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Promoting choice and value for all gas and electricity customers

Energy suppliers and other interested parties

Email: eco@ofgem.gov.uk

Date: 12 November 2012

Dear Sir/Madam

SUPERSEDED - Energy Companies Obligation (ECO): Information on determining savings for qualifying actions and excess actions

ECO is a new statutory scheme to be established by the Electricity and Gas (Energy Companies Obligation) Order 2012 ("the Order")[1]. Under ECO, certain energy suppliers will be required to deliver energy efficiency measures to domestic households. Further information about ECO is available on the Ofgem and DECC websites.

The Order names the Gas and Electricity Markets Authority as the Administrator of ECO. Ofgem ('we', 'our' or 'us' in this letter) will administer ECO on behalf of the Authority.

This is the third of a series of Open Letters, which will provide information on different aspects of ECO. As set out in our letters dated 17 August 2012 and 14 September 2012[2], policies or processes set out in the Open Letters will be included in the draft guidance published for consultation and may change as a result of consultation. However, the finalised guidance will not operate retrospectively to override a policy or process set out in an Open Letter.

Under the Order, suppliers must notify us of the carbon or cost saving, as applicable, attributable to each qualifying action, adjoining installation or excess action.

This letter explains how a carbon or cost saving is calculated under the ECO, and discusses use of software and other tools to perform a calculation. Information on scoring for measures that are transferred[3] or re-elected[4] later within ECO will be provided in our supplier guidance.

The approach outlined in this letter is based on the Order as laid in parliament. The Order is not yet made. Although we anticipate that the Order will be made, suppliers and other interested parties relying on this letter should recognise the possibility that it may not be.

Once the Order is made it will be the responsibility of each supplier to understand the

[1] The Order was laid in parliament on 30 October 2012. It has not yet been made.
[2] Published on our website 20 August and 14 September respectively.
[3] Article 20 of the Order
[4] Article 22(2) of the Order

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provisions of the Order and how those provisions apply to them. This letter is not intended to be a definitive guide to those provisions.

CALCULATING SAVINGS

Introduction

As part of a supplier's monthly notification, the supplier must provide the carbon or cost saving for each qualifying action or adjoining installation ('measure') it notifies[5].

A supplier must calculate the carbon or cost saving for each measure by using one of the following methodologies:

(i) Standard Assessment Procedure (SAP)[6];

(ii) Reduced Standard Assessment Procedure (RdSAP)[7];

(iii) in the case of the repair or replacement of a qualifying boiler, according to the calculation set out in article 17 of the Order; or

(iv) an appropriate methodology.

Specific requirements relating to these different methodologies are explained below.

Calculating both cost saving and carbon saving for a measure

The Order requires a supplier to notify us of completed action. That notification must include the particular type of saving (i.e. carbon or cost) that is relevant to the obligation against which the completed action is to count. We recommend that suppliers calculate both carbon and cost savings for each measure, and to provide both in the monthly notification template.

This is because suppliers may wish, at a later date, and where a measure qualifies, to re-elect the obligation which the measure counts towards, or transfer the measure to another supplier for election against a different obligation that requires a different type of saving. If so, we will require that the cost or carbon saving is calculated using the fuel prices[8] or carbon coefficients which were relevant at the time of installation.

Using SAP/RdSAP

When calculating savings using SAP or RdSAP, suppliers must use the versions of these procedures that are referred to in the legislation: for SAP, the version published in October 2010; for RdSAP, version 9.91 applicable from April 2012.

The approach used by suppliers to calculate savings using SAP or RdSAP must take account of the following:

[5] Article 16(1), (2) & (6)
[6] 2009 edition, as amended in October 2010
[7] 2009 edition, , version 9.91 applicable from April 2012: available at http://www.bre.co.uk/filelibrary/SAP/2009/SAP_2009_9.91_Appendix_S.pdf
[8] For SAP, these are the fuel prices contained with the 2009 edition, as amended in October 2010. For RdSAP, these are the fuel prices contained within the product characteristics data file (PCDF) that was valid at the point time the measure was installed.

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- Location – savings must be calculated using the appropriate degree day region, wherever the methodology allows.

- Occupancy assessment – suppliers should **not** calculate scores for ECO in the occupancy assessment 'mode'.

- Product Characteristics Data File (PCDF) – this is updated every quarter and contains up-to-date boiler efficiencies and fuel prices for use in conjunction with RdSAP. RdSAP cost saving scores must be calculated using the PCDF which was valid at either the time of assessment or installation. Where 'before' and 'after' scores are used to calculate cost savings, the before and after cases must both use the same PCDF.

- The extent of the measure installed. If, for example, solid wall insulation has only been applied to 80% of the external-facing walls of the property, then the SAP or RdSAP methodology must account for this.

Formula for calculating carbon or cost savings using SAP/RdSAP (for the formula for calculating the cost saving for qualifying boilers, see later section)

In order to calculate a saving for a measure under ECO when using SAP or RdSAP, a supplier will be required to multiply the saving that is generated by SAP or RdSAP by some additional factors.

i. Under the carbon emissions reduction obligation and the carbon saving community obligation suppliers should use the following formula to generate a carbon saving for an ECO measure:

$$S \times L \times (100\% - I) = \text{carbon saving } (tCO_2)$$

ii. Under the home heating cost saving obligation suppliers should use the following formula to generate a cost saving for an ECO measure:

$$S \times L = \text{cost saving } (£)$$

Where:

S is the annual carbon saving or annual cost saving calculated in accordance with SAP or RdSAP;

L is the lifetime of the measure[9]; and

I is the in-use factor of the measure[10].

In-use factors

An in-use factor is the percentage by which savings calculated under SAP or RdSAP should be reduced, in order to reflect the likely in situ performance (as opposed to theoretical performance) of an energy efficiency measure. The in-use factors for most measures are

[9] as per the measures table on our website
[10] as per Schedule 3 of the Order and the measures table on our website. The stated in-use factors are in addition to any in-use factors already built into SAP/RdSAP.

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listed in Schedule 3 to the Order. Any measure not listed in Schedule 3 has an in-use factor of 15%[11].

Decimal places

Carbon saving scores should be expressed in tCO_2 to three decimal places. Cost saving scores should be expressed in pounds sterling to the nearest pound. Where savings are calculated by comparing 'before' and 'after' data, rounding should occur after the comparison is carried out, not before.

Test for determining whether SAP or RdSAP contain a methodology for determining a saving

Suppliers must use SAP or RdSAP to calculate savings for a measure where they contain a methodology for determining the savings associated with the measure[12]. The following reasons are insufficient for a supplier to obtain approval to use an appropriate methodology:

- The measure produces higher savings than the savings produced when calculated using SAP or RdSAP; or
- Aspects of the SAP or RdSAP methodology are inaccurate with respect to the measure.

Where a methodology is provided under SAPQ[13] for a measure, then SAP contains a methodology for determining the savings for that measure.

Approach to determining savings for packages of measures under SAP/RdSAP

Where a supplier installs a package of measures in a house, the savings attributable to each measure must be reported on a measure-by-measure basis.

Where two (or more) measures are installed in the same property, but reported to us in different months, the savings for both measures must be calculated using separate SAP or RdSAP calculations; and the calculation for the second measure installed must take into account that the first measure has already been installed.

The only time the carbon or cost saving for more than one measure can be calculated from a single SAP or RdSAP calculation is when all the measures used in the calculation are reported to us in the same month. This is due to the requirement for savings scores to be reported to us in the month after the installation is complete. We intend to work with industry and government during the consultation period to consider whether there is a more effective approach for the scoring of packages of measures.

Determining savings for glazing

When determining the saving for a glazing measure, a supplier must only calculate the carbon or cost saving which exceeds the saving that measure would achieve if installed to the minimum standard required by either the Approved Document L1B (conservation of fuel and power in existing buildings)[14] in England and Wales or the Domestic Technical

[11] See definition of 'relevant in-use factor in Article 2 of the Order
[12] Article 18(3)
[13] http://www.sap-appendixq.org.uk
[14] http://www.planningportal.gov.uk/uploads/br/BR_PDF_ADL1B_2010.pdf

Handbook (Section 6 – Energy)[15] in Scotland. The minimum standard for glazing in both of these documents is U-value 1.6 W/m^{2}K. This means that only improvement to glazing which is below U-value 1.6 W/m^{2}K counts as the saving for a glazing measure.

Suppliers should adopt the following approach when determining the saving for a glazing measure:

- If the original glazing is above U-value 1.6 W/m^{2}K, a supplier should grade the original glazing as U-value 1.6 W/m^{2}K within the SAP or RdSAP calculation.
- Where the original glazing is U-value 1.6 W/m^{2}K or below, the actual U-value of the original glazing should be inputted into the SAP or RdSAP calculation.

Determining savings for excess actions

When a supplier applies to us to credit an excess action[16] to one of the three obligations under ECO[17], it must provide a calculation of the carbon or cost saving for that excess action in its application.

Savings must be calculated using one of the following methodologies:

- SAP;
- RdSAP; or
- an appropriate methodology.

Carbon Emissions Reduction Target (CERT) and Community Energy Saving Programme) (CESP) scores differ from ECO savings in (at least) three key ways:

- different lifetimes for measures are assumed in CERT and CESP;
- different in-use factors are specified in CERT and CESP; and
- the ECO Statutory Instrument requires that scores for ECO be based on SAP 2009 (rev Oct 2010) or RDSAP 2009 (v. 9.91(a) April 2012).

Suppliers will therefore need to amend the CERT or CESP score for each excess action for which they are making an application in order to provide a carbon or cost saving for that excess action.

On our website we have published a sample of indicative look-up tables based on the tables used under CERT and CESP for the scoring of measures. These will be for cavity wall, professional loft and solid wall insulation and will be based on the most frequently used product specifications, 3 different property types, various bedroom numbers and gas or mixed fuel types. Suppliers will be able to use these to identify the cost and carbon savings they will receive for excess actions under ECO. We will work with suppliers in developing scores for excess actions that do not meet the above parameters during the months leading up to the excess actions notification deadline of 1 June 2013.

A supplier may choose to calculate savings for excess actions using SAP or RdSAP. As discussed above, when suppliers are calculating cost savings using SAP or RdSAP they need

[15] http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/pubtech/thb2011domenergy
[16] Article 21(3) of the Order
[17] Article 21(1) of the Order

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to consider the relevant fuel prices (see the footnote to the section on *calculating both cost saving and carbon saving for a measure* above).

Where a supplier wishes to use an appropriate methodology to calculate the savings for an excess action that has been scored under CERT or CESP, it must apply to us for approval of that appropriate methodology. The application must be made before the measure is installed. However the application cannot be made until the Order comes into force. This means that appropriate methodologies can only be used to score excess actions installed under CERT or CESP between the date the ECO Order comes into force and the close of the CERT and CESP schemes (31 December 2012).

Our approach to reviewing appropriate methodologies for ECO is outlined below under 'Using appropriate methodologies'.

Consulting on the approach to scoring under the home heating cost reduction obligation

The Home Heating Cost Reduction Obligation requires that suppliers score measures according to SAP or RdSAP and appropriate methodologies (as per the other ECO obligations). Therefore, for measures installed from 1 October 2012 suppliers will be required to complete a full SAP or RdSAP calculation.

However, under this obligation there is not a requirement for a Green Deal report or chartered surveyor's report to determine a recommended measure (unlike the other ECO obligations). Therefore there may be scope to adopt a slightly more flexible approach to the identification of input data in the future, though it will be essential that the savings determined for the measure are specific to the property in which they are installed. We intend to work with industry and government during the consultation period to consider options.

Determining savings for qualifying boilers

In order to determine the cost saving for the repair or replacement of a qualifying boiler a supplier must use the following formula (as detailed in article 17(1)):

$$(A-B) \times N$$

Where:

- A is the cost of heating the premises where the premises does not have a working heating system as calculated using SAP, RdSAP or an appropriate methodology. To determine "A", suppliers should assume on-peak electric heating when using SAP, RdSAP or an appropriate methodology.
- B is the cost of heating the premises with the repaired or replaced boiler using SAP, RdSAP or an appropriate methodology.
- N, for a boiler that has been *repaired*, is:
    - 1 where a 1 year warranty has been provided; or
    - 2 where a 2 year warranty has been provided.
- N, for a boiler that has been *replaced*, is 12.

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Using appropriate methodologies

To use an appropriate methodology to calculate the saving for a measure, the appropriate methodology must first be approved by us. We will only approve an appropriate methodology where we consider that SAP or RdSAP do not contain a methodology for determining the savings associated with the measure for which a supplier is seeking approval for.

An appropriate methodology must include a lifetime for the measure, and it must take into consideration the likely performance of the measure once installed in a domestic premises.

A supplier must apply to us for the approval of an appropriate methodology before installing a measure that is intended to be scored using that methodology. The application should be made in writing, and accompanied by the information needed for us to make a decision whether to approve or reject the application. We will acknowledge receipt of the application.

We will notify the supplier whether the appropriate methodology has been approved or rejected.

A supplier may install measures that require an appropriate methodology from the day after they submit the appropriate methodology. However, they will be carrying out this activity at their own risk until the date that we approve the appropriate methodology.

When we approve an appropriate methodology for a particular supplier we will publish that methodology on our website. Another supplier may then apply to us to use the approved appropriate methodology. An application to use an approved appropriate methodology should be made in writing.

SOFTWARE AND TOOLS FOR CALCULATING SAVINGS

Introduction

We are required to attribute a carbon or cost saving to each measure that is notified by a supplier[18] as required by the Order[19]. In order for us to attribute a saving we must be satisfied that the carbon or cost saving has been correctly calculated. Where we are not satisfied that a supplier has calculated a saving correctly we will attribute what we consider to be the correct saving, had it been accurately calculated.

In order for a supplier to satisfy us that the score given to a measure has been correctly calculated, information must be retained that evidences the accuracy of the calculation. We will require different evidence to be retained according to the methodology used. This is discussed in more detail in our Open Letter titled *"ECO: documents and data to be made available to Ofgem on request; general information about some legislative provisions of ECO*".

We will take into account various matters when judging whether savings have been calculated correctly, including:

- The veracity and accuracy of the data entered into the calculation; and

[18] Article 19(2) of the Order
[19] Article 16 of the Order

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- The accuracy of the methodology by which the calculation is performed (e.g. does that methodology mirror the methodology in SAP or RdSAP, or the appropriate methodology as approved by us, as the case may be).

Suppliers may use software or other tools to perform a calculation. In the remainder of this Open Letter we discuss use of such tools.

1. SAP or RdSAP software

Where the saving for a measure is calculated using SAP or RdSAP software, the software must be tested by the Building Research Establishment and approved by the Department of Communities and Local Government (England and Wales) or the Building Standards Division (Scotland).

2. Bespoke ECO software based on SAP or RdSAP software

Suppliers may wish to utilise software that is based on approved SAP or RdSAP software but that also carries out additional calculations (for example, by calculating boiler and glazing scores in accordance with our guidance above). We will require evidence that such systems meet our requirements. Suppliers should contact us at an early stage to discuss these requirements.

3. Energy Performance Certificates (EPCs) and Green Deal Assessments (GDAs)

Suppliers will not be able to use the savings score identified on an EPC or GDA because the score will not meet one or more of our requirements described earlier in this letter:

- to calculate scores to the specified number of decimal places;
- to provide measure-by-measure carbon saving scores;
- to disaggregate individual measures when scoring of packages of measures.

However, the inputs used to produce the EPC and/or GDA can still be employed as the basis of a separate RdSAP calculation.

If you have any queries in relation to this letter or the ECO Order, please contact Jessica Ladbury at eco@ofgem.gov.uk.

Yours sincerely,

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