel prices of different primary heating sources would quickly become outdated. Some of these respondents suggested that revising these assumptions each year would therefore be beneficial.
- 4.9. As outlined in the deemed scores methodology document, the fuel prices in SAP 2012 are updated every six months, and those which were used for the proposed deemed scores were generated in January 2016. It is important to note that the current proposal is for deemed scores to be used in an extension to ECO2. During this time there would be limited fuel price revisions. Should deemed scores be used in any future scheme, we would consider updating fuel prices (and potentially other dynamic assumptions).

#### **Bottled propane for park homes**

- 4.10. There were a number of respondents who suggested that there should be a primary heating source for bottled propane, as they are particularly common in park homes.

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<sup>7</sup> [Domestic Energy Fact File and housing surveys](#)

There were concerns that the use of an LPG boiler as a proxy would significantly underestimate the savings for what is a particularly inefficient fuel type.

- 4.11. As outlined in the deemed scores methodology document the primary heating sources were selected based on their prevalence in the UK housing stock. It is important to note that distinct scores for bottled LPG room heaters have been provided for park home insulation measures, as we understand that it is a particularly prevalent heating source in park homes.
- 4.12. In terms of cost savings, BRE data has shown that an LPG boiler is the best choice of proxy for bottled propane central heating. However, the same data has shown that heating measures replacing bottled propane room heaters produce savings more similar to electric room heaters. We have therefore introduced this as a proxy for this primary heating source.

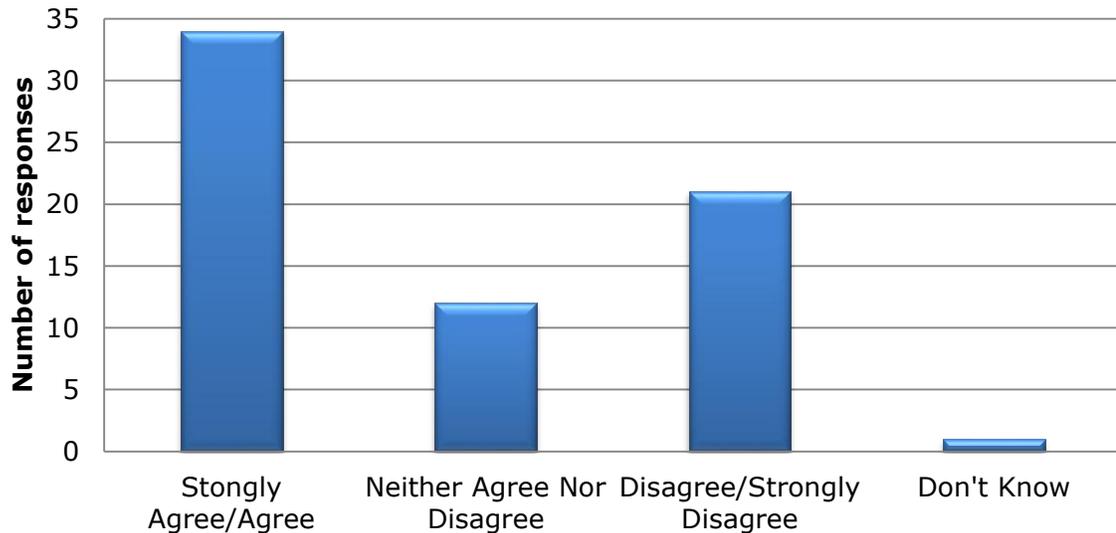
### **Condensing and non-condensing boilers**

- 4.13. Some respondents suggested that the differences in typical efficiencies between condensing and non-condensing boilers are sufficiently large that the primary heating sources warrant further differentiation to reflect this.
- 4.14. We agree with the principle that such differentiation could incentivise delivery to householders with higher energy costs but we have concerns over the implications of this split in practice.
- 4.15. If we introduced this it would mean that in order to determine savings for a measure before installation, an installer or supplier would have to identify whether the boiler is condensing or non-condensing through an inspection or by contacting the householder. This opposes a key objective of the implementation of deemed scores, simplicity.
- 4.16. Additionally, some respondents highlighted the potential difficulties in identifying the heating type of a property for some members of the supply chain (particularly for installers of insulation). This further separation would increase the risk of misidentification. The difference between the scores may also increase this risk.
- 4.17. Finally, from 1 April 2005 UK building regulations have stipulated that any replacement gas or oil boiler must be a condensing boiler. In the UK boilers are typically replaced every 10 to 15 years, and a typical ECO insulation measure has a lifetime of between 36 and 42 years. It is therefore likely that a property fuelled by a non-condensing boiler would have it replaced over the lifetime of a measure installed under ECO, so an ECO insulation measure installed in a home heated by a non-condensing boiler would be unlikely to deliver the deemed savings over its lifetime.
- 4.18. For these reasons we do not plan to pursue this proposal.

**Q3 – Key revisions**

- Assumed system efficiency for mains gas boiler set at 81%
- Introduction of primary heating source proxy for bottled propane room heaters

**Q4 - Do you agree that we have appropriately accounted for heating systems present in the housing stock either as an input for the deemed scores or in Table 1<sup>8</sup>?**



*Figure 4: Chart of responses to Q4*

- 4.19. We received sixty-eight responses to Q4 and Figure 4 shows their feedback. The responses to this question highlighted several heating systems for which an appropriate proxy had not been determined.
- 4.20. We have investigated these heating systems and identified the appropriate proxies to be selected in determining a deemed score. We outline the examples cited and associated proxies in Table 2 below. This table will form part of our guidance.
- 4.21. Proxies were selected by comparing BRE data on energy delivery and efficiency of various heating sources and determining which provided similar cost and carbon savings. This table will form part of our guidance and may be updated over the course of the scheme.

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<sup>8</sup> 'Table 1' here refers to the table on page 10 of the deemed scores consultation

Response to ECO2 Consultation: Deemed scores

Primary heating system	Deemed score proxy heating system	
	Carbon savings	Cost savings
None present	Electric room heaters	Electric room heaters
Gas district heating system	Gas boiler	Gas boiler
Oil district heating system	Oil boiler	Oil boiler
LPG district heating system	LPG boiler	LPG boiler
Oil room heater	Electric room heaters	LPG boiler
Heat pumps central heating	Gas boiler	Oil boiler
Wood central heating	0	Solid fossil fuel boiler
Wood room heating	0	Solid fossil boiler
Electric Underfloor Heating	Electric storage heaters	Electric storage heaters
Gas-fuelled warm air systems	Gas boiler	Gas boiler
LPG-fuelled warm air system	LPG boiler	LPG Boiler
Electric-fuelled warm air system	Electric boiler	Electric boiler
LPG room heater	Oil boiler	Electric room heaters

*Table 2: Rarer heating systems and their appropriate proxies for use as primary heating systems within deemed scores*

## 5. Responses to question 5

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### Q5 - Do you agree that the deemed scores include all main measure types?

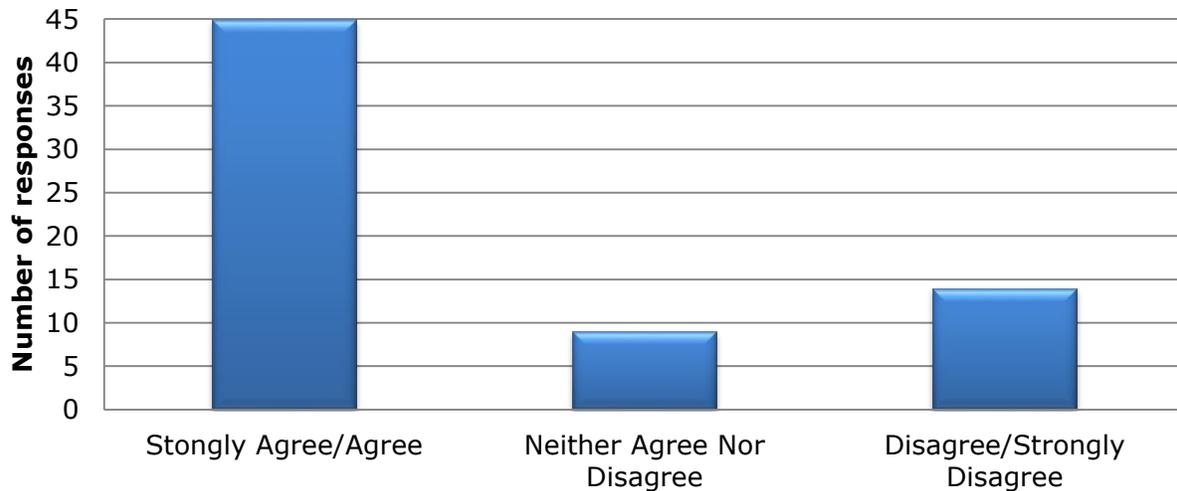


Figure 5: Chart of responses to Q5

- 5.1. Sixty-eight stakeholders responded to Q5 and the high-level feedback is shown in Figure 5.
- 5.2. The majority of respondents agreed that the deemed scores included all main measure types. Several respondents suggested areas for further consideration. These are outlined below.

#### Loft insulation scores

- 5.3. We initially proposed no differentiation for loft insulation in order to simplify the scoring and to reduce the risk of misidentification of existing loft insulation levels. After receiving feedback from stakeholders concerned that a single score would not accurately reflect the wide range of existing insulation levels across the UK housing stock, as well as evidence from the BRE, we have developed further differentiation for loft insulation.
- 5.4. To differentiate loft insulation we have split the measure into two separate scores, one which should be claimed where the level of pre-existing insulation is 100mm or less and another which should be claimed where the level of pre-existing insulation is more than 100mm. The assumptions used behind the two sets of scores will reflect this dividing point.
- 5.5. We consider that this dividing point is the most appropriate considering BRE data shows that savings diminish significantly above 100mm and also that a significant proportion of the housing stock (approximately 35%) has 100mm of loft insulation or

less<sup>9</sup>. This divide aligns with our 'top up 100' approach introduced in ECO2 and minimises the change on the ground for the ECO supply chain.

- 5.6. We had several requests to split the loft insulation scores as 'virgin' scores (ie no pre-existing insulation) and 'top up' scores. However, if we developed this the 'top-up' score would become particularly inaccurate in practice. Lofts with more than 100mm of existing insulation would receive a disproportionately high score, and those with between 0 and 100mm of existing insulation would receive a disproportionally low score. We have decided not to provide scores based on no pre-existing insulation, as BRE data shows that a very small portion of the housing stock reflects this state.

### **Party wall insulation**

- 5.7. Some stakeholders raised concerns that the U-values used in the deemed scores calculations did not reflect actual results for party wall insulation and some evidence was provided that demonstrated this.
- 5.8. After talking to relevant stakeholders including the BRE, we have concluded that the evidence provided does not sufficiently represent the UK housing stock and so cannot be taken into account for the deemed scores. We may review this decision if more substantial evidence becomes available in the future.

### **Heat pumps**

- 5.9. Some respondents highlighted that the deemed score for heat pumps were not reflective of ground source heat pumps. We generated our proposed scores based on air source heat pumps as BRE research showed that air source heat pumps are far more prevalent than ground source heat pumps.
- 5.10. However, considering the substantial relevant feedback we received, we have developed separate scores for ground and air source heat pumps. The scores will use a Seasonal Performance Factor (SPF) of 2.56 for air source and an SPF of 2.89 for ground source based on information provided by BEIS. This information can be made available on request.

### **Q5 – Key revisions**

- Loft insulation measure split by pre-existing insulation level
- Heat pumps split by air source and ground source
- Heat pump SPF revised

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<sup>9</sup> Ofgem deemed scores methodology (p12)

## 6. Responses to questions 6 and 7

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### Q6 – Do you agree with our proposals for differentiating within measure types?

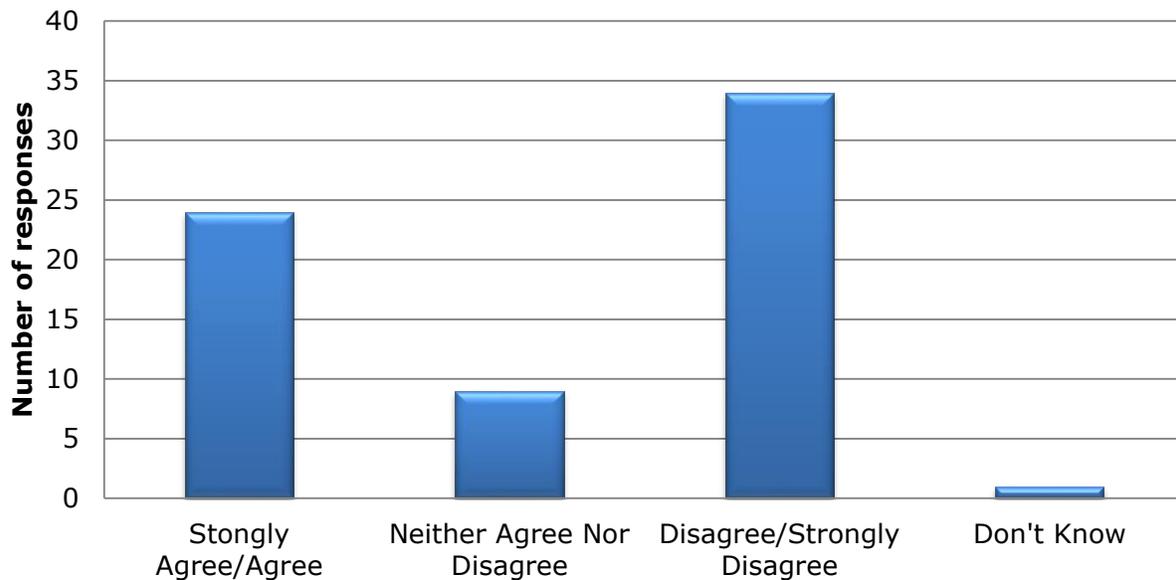


Figure 6: Chart of responses to Q6

### Q7 - Are there any measure types where you think that further differentiation is warranted? (No Likert scale for this question)

6.1. Sixty-eight stakeholders responded to Q6 and the high level results are shown in Figure 6. Many respondents responded with 'disagree' to Q6, with most of the responses suggesting further differentiation for certain measure types. Q7 also asked for these suggestions, so we have collated the suggestions for both questions below. A wide range of suggestions were put forward, with differentiation within cavity wall insulation and solid wall insulation being the most popular.

#### Cavity wall insulation (CWI)

6.2. There were many requests for changes and differentiation within the CWI scores. In addition to differentiation of hard-to-treat cavities and different property ages (discussed in Chapter 3), stakeholders also suggested that we change the assumed starting U-value to 1.57, that we develop a separate score for cavities which are already partially filled, and that we develop a score for polyurethane foam (PUF) as a cavity wall insulation material.

6.3. We have not created a separate score for topping up a partially filled cavity in order to keep the scoring system simple and encourage topping up where necessary.

Additionally, we will not be changing the assumed starting U-value as 1.435 is based on the most current evidence<sup>10</sup> published by BRE and BEIS.

- 6.4. A number of respondents did highlight that CWI installations using polyurethane foam (PUF) perform significantly better than the technologies reflected in the proposed deemed scores. We will therefore be introducing a new CWI score (using a thermal conductivity of 0.027) which reflects PUF technologies that achieve this increased level of thermal performance.
- 6.5. Some respondents also highlighted that our proposed method of selecting the appropriate deemed score for the variant of cavity wall insulation related to enhanced bead technologies<sup>11</sup> (with a thermal conductivity of 0.033) unfairly disadvantaged enhanced mineral wool, which has a thermal conductivity of 0.034. Furthermore these responses were supported by calculations showing that products of these thermal conductivities achieved the same U-value.
- 6.6. We agree that our proposed method unfairly disadvantaged enhanced mineral wool technologies. We do not believe that generating a new score is necessary as the proposed score was developed by taking an average of the enhanced mineral wool and enhance bead technologies available in the market. We have therefore revised the ranges of thermal conductivity values which are relevant for the CWI deemed score (see Table 3 below).

Cavity Wall insulation – All values given in units of <b>W/mK</b>	
Thermal conductivity input value	Associated range of thermal conductivity
0.04	0.045 – 0.035
0.033	0.034 – 0.029
0.027	= < 0.028

Table 3 – Ranges for cavity wall insulation values

### **Solid wall insulation (SWI)**

- 6.7. Several respondents proposed that SAP or RdSAP should continue to be used to calculate the savings for SWI measures, as the wide variation and technical complexity of SWI installations means that a deemed scores approach would likely not reflect the savings accurately.

<sup>10</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/409428/In-situ\\_u-values\\_final\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409428/In-situ_u-values_final_report.pdf)

<sup>11</sup> See Table 4 on page 14 of the deemed scores consultation

- 6.8. We understand this viewpoint. However, the BEIS consultation and the draft amendment Order<sup>12</sup> that BEIS has now published show a clear intent that only District Heating Systems (DHS) should be scored using SAP or RdSAP.
- 6.9. It is important to note that we have already applied a greater level of differentiation to the SWI deemed scores than for any other measure type to reflect the wide range of savings which can be achieved.
- 6.10. Some stakeholders highlighted that the SWI differentiation in the proposed deemed scores did not include a post-installation U-value that aligns with the Building Regulations requirement of 0.3 W/m<sup>2</sup>K.
- 6.11. We agree that this suggestion is sensible as we expect a large proportion of installations to be completed to the specific Building Regulation standard. We have therefore developed additional deemed scores for SWI.

### **Room-in-roof insulation**

- 6.12. Some respondents said that assuming an average level of insulation for all elements of a room-in-roof was not reflective of real world installations. Some stakeholders suggested that the room-in-roof insulation measure should be split between those built before and after 1976, as it was assumed that those built before 1976 have little to no insulation. Others said that the room-in-roof should be assumed to have zero insulation before installation.
- 6.13. As outlined in chapter 2, we do not believe that age is necessarily a good indicator of the level of existing insulation. We can also foresee difficulties in identifying the age of the room-in-roof, as it may not reflect the age of the property. We will therefore not differentiate room-in-roof measures by age.
- 6.14. However, we appreciate that using the assumption for pre-existing loft insulation may not be reflective of reality and hence may result in inaccurate scores. We have therefore amended the assumptions. The ceiling and walls of the room-in-roof have been assumed to have zero existing insulation and we have assumed an average level of insulation in the residual loft areas of the room-in-roof. This average is in line with our loft insulation assumptions for all other measures.
- 6.15. We have not assumed zero insulation for the residual loft area as we do not believe that this would be an accurate reflection of reality. BRE analysis has shown the typical levels of loft insulation across the housing stock. Furthermore we would expect that where a loft conversion to a room-in-roof has been carried out that the existing loft insulation would have been retained.

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<sup>12</sup>

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/536679/Illustrative\\_draft\\_of\\_the\\_Electricity\\_and\\_Gas\\_\\_Energy\\_Company\\_Obligation....pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536679/Illustrative_draft_of_the_Electricity_and_Gas__Energy_Company_Obligation....pdf)

6.16. For partial installations (eg where an element cannot be insulated or where it has already been insulated) we expect the percentage of property treated to be scaled down appropriately to reflect the insulation installed as part of the installation.

### **Electric storage heaters (ESHs)**

6.17. It was suggested that we should remove the score for slimline ESHs as the manufacture of many of them will be banned in the European Union over the coming year due to the European Ecodesign Directive<sup>13</sup>. Given that the ban will not come into effect until the deemed scores are already in use and that the sale of existing stock will be allowed after their manufacture and import is banned, we will retain the score.

6.18. We have however followed stakeholder recommendations to remove the scores for 33% or 66% of an ESH measure. Our current requirements are that measures must be installed to 100% of the property unless there are reasonable grounds for not doing so. In instances where there are reasonable grounds for treating less than 100% of the property we expect that the normal percentage reduction should be applied as with other ECO measures.

### **Solar photovoltaics (Solar PV)**

6.19. Some respondents recommended differentiation between different sizes of solar panels as the proposed scores gives a set score for the whole system, with an assumed peak power of 2.5kWp. Considering that no solar PV measures have been delivered under ECO to date, we will not be providing further differentiation now.

#### **Q6 & Q7 – Key revisions**

- New deemed score for high-performing CWI technologies
- Revision of acceptable thermal conductivity ranges for CWI technologies
- Additional SWI scores to reflect building regulation requirements
- Removal of 33% and 66% differentiations of ESHs

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<sup>13</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0125>

## 7. Responses to question 8

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### **Q8 – Are there any areas where you could benefit from further guidance in using deemed scores?**

7.1. Responses to this question addressed several areas where the introduction of a system of deemed scores would bring changes to our existing ECO guidance and requirements.

#### **Boilers and heating controls**

7.2. Several respondents sought guidance on how the boiler replacement scores would work alongside requirements outlined in Building Regulations with regards to heating controls. There were questions as to whether the 'without controls' differentiation within the set of scores relating to boiler replacements was necessary, as Building Regulations stipulate that a full set of controls<sup>14</sup> must be in place following any such installation.

7.3. Because a full set of heating controls are required to be installed or in place alongside a boiler in all cases, we do not foresee a situation where a boiler installation would require selecting the 'without controls' scores. We have therefore decided to remove this differentiation.

7.4. However, for qualifying boiler replacements and repairs we cannot combine the score for a boiler installation with the score for installing heating controls. This is because gas boiler deflators and relevant HHCRO multipliers (RHMs) should be applied to qualifying boiler savings only and not the heating controls savings.

7.5. Additionally, BEIS have proposed the introduction of an 'affordable warmth group (AWG) minimum' as part of the ECO transition year. This would require that a minimum proportion of a supplier's phase 3 HHCRO is achieved through measures which are not mains gas fuelled qualifying boiler replacements, such as heating controls.

7.6. To assess if this requirement has been met, the savings for gas qualifying boiler replacements only would need to be evaluated. A combined gas qualifying boiler replacement and heating controls score would make this determination difficult.

7.7. Therefore, the measures must be notified separately where heating controls have been installed alongside a qualifying boiler replacement, so that the heating controls could count towards the AWG minimum and so that the RHM or gas boiler deflator is applied to the qualifying boiler only.

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[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/453968/domestic\\_buiding\\_services\\_compliance\\_guide.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/453968/domestic_buiding_services_compliance_guide.pdf)

- 7.8. **For clarification, in order to meet building regulations, we expect that there should always be a full set of functioning heating controls in the property following any boiler installation.**
- 7.9. We consider a full set of heating controls to be a timer, a room thermostat and thermostatic radiator valves (TRVs) on all radiators in the property.
- 7.10. The method for selecting the appropriate score(s) for any such scenario is listed below. We have also captured the selection process in a flow chart later in this chapter.
- **Where a full set of heating controls is installed but no boiler is replaced or repaired**, suppliers should claim the heating controls score.
  - **Where a qualifying boiler replacement or repair is carried out and a full set of heating controls are already present** and functioning before the work and remain present and functioning after the work, suppliers should claim the 'Boiler – pre-existing controls' score.
  - **Where a qualifying boiler replacement or repair is carried out, there are no heating controls present, and a full set of heating controls are installed** and functioning, suppliers should claim the 'Boiler – no pre-existing controls' score for the boiler measure **and** the Heating Controls score, and notify these as separate measures.
  - **Where a qualifying boiler replacement or repair is carried out and some heating controls are already present** and the supplier installs further heating controls to meet the requirement that a full set are installed and functioning after the work, suppliers should claim the 'Boiler – no pre-existing controls' score for the boiler installation **and** the Heating Controls score, and notify these as separate measures.
  - **Where a non-qualifying boiler replacement is carried out**, suppliers should claim the non-qualifying boiler score in all cases, regardless of whether there are pre-existing heating controls or not. **To reiterate: we expect that a full set of functioning heating controls will be present following any such installation.**

7.11. The flowchart below demonstrates how the correct boiler and heating controls score should be selected for boiler replacements:

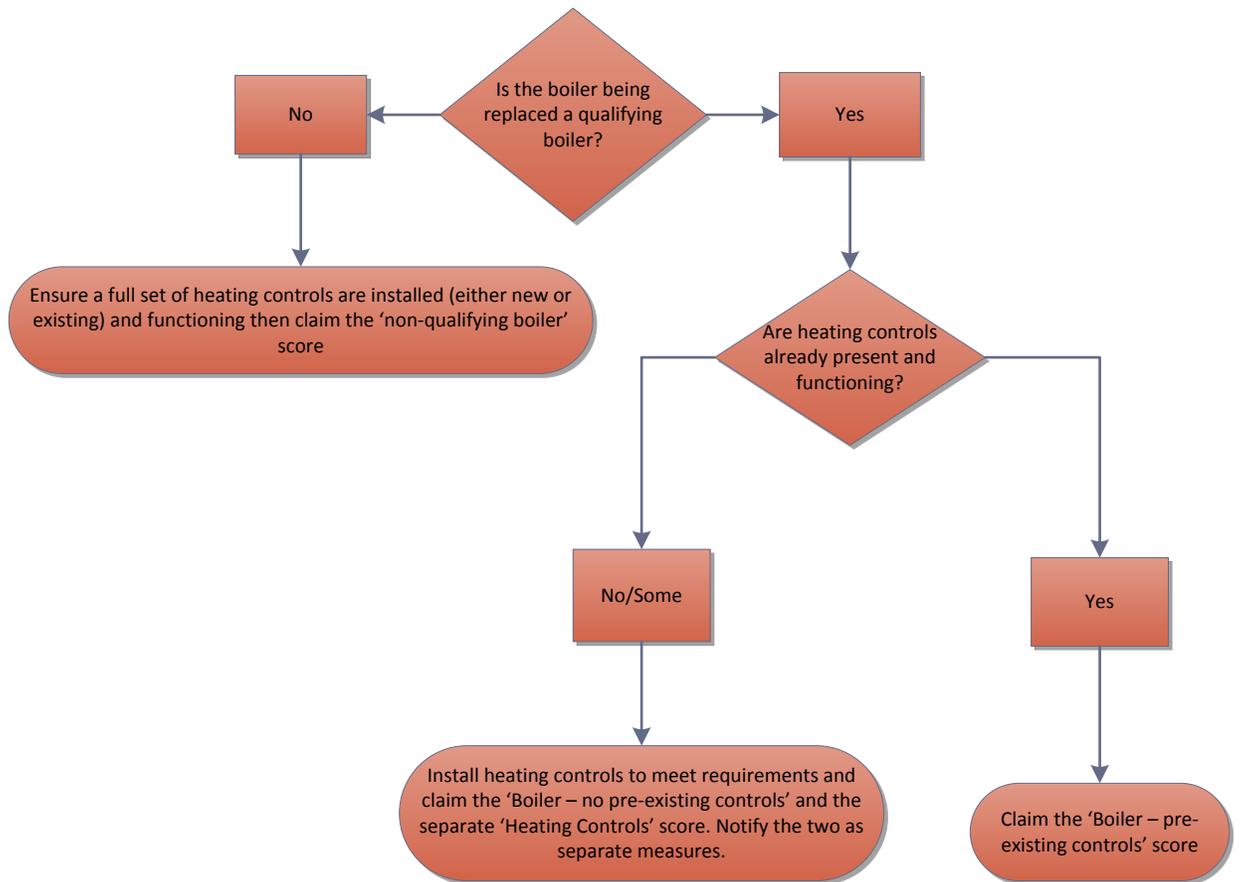


Figure 7: Flowchart for selecting boiler and heating controls scores (to be used in conjunction with Chapter 7.7)

### Non-standard heating systems

7.12. Several respondents identified rare or non-standard heating systems which are not included as primary heating sources within the deemed scores and for which a suitable proxy was not outlined in the deemed scores consultation or methodology document. We have set out suitable proxies for all the non-standard heating systems that stakeholders raised in their consultation responses in Chapter 4, Table 2.

### Delivery of multiple measures

7.13. Some respondents requested guidance on how to account for multiple installations of ECO measures to a single property using a deemed scores system. Other than those which already serve as an input variable we have not proposed that existing measures be taken into account when selecting a deemed score but recognise that,

in some cases where multiple measures are installed in one property, savings for the second measure are likely to be artificially high.

- 7.14. Some respondents proposed that following the installation of one measure to a property, the deemed scores should be scaled down to account for the associated improvement in performance of energy efficiency of the property.
- 7.15. After considering the arguments we have decided not to implement a methodology to take account of existing measures when selecting a deemed score. Defining a methodology to calculate the varied impacts of existing measure types on the savings related to an installation would be highly complex and would increase the risk of error.
- 7.16. Furthermore, introducing a requirement for identification of existing energy efficiency measures of a property would reduce the supply chain's ability to calculate savings before visiting the property.

### **Evidence requirements**

- 7.17. Respondents requested specific guidance on how to evidence the inputs used when selecting a deemed score. We hadn't previously proposed to require evidence for deemed scores as we considered that our technical and score monitoring requirements will provide assurance that the correct deemed scores have been selected.
- 7.18. However we do understand that it can be helpful if suppliers or the supply chain hold evidence for inputs should we ever have cause to question the deemed score selected. Having this evidence available may reduce the need to complete site visits should any concerns arise.
- 7.19. We expect that suppliers will wish to ensure they are able to justify the basis on which a deemed score has been selected. However, we understand that there can be administrative difficulties with retaining varied pieces of information for all ECO measures.
- 7.20. Based on past experiences in ECO we believe that standard evidence requirements are necessary when justifying the selection of the deemed score for loft insulation where there is less than or equal to 100mm of existing insulation. We will be providing an amended version of the current virgin loft declaration which must be completed at the pre-installation survey stage and should be secured within the loft so that it can be checked via technical monitoring.
- 7.21. For other measure types, we will not outline specific evidence requirements that should be held for each input as suppliers and the supply chain are best placed to identify the right approach. This approach may also vary for different properties and also between suppliers. We are however happy to work with suppliers and the ECO

reporting working group<sup>15</sup> to develop standardised evidence, as we have done in the past, if requested.

### **District heating systems and deemed score measures**

- 7.22. Some respondents requested clarity on how to score insulation measures where they are installed in properties where a district heating system (DHS) measure is also installed. As outlined in our consultation, DHS measures should be scored using SAP or RdSAP rather than deemed scores. Insulation measures must be scored using the deemed scores regardless of whether a DHS measure is or has been installed at the same premises.
- 7.23. When installing DHS measures, the insulation pre-conditions<sup>16</sup> must be satisfied prior to installation. Therefore, when calculating savings for a DHS measure, the calculations should account for the pre-existing insulation.

### **Identification of wall type for heating measures**

- 7.24. Identification of wall type should be relatively simple in most cases and can be easily verified and evidenced. However, we understand that there may be identification issues in situations where a property is made up of multiple wall types.
- 7.25. In these cases we would expect the wall type which is most prominent along the external heat loss area (ie that makes up the greatest proportion of the external wall area) to be selected. For example, for a heating measure installation where the total external wall area is 100m<sup>2</sup>, with 60m<sup>2</sup> made up of cavity wall and 40m<sup>2</sup> made up of solid wall, the deemed score for the cavity wall differentiation should be chosen.

### **Measure type-specific guidance on percentage of measure installed**

- 7.26. Several respondents requested guidance on how to determine the percentage of measure installed and percentage of property treated for each specific measure type. We have outlined this in Chapter 10.

#### **Q8 – Key revisions**

- Removal of publication of boiler installation 'without controls' differentiation

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<sup>15</sup> <https://www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-forums-and-working-groups/eco-reporting-working-group>

<sup>16</sup> <https://www.ofgem.gov.uk/ofgem-publications/94363/ecoguidance-delivery-pdf> (p87)

## 8. Responses to question 9

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### Q9 – Do you agree with the deemed scores produced?

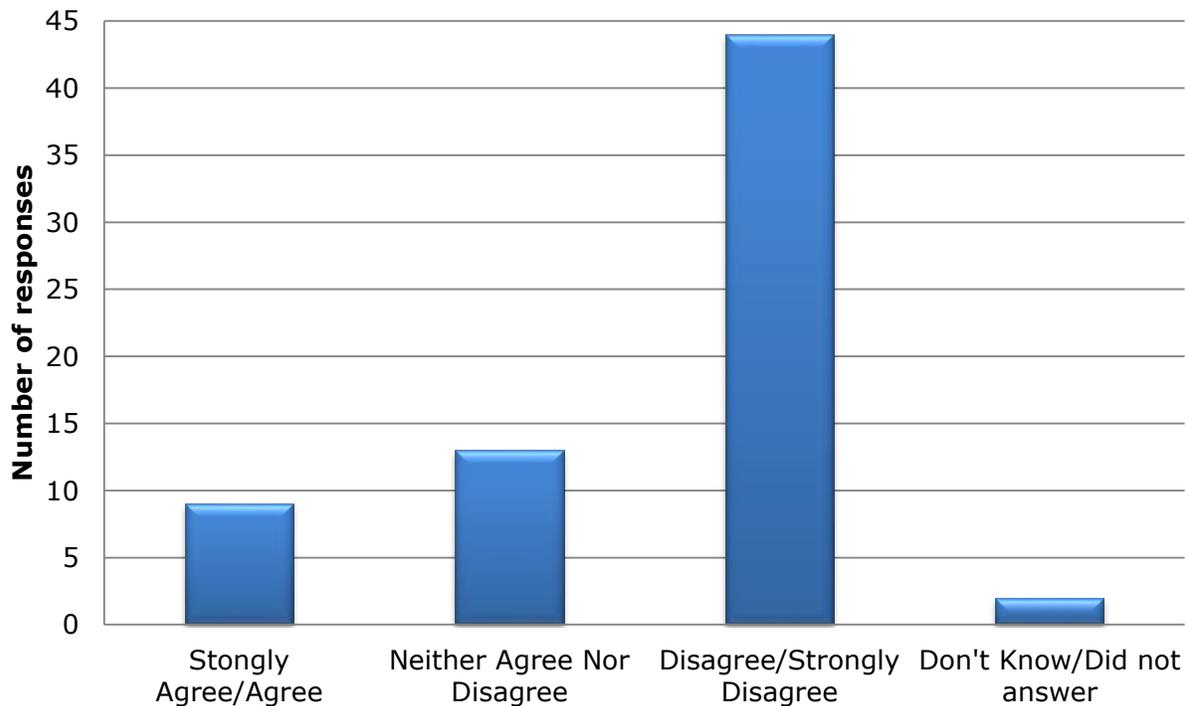


Figure 7: Chart of responses to Q9

8.1. Sixty-eight stakeholders responded to Q9 and the feedback is in Figure 7. The responses to this section of the consultation discussed several miscellaneous concerns and issues. Many responses disagreed with the policy behind the implementation of deemed scores; as previously explained, this is addressed as part of BEIS' consultation.

#### Data sources

8.2. Some stakeholders suggested alternative data sets to the English Housing Survey data. This has been discussed in Chapter 3. Some stakeholders also suggested that SAP 2016 data should be used rather than SAP 2012.

8.3. As SAP 2016 is not currently available, this is not a viable option if we are to deliver the final deemed scores with sufficient lead-in time to the proposed transition year.

#### Scottish properties

8.4. Some stakeholders thought that measures installed in Scotland should receive higher scores due to the difference in climate between Scotland and England.

- 8.5. Please refer to Chapter 2 where we discuss regional variation in climate in more detail. In addition, research and analysis by the BRE prior to this consultation found that defaults derived from the English Housing Survey are able to represent the stock of Scotland and Wales to a reasonable degree.

**Other insulation benefits**

- 8.6. It was mentioned that the proposed changes to the scores do not take into account other benefits of insulation, such as structural support to the dwelling.
- 8.7. We recognise that there can be other benefits to insulating a property, however as ECO scores only relate to specific carbon and cost savings for measures, these benefits are not considered in the deemed scores.

## 9. Responses to question 10

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**Q10 - Do you agree that it would be useful to also provide the deemed scores as lifetime savings (ie after applying all relevant multiplication factors), to make the relative value of each measure easier to identify?**

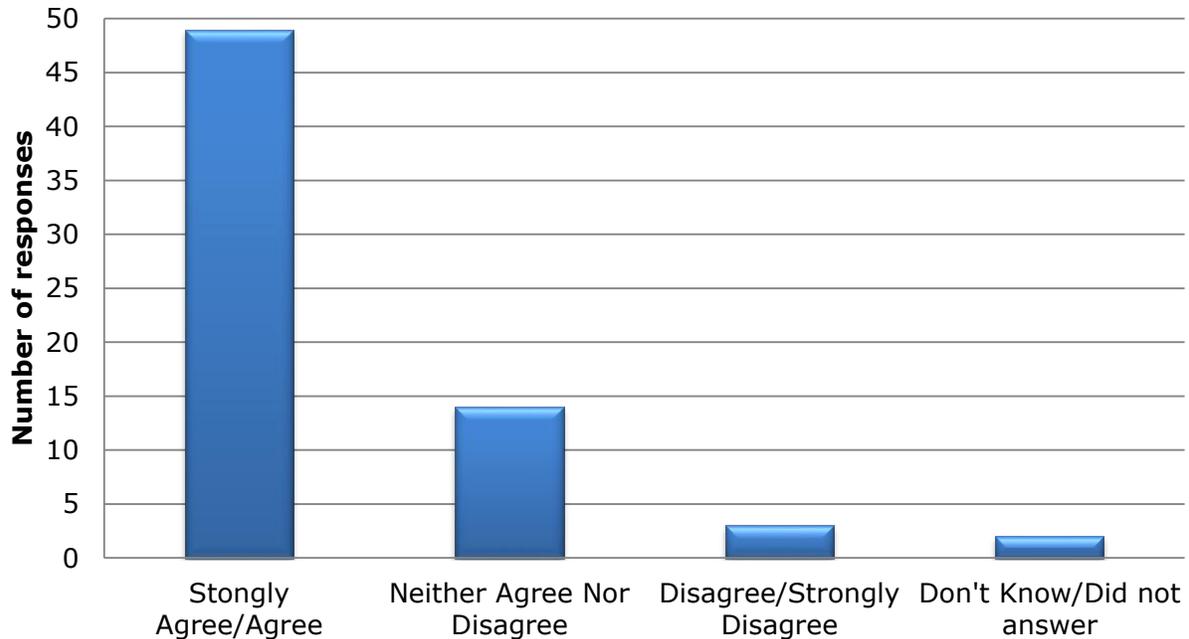


Figure 8: Chart of responses to Q10

- 9.1. Sixty-eight stakeholders responded to Q11 and the feedback is in Figure 8.
- 9.2. The vast majority of respondents agreed that publishing the deemed scores as lifetime savings as well as the annual savings would be useful. Therefore we have published these alongside this consultation response.

### **Q10 – Key revisions**

- Publication of deemed lifetime scores alongside deemed annual savings

## 10. Responses to question 11

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### Q11 - Do you agree with the proposal to use 'percentage of property treated' to identify whether 100% of a score should be claimed?

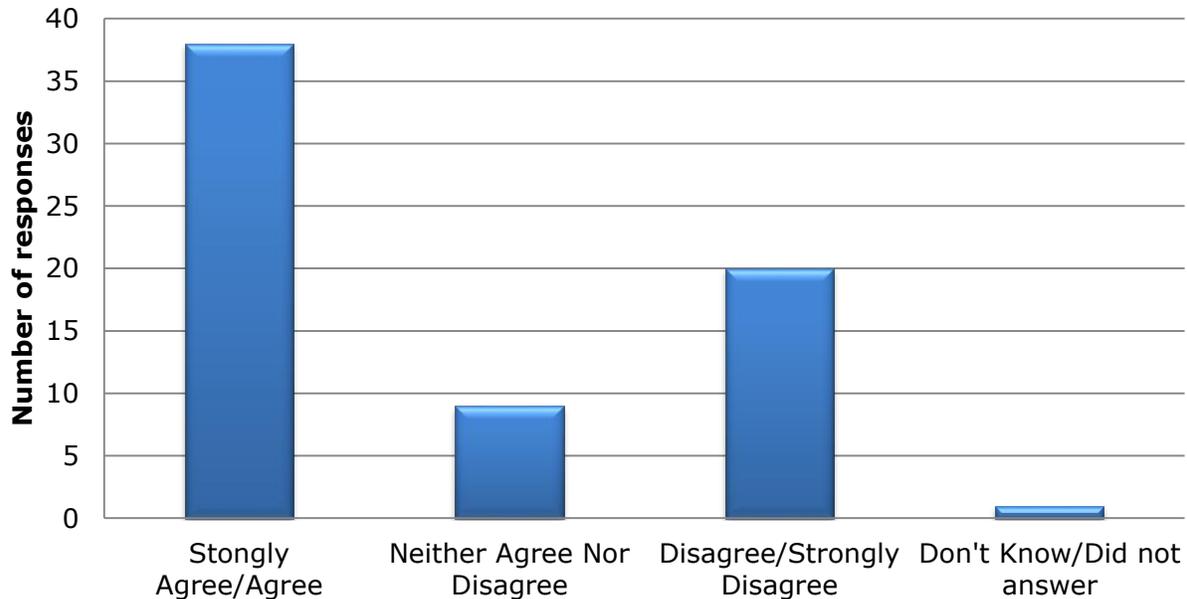


Figure 9: Chart of responses to Q11

- 10.1. Sixty-eight stakeholders responded to Q11 and the feedback is in Figure 9.
- 10.2. Most respondents agreed with our proposal to introduce 'percentage of property treated' as a method of calculating savings from the deemed scores. They agreed that this was a simple way of accounting for the deemed scores assumption that the entire property is made of a single construction.
- 10.3. Our requirement that 'percentage of measure installed' is notified will remain, but 'percentage of property treated' will also need to be notified and this percentage should be used to scale down the deemed score to account for the actual benefits that the installation is providing. Examples of common situations are provided later in this chapter.

#### Percentage of property treated bands

- 10.4. Several respondents who agreed suggested that a banding system should be introduced for percentage of property treated. Reducing the necessity to measure elements of a property aligns with the objective of simplifying the overall scheme. We can also see the benefits of a simplified approach for technical monitoring, and we agree with this proposal.
- 10.5. Several suggestions for bandings were put forward and we have decided to introduce a banding system made up of 10% increments and the increment which best reflects

the measure installed should be used. Below we have provided examples which demonstrate how the calculation should be undertaken.

### **Defining percentages**

10.6. Several stakeholders requested that we provide guidance on what constitutes 100% of property treated, and how to calculate savings in various scenarios. Below are some examples.

### **Dwellings constructed of different wall types**

- Where all external walls are cavity walls and all are completely filled as a CWI measure, both the percentage of measure installed and the percentage of property treated should be 100%. The full CWI deemed score should be claimed.
- Where the property has external walls constructed of different wall types, the external wall area of the relevant wall type should be considered as a proportion of the total external wall area.
  - For example, consider a property which has a total external wall area of 50m<sup>2</sup>, of which 20m<sup>2</sup> is of cavity wall construction. In this case, where the total external cavity wall area has been insulated the percentage of measure installed would be 100% and the percentage of property treated would be 40%. Therefore, 40% of the CWI score should be claimed.
  - In the above scenario, if only 10m<sup>2</sup> of the cavity walls were insulated of the available 20m<sup>2</sup>, the percentage of measure installed would be 50%. The percentage of the whole property treated would be 20%. Therefore, 20% of the CWI deemed score should be claimed.
- Where the proportion of external wall area does not align exactly with a 10% increment, the percentage of property treated should be rounded to the nearest 10.
  - For example, consider a property which has a total external wall area of 100m<sup>2</sup>, where 45m<sup>2</sup> is of cavity wall construction. In this case, where the total external cavity wall area has been insulated the percentage of measure installed would be 100% and the proportion of external wall area would be 45%. The percentage of property treated would be rounded up to 50%. Therefore, 50% of the CWI score should be claimed.
  - In the above scenario, if only 22.5m<sup>2</sup> of the cavity walls were insulated of the available 45m<sup>2</sup>, the percentage of measure installed would be 50% and the proportion of external wall area would be 22.5%. The percentage of property treated would be rounded down to 20%. Therefore, 20% of the CWI score should be claimed.

### **Dwellings with different roof constructions**

- Some properties may have both a flat roof which could be insulated and a pitched roof with a loft. If the flat roof is insulated, the deemed score should be calculated by identifying the proportion of the floor area of the property the flat roof is covering.
- For example, if the flat roof is insulated on a dwelling with total roof area of 100m<sup>2</sup>, of which the area covered by the flat roof is 30m<sup>2</sup>, the percentage of measure installed will be 100% and the percentage of property treated will be 30%. Therefore, 30% of the flat roof insulation score should be claimed.
- In the above example, the loft area within the pitched roof is 70m<sup>2</sup> of the total 100m<sup>2</sup> roof area. In this case, if the loft is fully insulated the percentage of measure installed will be 100% and the percentage of property treated will be 70%. Therefore, 70% of the relevant loft insulation score should be claimed.

### **Installation of heating measures**

- For clarity, 100% of the score for a single heating measure may only be claimed where the installation is the sole heating source for the entire property.
- Where a heating system is being changed in a property with multiple heating systems, the deemed score should be calculated by identifying the proportion of the property, in terms of floor area, which is being heated by that measure.
- If the measure is feeding a radiator or heater for a room, we determine that that measure is heating the room.
- For example, if a gas boiler is replaced where 60% of the dwelling is heated by mains gas and 40% is heated by ESHs, the percentage of measure installed will be 100% and the percentage of property treated will be 60%. Therefore, 60% of the boiler installation score should be claimed.
- In the above example, if all ESHs are replaced, the percentage of measure installed will be 100% and the percentage of property treated will be 40%. Therefore 40% of the ESH score should be claimed.

## 11. Responses to questions 12 and 13

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**Q12 - Do you agree with our proposed approach for applying for a new score from April 2017?**

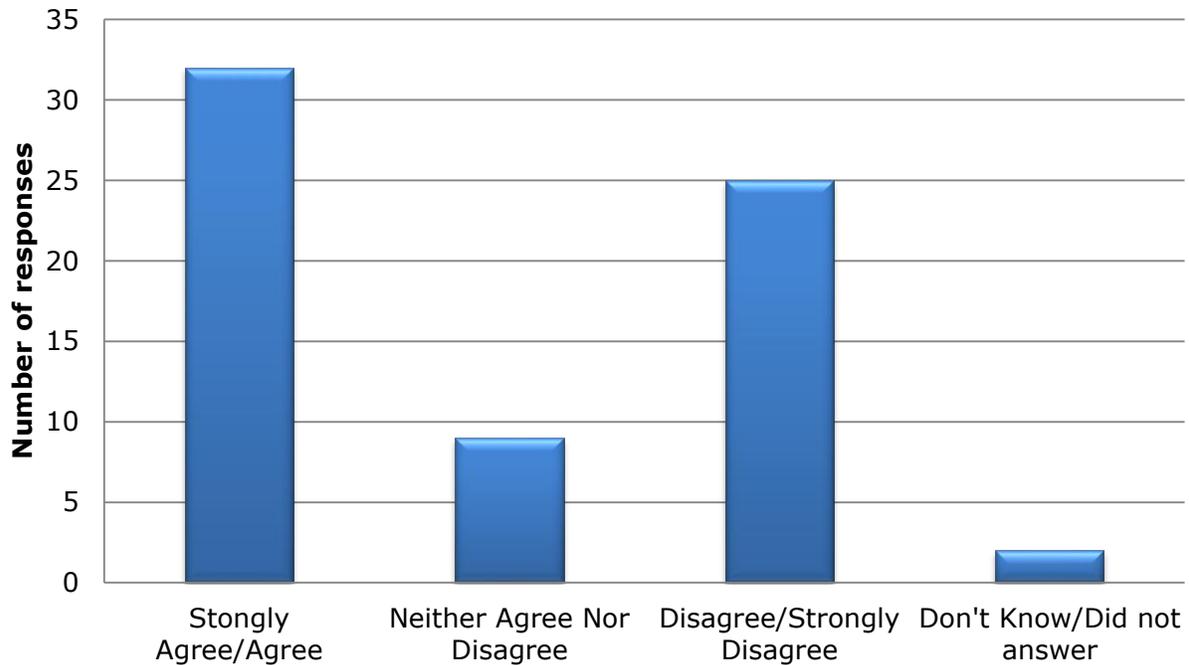


Figure 10: Chart of responses to Q12

**Q13 - Do you agree that we should determine whether or not to accept an application, and specifically what is a 'significant' improvement in score, on a case-by-case basis?**

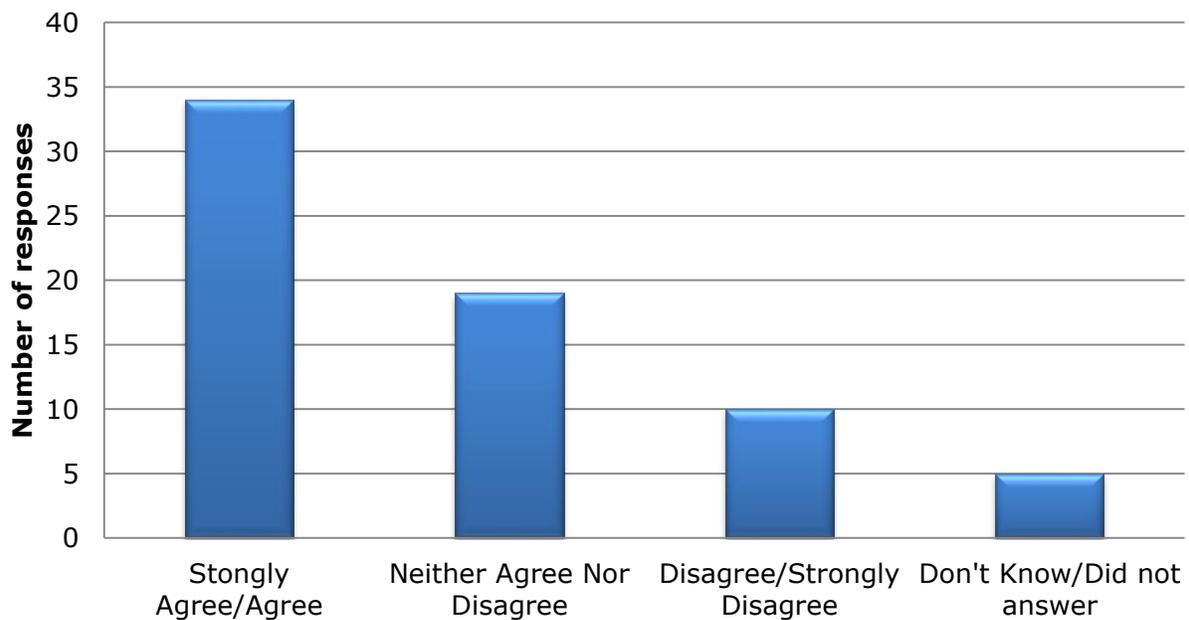


Figure 11: Chart of responses to Q13

- 11.1. Sixty-eight stakeholders responded to Q12 and Q13. The feedback is in Figures 10 and 11.
- 11.2. Many respondents agreed that we should determine applications for new scores on a case-by-case basis. We also had some suggestions as to how we could mitigate issues arising from the introduction of the method for developing new scores. These are discussed below.

### **New measure introduction**

- 11.3. Some respondents suggested that we should apply service-level agreements to our proposed process so that we react to new measure requests within a set time frame. Additionally we received suggestions that applications for new measures should be submitted directly to Ofgem E-Serve, rather than through an obligated supplier.
- 11.4. We expect that in most cases, applications for new scores will be varied, complex and will require external advice. We therefore cannot specify set time frames within which the resolution of an application should be complete. We will, however, review applications for new scores prior to the ECO transition year.
- 11.5. The requirement for applications to be submitted by obligated suppliers will remain. We consider that this will help to provide us with assurance that a supplier wishes to deliver the measure and that the allocation of the resources required for developing the application and completion of our assessment will be likely to be justified.

### **Defining 'significant improvement in score'**

- 11.6. Some respondents requested that we ensure we have a robust definition for 'significant', whereas others agreed with our proposed approach to assess applications for new scores on a case by case basis. Having considered the arguments we have decided that we will not attempt to define a 'significant improvement' in score in the abstract as a single definition of significance is unlikely to be appropriate for all measures.

### **Innovation impacts**

- 11.7. Concerns were raised by stakeholders that the proposed scoring system would hamper innovation. We do not think that this will be the case as the deemed scores cover all measures previously delivered under the scheme and the new score application process will enable further innovations to be recognised.

## 12. Responses to question 14

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### Q14 - Do you agree that a DEA is not required to check inputs used when identifying a deemed score for a measure?

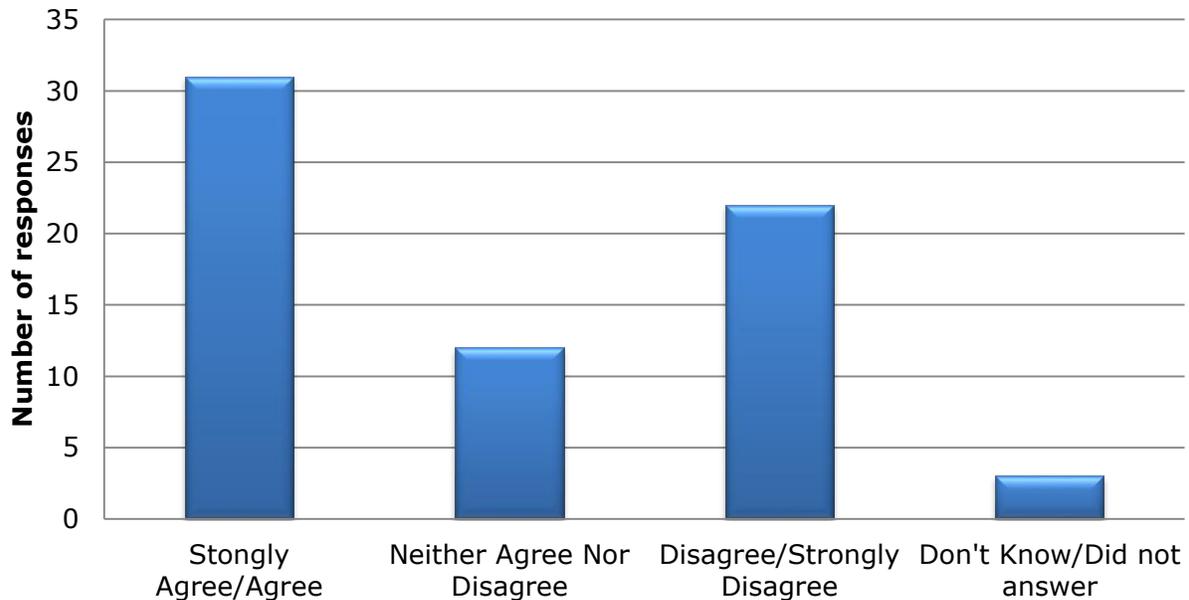


Figure 12: Chart of responses to Q14

- 12.1. Many respondents agreed that a Domestic Energy Assessor (DEA) is not required to check the inputs used in identifying a deemed score. Some respondents suggested that DEAs should be retained to check the scores and to produce EPCs after measures have been installed to maintain quality control and prevent fraud. Some stakeholders suggested that we should increase technical monitoring and require technical monitoring agents to be trained as DEAs.
- 12.2. One of the key objectives of the deemed scores is that they are easy to use. We have therefore simplified the inputs so that an expert is not required to identify, or therefore check, the inputs.
- 12.3. We appreciate that there may be other benefits to EPCs, but for use in an ECO scheme, our concerns on the risks related to their accuracy and associated costs outweigh these benefits. Several respondents agreed that removing the involvement of DEAs would help us achieve our aim of creating a streamlined and simpler scheme. We will therefore not require that a DEA selects the relevant deemed score.

## 13. Appendix 1 – Consultation respondents

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We received 73 responses, two of which were confidential; we have therefore published 71 responses on our website.

The 71 responses on our website came from the following stakeholders:

A&M Energy Solutions  
ABBA Energy Ltd  
Acrobat Carbon Services  
Agility Eco  
Alliance of Energy Assessor Associations  
Anesco Ltd  
Association for the Conservation of Energy  
Association of Technical Monitoring Agents  
Bierce  
Billsave UK  
Bluewire Hub Ltd  
Bracknell Forest Council  
British Rigid Urethane Foam Manufactures Association  
British Urethane Foam Contractors Association  
Broadstone Properties  
Cenergist  
Chartered Institution of Building Services Engineers  
Construction Products Association  
Direct Savings Scotland  
Dorset County Council  
Ececo Limited  
EDF  
Elmhurst Energy  
Energy Action Scotland  
Energy UK  
EON  
Everwarm Group Ltd  
First Utility  
Glasgow Caledonian University  
Glen Dimplex Heating (GDC Group Ltd)  
Green Deal Consortium  
Ground Source Heat Pump Association  
Happy Energy Ltd  
Heatwave Energy Solutions  
Howard Betteridge (DEA)  
Institute for the Development of Energy Assessment  
Insulated Render and Cladding Association

## Response to ECO2 Consultation: Deemed scores

Isothane Limited  
JNR Contracting  
Keepmoat  
Kent and Medway Sustainable Energy Partnership  
Kent County Council  
Kingspan Insulation Ltd  
Kirklees Council  
Knauf Insulation  
Leicester County Council  
Mineral Wool Insulation Manufactures' Association  
National Energy Foundation  
National Energy Services Ltd  
National Insulation Association  
NEA Warm Zones CIC  
nPower  
OVO Energy  
Polypearl  
Property Energy Professionals Association  
Re:Structure  
Resourcematics Limited  
Rockwool Ltd  
Scottish Power  
Servest  
Simon Smith (DEA)  
SSE  
Stroma Certification  
Sustain Ltd  
Sustainable Energy Association  
Thermabead  
Tighean Innse Gall  
Trueco Ltd  
Utilita Energy Ltd  
Walter French  
Warm Front Limited