

## Technical Bulletin – 20/06/2018

### Non-Domestic Bulletin



#### Commercial EPC Conventions for England/Wales (Issue 7)

MHCLG has released the latest update to the NDEPC Conventions for Non-Domestic Energy Assessors.

These amendments will be implemented from 1<sup>st</sup> July 2018. All lodgements made following this date will be audited against this version of the Conventions.

[CLICK HERE TO DOWNLOAD THE VERSION 7 CONVENTIONS](#)

#### Non-Domestic Back-to-Basics

All non-domestic energy assessors should be fully versed in the most recent version of the Non-Domestic Conventions. The Conventions provide a set of rules and guidelines that energy assessors are required to follow for a given situation, and help ensure that EPCs are created in a consistent manner across the board. The broad principle of the Conventions is that two energy assessors should be able to visit the same building and produce identical reports, with the Conventions dictating how individual situations are approached.

The Conventions are discussed, amended and reviewed by the Accreditation Schemes and have input from the relevant Government and Devolved departments who implement the EPB Regulations. If you would like us to request any amendments to the NDEA Conventions which would help the consistency of data inputs, please contact us and we will do our best to make your changes.

In the sections below we will cover some of the key Conventions that many assessors tend to find trouble with.

#### Convention 2.02 – Use of Defaults

The SBEM calculation engine contains a series of 'default' values for a wide range of different data points including entries for heating system efficiency, ventilation flow rate and the building's air permeability. These default values are embedded within the software so that the calculation can still be run when the energy assessor is unable to determine the actual values that should be entered. The default values have been selected on a very much 'worst case' basis, and the use of any default will negatively impact upon the final EPC rating produced. It is therefore important that default

values are used only as a last resort when there is no information available either during the assessment or through secondary research.

Many assessors make the mistake of using the default values within the software even when information is available to override these entries. An example of this would be using the 0.65 (65%) boiler efficiency within the software when details of the boiler's actual efficiency are available on the PCDB database. This can have a huge impact upon the heating energy consumption and EPC rating especially when the boiler is modern and has a high efficiency rating. The Quidos auditing team will always check online to see whether information is available for a certain boiler and re-run the EPC calculation to determine what impact this may or may not have on the rating. If there really is no information available and there's no choice but to use a default value then the assessor must fully document within the site notes what efforts were made to find the actual values.

## **Convention 6.03 - Electric Room Heaters**

Electric room heaters have an efficiency of 1 (100%). In practice this means that all of the energy which is input into the heater is converted into heat with no waste by-products. This is in contrast to a heating system such as a gas boiler in which some of the energy input is wasted through the exhausted flue gases. A gas boiler will therefore never achieve an efficiency of 1 in the manner which an electric room heater is able to do, however the lower carbon emissions of gas will almost always see gas-fired systems fare better than electric systems when it comes to EPC ratings.

It is important that energy assessors ensure that the electric fanned/unfanned units are entered into the software with an efficiency of 1 to ensure that they are being accurately modelled. When the heat source is chosen as 'direct or storage electric heater' the SBEM calculation engine automatically assumes an efficiency of 1 and no further action is required. However when the heat source is chosen as 'room heater' the software assumes an efficiency of 0.7 (70%); at this point the assessor must manually amend the efficiency of the electric heater to be 1.0 in order to classify its efficiency rating correctly. Failure to do so can have a large impact on the EPC rating.

## **Convention 6.07 – Estimating Local Mechanical Exhaust Rates**

Many zones within a building will have a local mechanical exhaust contained within in order to remove contaminated air from a space; typical examples of rooms with mechanical exhaust will include toilets, kitchen areas, workshops and bathrooms/en-suite. When a local mechanical exhaust system is present then this should be indicated by ticking the relevant box under the 'Exhaust' tab within the software. Once this box has been ticked the software will automatically default to a flow rate of 5 l/s/m<sup>2</sup> – this is a default value and as we know from Convention 2.02 should only be used when no other information is available.

Table 10.04 in the Conventions gives the number of air changes per hour which are expected for each different activity type. Many assessors make the mistake of simply taking the relevant figure from this table and entering it as the flow rate, however this is not what is required. The air change figure is simply the amount of times that the entire volume of air within the space needs to be changed; so for example a toilet requires 10 air changes an hour, or an air change every six minutes. The volume flow rate must therefore be such that it is able to exhaust this level of air from the space. The full calculation for this is a little complicated however thankfully there is a more simple calculation which is simply:

$$\text{Flow rate} = (\text{air changes per hour} \times \text{zone height}) / 3.6$$

So for a toilet with a zone height of 2.5 meters the calculation would be:

$$\text{Flow rate} = (10 \times 2.5) / 3.6$$

$$\text{Flow rate} = 6.94 \text{ l/s/m}^2$$

## **Convention 6.11 – Zones without fixed conditioning in existing buildings**

Energy assessors will regularly encounter buildings with rooms which have no form of fixed heating, typically within areas such as toilets, small office spaces and kitchen areas. If these zones were to be entered into the software as being unconditioned then the software would assume that they would be unheated at all points during the year, therefore consuming no heating energy and having no impact on the final heating energy figure. This is in spite of the fact that many of these activity areas will have regular human occupation and will need heating at some point during the year, typically with some form of portable heating system. The issue here therefore is that entering certain zones as being unconditioned does not give an accurate reflection of the likely heating demand during the year.

Convention 6.11 puts in place the requirement that certain zones must be assigned a heating system regardless of whether or not a fixed device is actually present. Generally all zones which have regular human occupation will require a heating system to be assigned; the zones for which it is acceptable to have no heating are outlined in the Convention and include activities such as store rooms and plant rooms for which heating will not typically be required. The heating system which should be defined is a fanned electric heater, which is the option that would realistically be utilised within the building space and also offers a 'worst case' assumption given the costs of running an electric heating system. Many assessors make the mistake of either not assigning this 'default' system or defining the system incorrectly, both of which could potentially result in an auditing failure.

## **Convention 7.04 – Display Lighting**

The final Convention that we will consider is Convention 7.04 which covers how to deal with the situation where the SBEM calculation engine assumes a given zone to have display lighting based upon its activity type; this will generally occur for any zone within a retail building as well as a number of other activity types. The best way of determining whether or not SBEM is assuming display lighting to be present is by clicking on the 'Display Lighting' tab and seeing whether or not the information boxes on the tab have become active; if so then then SBEM assumes that the zone has display lighting within. At this state SBEM will assume that the lamps providing the display lighting are not energy efficient, regardless of what lamp type has been defined for the lamp in question.

For zones which do have low energy lamps within it is important to override this assumption and enter in a value which is appropriate for the energy efficiency of the bulbs in place. The Convention therefore requires assessor to enter in a value of 50 lumens/circuit wattage so that the energy efficient output of the bulbs is taken account of. Whilst actual output of the bulbs is unlikely to be exactly 50 lumens/circuit wattage this is a value that is representative of the general output for low energy lighting. When the actual lighting within the zone is non low-energy (tungsten/halogen) then the default assumption should not be overridden.

## Re-lodgement and cancellation

If you have made a mistake on a lodged EPC, or failed an audit, you will need to complete a re-lodgement. In order to do this a copy of the report should be made within the software, and the calculation rerun with the revisions in place to produce the new EPC to lodge.

Any re-lodgements made are at your own cost, so you should make sure your data inputs are correct when the original lodgement is made.

Finally, following the re-lodging you must also cancel the defective report. You should input the new RRN as well as a reason for failure.

## Does a listed building need an EPC?

There are two answers to this question: in Scotland, yes, an EPC is required even if a building is listed; in England & Wales, if you are contracted to complete an EPC on a listed building, you can do so, but as to whether it is *required*, that's a different kettle of fish.

The decision, ultimately, for whether a listed property shall have an EPC, or is required to meet the MEES standards, should be made by the property owner.

[Guidance for the sale and rent of non-domestic properties](#)

## Continuous Professional Development

In any profession, there is always an element of learning new skills, reviewing and updated exiting knowledge, and being the best you can be for your customers; this is also true for Energy Assessors. No two scenarios are the same so developing your personal skill base is important to be able to prove a consistent service to homeowners, agents, and tenants.

As an NDEA, you are required to complete a minimum of 10 hours of CPD during each year of accreditation. The basic tenant is whether the CPD undertaken is aimed to make you a better Energy Assessor.

We've put together a guide to CPD which all Energy Assessors should read; it outlines they types of CPD which can be undertaken and how to plan your CPD to meet your objectives for the year.

[CLICK HERE TO DOWNLOAD OUR CPD HANDBOOK](#)