

E.ON's response to Ofgem's consultation on the proposed deemed scores for the ECO2 Help to Heat scheme (2017-2018)

8th July 2016

E.ON welcome the opportunity to respond to Ofgem's consultation on the proposed deemed scores for use in Notifying measures in the ECO2 Help to Heat scheme 2017-2018.

It is vital that any adjustments to these deemed scores as a result of this consultation are reflected in the Final Stage Impact Assessment for the Help to Heat scheme, and are taken into account when setting supplier obligation targets to ensure the continued cost effective delivery of the scheme, and to avoid unnecessary costs being passed through to energy customers.

Our responses to Ofgem's individual questions are set out below.

Question 1

Do you agree with our selection of the key variables to use as the main inputs for calculating the deemed scores? If not, please clarify which aspect you do not agree with and suggest an alternative, with reasoning.

Yes, E.ON agrees that the three variables chosen as the key inputs are the most appropriate factors to use to calculate the deemed scores.

We do however believe that utilising the entire housing stock in England as the baseline, hides quite significant differences in the size of older properties compared to newer ones. For example, early 20th century detached properties tend to be much larger than post WW2 detached properties. These properties also tend to have larger wall areas, windows and higher ceiling heights. Using the median rather than the mean as the average can adversely affect the resulting scores for particular house types, sizes or measure types and could have the unintended consequence of making certain measures at certain property types not commercially viable, thereby discouraging the targeting of such homes, and increasing the costs to suppliers in finding suitable households.

Question 2

Do you agree with the method used in developing typical property archetypes in order to remove the need for measuring property dimensions? If not, please clarify which aspect you do not agree with and suggest an alternative, with reasoning.

Regarding property archetype size, the deemed score floor areas appear to be significantly understated for smaller properties and overstated for larger properties. This could lead to disproportionately directing the market towards larger properties in order to gain the higher scores at the detriment of smaller properties that would benefit equally from support in ECO.

In general, the floor areas that have been used to derive the deemed scores appear to be approximately 10% lower than those for measures that we have Notified in ECO2. We believe that this is a direct result of the median floor area being used instead of the mean. However, it is our view that the actual average will be higher than the mean due to the nature of the distribution curve

for floor areas being asymmetrical in that there will be a natural cut off representing minimum living area at the lower end and a long upper end tail representing larger floor areas.

In addition, as mentioned in the response to Question 1, the housing stock used to determine deemed scores should be more representative of the properties likely to benefit from ECO measures being installed. For example, a higher proportion of fuel poor families live in the oldest properties (source Annual Fuel Poverty Statistics Report 2014 Chart 3.4 page 34). These older properties tend also to be larger (source EHS_Profile_of_English_housing_2013.pdf Figure 1.18 page 36). An alternative solution would be to use only those property types likely to be targeted in ECO for any particular measure as the base for deriving the scores for those measures eg a property treated with solid wall insulation would be bigger both in area and room height than a property treated with cavity wall insulation, and the U-values are adjusted by using a more accurate weighted average to reflect property types most likely to be occupied by fuel poor families.

Furthermore, E.ON does not agree with the inclusion of maisonettes in the scores for flats. Maisonettes usually have two storeys and therefore their thermal performance is more akin to that of a mid or end terrace. In particular, the total wall area, and therefore the total heat loss perimeter will be grossly understated. This will have a consequence of limiting the delivery of certain measures in maisonettes as they will not be cost effective (eg boilers).

We welcome Ofgem's guidance on determining what constitutes a bedroom; however we don't think that this goes far enough to remove ambiguity. We envisage that this will be one of the main areas of dispute in the Help to Heat scheme and that elements of the supply chain will attempt to exploit any ambiguity for their own benefit. In light of this, Ofgem should provide detailed and comprehensive guidance, including any evidence requirements, to ensure that there is as little room for doubt as possible. This guidance should be produced before the scheme commences rather than after an issue has been found which suppliers then have to rectify. The consultation and guidance as it stands does not exclude for example a conservatory being claimed as a bedroom.

Question 3

Do you agree with the approach to accounting for all primary heating sources present in the housing stock? If not, please explain your reasoning and evidence your preferred approach.

E.ON broadly agrees with the approach for accounting for all primary heating sources in the housing stock, however it is unclear why different heating types are available to be selected for certain measures but not for others. For example, for boilers & electric storage heaters, "Gas fire with back boiler" and "Gas back boiler to radiators" are selectable heating types, but not for insulation measures. This could cause confusion for a surveyor who is not necessarily qualified to DEA level (see below), if both a heating and an insulation measure are being installed at the same property at the same time. This will require Ofgem to provide very clear, unambiguous mapping to show how each of these heating types relate to each other in cases of multiple measures being installed.

A point of note is that in paragraph 4.4, it states that "Primary heating systems should be identified using existing RdSAP conventions". As the introduction of deemed scores removes the need for a qualified DEA to conduct the initial survey, it is unlikely that all surveyors employed within the supply chain for the Help to Heat scheme will be familiar with the terms and definitions of the RdSAP conventions, and therefore introduces an area of potential subjectivity to the survey. Whilst in most cases, it is assumed that the primary heating source will be obvious, it will be important for Ofgem to provide very clear & explicit guidance on determining the primary heating source, incorporating the

relevant parts of the RdSAP conventions, in a format and using terminology that a lesser qualified workforce will immediately understand.

Question 4

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? If not, please clarify which additional heating systems you believe need to be accounted for.

Yes. E.ON agrees that heating systems present in the housing stock has been appropriately accounted for.

Question 5

Do you agree that the deemed scores include all main measure types? If not, please clarify which additional measure type you expect will be installed.

Yes. E.ON agrees that all measure types we expect to be installed during the ECO2 transition scheme are included within the deemed scores.

Question 6

Do you agree with our proposals for differentiating within measure types? If not please clarify where alternative differentiation should be applied.

For solid wall insulation, there is a requirement for a surveyor to identify the correct banding based on the pre-installation U-value of the wall. As the introduction of deemed scores removes the need for a qualified DEA to conduct the initial survey, it is unlikely that all surveyors employed within the supply chain for the Help to Heat scheme will be familiar with the terms and definitions of the RdSAP conventions, and therefore introduces an area of potential subjectivity to the survey. We do have concerns that the correct starting U-value will not always be accurately identified. It would be more sensible to provide a range of construction types (eg solid brick; sandstone; solid concrete etc). Surveyors employed within the supply chain, but not qualified to DEA level, would relate to these categories much more readily than U-values.

The proposed thresholds for solid wall insulation depths are not aligned with practical experience on site: i.e. typical EPS EWI systems install 90mm of insulation to achieve a U-value of $0.3\text{W/m}^2\text{K}$. The thresholds therefore need to specify an insulation type and thickness where the thresholds represent the mid point between one depth option and another. For example for EPS a 70mm threshold would be appropriate rather than a 99mm threshold.

We therefore propose the following insulation depth bandings as set out below:

Deemed Scores: insulation depth EPS	Actual depth of insulation
50	26-70
100	71-120
150	121-170
200	=>171

The depths for phenolic insulation would be reduced to achieve the same U-value outcome.

For electric storage heaters, we believe that it would make much more sense to provide a deemed score per heater. The bandings as suggested represent a huge area of ambiguity when determining exactly what percentage of a property is heated by any particular unit. Energy suppliers should not be penalised for the inability of RdSAP to model individual heaters (it only models the complete property), and the BRE should use their expertise to analyse the actual kW rating of storage heaters and measure against the heat loss for each property type in kW to derive a single deemed score per heater.

The huge difference in the deemed scores for each of the three bandings mean that this is an area that will be ripe for “gaming”. This could result in suppliers being reluctant to take the risk of supporting these measures.

Question 7

Are there any measure types where you think that further differentiation is warranted? If so, please clarify which measure type could benefit from further differentiation and suggest an approach.

No, we do not think that any further differentiation is warranted for any of the measure types.

Question 8

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

There are a couple of areas of Chapter 5 of the consultation that E.ON believe that further guidance would be valuable.

Paragraph 5.7 states that “...suppliers may choose to use evidence of the final U-value (instead of using the thickness of the insulation installed)...” Further clarity is required as to whether the evidence in this case, specifically relating to selecting an appropriate deemed score for ECO purposes, would still need to meet the requirements as set out in the conventions of SAP/RdSAP, and also what the minimum qualification requirements are of the person providing the evidence.

We also believe that further clarity is needed with respect to boilers and heating controls. As there are individual deemed scores for both installing a boiler only and for installing heating controls only, our analysis has shown that the resulting total score from selecting the two separate measures is higher than if the boiler with controls measure alone is selected. Ofgem should prescribe that if both a boiler and a full set of heating controls have been installed, the boiler with controls measure must be selected. Without this prescription, there is a risk that higher than intended savings will be claimed.

Furthermore, Ofgem should specify the minimum requirement for TRVs to be included within a “full set” of heating controls. Generally, the industry works on fitting TRVs to a minimum of 50% of radiators in order to comply with Building Regulations. We believe that this is the minimum level of TRVs that Ofgem should state. As currently stated without further clarification, there is a risk that installers will fit a single TRV and claim it as a full set.

Question 9

Do you agree with the deemed scores produced? If not please clarify which particular score(s) that you believe do not accurately reflect the savings for a measure.

Our analysis suggests that the deemed scores as presented for consultation are on average, overall approximately 40% lower than scores previously Notified by E.ON in ECO2.

When broken down further, the reductions vary depending upon the measure type (please see below, approximate reductions compared to ECO2 Notified measures):

SWI	10% lower
CWI	30% lower
LI	40% lower
Qualifying Boiler	50% lower

There is also a constant trend that the deemed scores for all measure types are much lower for smaller properties when compared to scores Notified to date in ECO2.

Given that there are a number of fixed cost elements for each measure installed (for example: labour, scaffolding), the cost of treating a smaller property is already proportionally greater than treating a larger property. Therefore the deemed scores for smaller property types need to be set at a level that ensures that delivery will remain commercially viable.

We have a number of concerns regarding the current set of deemed scores, these are outlined in more detail below.

Loft Insulation

The deemed scores for loft insulation measures show a greater reduction (approx. 40%) when compared to ECO2 Notified scores than other insulation measures. In order to avoid loft insulation measures becoming commercially not viable, Ofgem need to ensure that the existing insulation mix has been estimated correctly and is representative of properties likely to be targeted in ECO.

In addition, the deemed scores for room in roof measures shows an even greater reduction of approximately 70%. This could be due to an incorrect assumption as to the level of existing insulation present. The starting U-value that BRE have assumed for the room in roof deemed scores is lower than the current RdSAP defaults for the age bands appropriate to the property types applicable.

The deemed scores are also directly affected by the approach to floor areas used to model the scores. This means that the scores for smaller properties are disproportionately lower than the corresponding ECO2 Notified scores for larger properties, thus making measures in these properties less cost effective.

Wall Insulation

It is not clear why there are inconsistencies between the methods used to derive the deemed scores for solid wall insulation and cavity wall insulation.

The method for deriving the scores for solid wall insulation use U-values that are default values within RdSAP. By contrast, the method for deriving the scores for cavity wall insulation measures use U-values that are not consistent with, and are lower than, the RdSAP Table S6 default values which we would expect to be used.

The deemed scores for cavity wall insulation are approximately 30% lower than the scores previously Notified in ECO2; the scores for solid wall insulation appear to be consistent with ECO2 Notified measures but vary widely by property type. For both cavity and solid wall insulation, there is a proportionally larger difference between the deemed scores and ECO2 Notified scores for the smaller property types. Flats appear to be particularly low compared to our Notified average (approximately 50% reduction), although the difference generally reduces with increasing property size.

It is difficult to ascertain how the BRE have approached differences in wall areas, room height or heat loss perimeters for wall insulation measures. We believe that a scaling factor has been applied based on the floor area. If this is the case, it would not take into account the different aspect ratios and shapes of properties. This could have a marked effect on the heat loss perimeter which could have a further impact on the resulting deemed scores compared to the actual score.

For example, two properties of 100m² floor areas. The first has 4 walls of equal length (eg 10m) would have a total heat loss perimeter of 40m; the second has 2 walls of 20m in length and 2 walls of 5m in length. The floor area is still 100m², but the total heat loss perimeter is 50m. In addition, the shape of the property will also have a large impact on the heat loss perimeter – an “L” shaped house would have an even greater heat loss perimeter than a square or rectangular house of the same area, as it will have at least 6 external walls.

As the deemed scores have been based on the median house size, differences in the applicability of cavity wall and solid wall insulation to different properties has not been taken into account. For example, solid wall insulation will generally be installed at older properties than cavity wall insulation. Older properties tend to be larger, have larger windows & floor areas and higher room heights than newer properties. This means that the total heat loss perimeter is likely to be significantly larger for properties treated with solid wall insulation than those treated with cavity wall insulation. Therefore the property type & sizes used to derive the deemed scores for these measures are not representative of the properties that will actually be insulated during the scheme, and are not accurately represented.

Heating

The deemed scores for heating measures show an even larger reduction compared to ECO2 Notified measures than insulation measures. Overall our analysis has shown that this reduction is approximately 50%.

For heating measures, the difference for smaller properties is even more pronounced, whereas for much larger properties, the deemed score is higher than the scores Notified in ECO2. We believe that this is due to the utilisation of total house heat loss on which to base the scores, which includes heat loss from ventilation as well as that via walls. Total house heat loss is proportional to the volume of air within the property and therefore any change in floor area has a more pronounced impact which is reflected in the large differences (both higher and lower) between the deemed scores and scores previously Notified in ECO2 at the smallest and largest ends of the property type/size scale.

We also believe that there is an error in the deemed scores spreadsheet provided with this consultation relating to qualifying boilers. The third and fourth sets of tables on the QB tab are a duplication of the two tables above (i.e. for gas boiler (with controls) and oil boiler (with controls)). We believe that these two tables should in fact detail the deemed scores for LPG boiler (with controls) and biomass boiler (with controls). Because of the large amount of data involved and the potential for scores to be changed over time, Ofgem should ensure that the deemed scores tables are subject to robust version controlling.

Question 10

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?

Yes, E.ON agrees that Ofgem should provide the deemed scores as lifetime savings. The supply chain is only interested in the final scores (taking into account the CO₂e conversion factor, lifetimes, In Use Factors & Relevant HHCRO Multipliers). Providing scores in this format will remove any ambiguity in identifying the correct final lifetime score for any particular measure.

Question 11

Do you agree with the proposal to use ‘percentage of property treated’ to identify whether 100% of a score should be claimed? If not, please explain your reasoning.

Yes. For solid wall insulation however, E.ON have concerns that having the scoring calculated as a direct linear relationship to the total potential wall area will cause difficulties in terms of both initial measurement and also monitoring of accuracy. No property will ever be 100% treated due to the need to allow areas around flues, pipes, cables etc and therefore this will evoke an actual measurement being taken in every case, adding cost and administrative complexity back into the scheme. It is more important that the installation is carried out to the system provider’s accredited technical specification, which will include guidance regarding any wall space not to insulate for safety reasons. It is our view that the use of a “banding” system should be introduced which would make this easier to quantify and monitor as follows:

Actual	Score
>90%	100%
>70%>90%	80%
>50%>70%	60%
>30%>50%	40%
<30%	0%

This would enable a technical inspector to make a visual determination that the installation has been carried out to the correct standards. Any large areas of uninsulated wall will be immediately obvious and should allow for a reasonably accurate estimate to be made rather than requiring an actual measurement.

Question 12

Do you agree with our proposed approach for applying for a new score from April 2017? If not please explain your reasoning, which specific parts of the process you do not agree with and inform us of your preferred approach.

Yes, we agree with the approach for applying for a new score. It is important that any process developed is clear and transparent, and is designed to encourage innovation. Ofgem needs to ensure that clear timescales are set out, preferably with agreed service level agreements in place.

It should be noted that the process flow detailed in the Appendix to the consultation document appears to contain an error of logic. Following on from the question “Is the measure type already included in SAP?” a response of no leads to a question asking “Can the subject of the application be measured in SAP?”.

Question 13

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? If not, please provide reasoning and an alternate approach.

E.ON agrees in principle with a case by case determination on whether to accept an application or not. We do however feel that Ofgem should provide further guidance on what they consider to be a “significant” improvement in a score. There should be minimum thresholds, expressed as a percentage, whereby any improvement beyond the threshold is considered “significant”. This will ensure consistency in evaluating new scores.

Question 14

Do you agree that a DEA is not required to check inputs used when identifying a deemed score for a measure? If not, please clarify why you do not agree and provide an alternative approach with your reasoning.

No. E.ON believes that it would still make sense to utilise the skills of a DEA to validate inputs when identifying a deemed score. Their qualifications ensure that they have appropriate authority when disputes occur. We envisage that there will be a number of instances where the inputs claimed differ from those found upon inspection, for example the number of bedrooms. In disputes such as these, it is important that a suitably qualified individual is able to draw on accepted conventions, i.e. those of SAP/RdSAP, in order to unambiguously make the final (and correct) determination.

In addition, removing the requirement for a qualified DEA to verify the inputs, could affect the confidence of contractors that their measures will pass an inspection. They will have concerns regarding the consistency of non DEA qualified “inspectors” and the differing standards that they will be working to across the whole industry. The introduction of the requirement for a DEA to be involved in score monitoring for ECO2 was the direct result of disputes arising due to differently qualified inspectors working to different standards. Retaining the requirement for a DEA at this stage removes these concerns and ensures that a consistent approach is delivered throughout ECO.

We also question the ability of non DEA qualified individuals, who will not necessarily be familiar with RdSAP terms and definitions, to accurately identify the correct inputs consistently.

Therefore, retention of the requirement to use a DEA for score monitoring helps to ensure that robust and consistent inspections are performed across the whole industry, and that there are suitable appropriately qualified professionals able to help resolve disputes.

Footnote

E.ON agree that the introduction of deemed scores developed by BRE is a welcome simplification of an area of the ECO schemes that has been acknowledged as being needlessly complex and is currently poorly regulated. However, the proposed framework still includes upwards of 30,000 separate possible scores.

We believe that the number of individual deemed scores, and therefore the complexity of the framework, can be hugely reduced if the deemed score for a measure was based on the actual m² of insulation applied or the units of defined heating measures that are installed.

E.ON provided Ofgem with an outline of this approach before this consultation and we accept that a competitive tender process had been previously followed, resulting in BRE being contracted to develop the deemed scores for this scheme. We would welcome further discussions with Ofgem about this approach as the policy for ECO3 (post 2018) is being developed.