Technical Bulletin
September 2019

Welcome to the ecmk Technical bulletin for this quarter.

In this issue we cover:

Please do contact us if you wish to see clarification of any issues for future bulletins.

Many thanks and we hope you enjoy the bulletin.

Stephen Farrow
Scheme Manager

Domestic: New SOR's (Scheme Operating Requirements)

The new Scheme Operating requirements came into effect July 1st 2019 for ECMK and can be downloaded from www.easob.co.uk

There have been some major changes to the old SOR's which include the following highlights;

- Random audits being amended to 0.5% per member per year
- 2% per month per scheme to be a mixture of Random, Follow on and SMART audits.

Included within the new SOR's is an updated acceptable evidence list, pertaining to all data being input into the software being evidenced and verifiable. There is no longer a written list of acceptable evidence, instead, Energy Assessors are expected to submit photographic or documentary evidence for **all** data sets within the software negating a need for an acceptable evidence list.

DEA's are also required to label all images and evidence when uploading via the Assessor Hub additional evidence function. This is part of the Scheme Operating Requirements and must be adhered to or the audit will fail for lack of verifiable evidence.

All DEAs & Energy Assessors will be issued with a single Energy Assessor Number which will follow across all strands and schemes making it a lot easier to track and monitor Energy Assessors lodgements and also to direct customer enquiries.

The introduction of the new RdSAP 9.94 software later this year will see a change in the initial response of Energy Assessors to their clients requests. All energy Assessors using 9.94 will now be required to answer a selection of questions regarding the validity of the existing report and the necessity of a new report.

ECMK will be delivering regular CPD sessions regarding the use of RdSAP 9.94 updated software and all associated data requirements.

New scheme Operating Requirements

Summary of changes from Sept 2019

Domestic: New Conventions Version 11

Version 11.0 of the New Conventions went live on the 1st September 2019. In the new version there have been some major changes and amendments to how we record certain scenarios within RdSAP.

Energy assessors are reminded to download a copy of the New Conventions and keep a copy either electronically, on a mobile device or tablet, or a hard copy within your paperwork and files. This will enable full usage and advice via the conventions if any unusual scenarios were to occur whilst in the field.

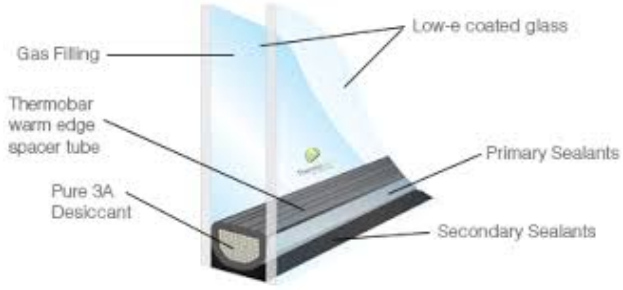
One of the major changes within the new Conventions document is the way we record Bungalows with a Dorma or 1st storey attached.
Convention 1.02b states :-
A bungalow is a dwelling with all of the habitable accommodation on one floor. This excludes chalet bungalows and bungalows with habitable loft conversions which are now treated as houses.

Record as Bungalow

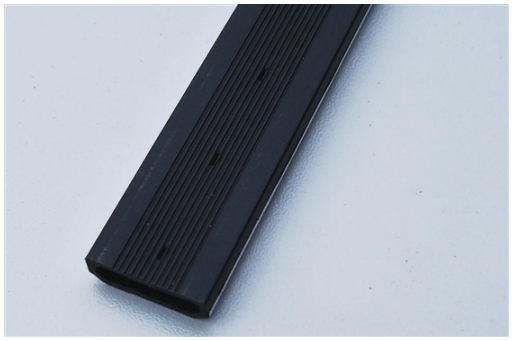
Record as House

Domestic: Convention 3.12a

b) – Presence of thermal space bar indicates post 2002 glazing age, 2003 (Scotland) 2006 (NI)
This is indicating that if a “Thermal Spacer Bar “ is present within the glazing gap, the windows can and should be recorded as post 2002 units (England & Wales)
It is very difficult to recognise a “Thermal Spacer Bar” so if unsure, record unknown.



Standard Aluminium Spacer Bar



Plastic composite Warm Edge Spacer Bar

Thermal Warm Edge spacer bars insulate the edges of a sealed unit and keep the panes of glass apart. Traditionally spacer bars were aluminium, which is highly conductive to heat allowing it to pass through the window.

When it's cold outside and warm inside, heat escapes through the spacer leaving the inside edge of the window colder than the rest of it. This heat loss means more heating is needed to maintain a comfortable indoor temperature.

Warm Edge spacer bars are made of an insulating plastic composite material that becomes a barrier to heat loss. Warm edge spacers reduce the amount of heat lost through the sealed unit. They keep the edge of the sealed unit warm, hence the name 'warm edge'. As a result less heat is lost through the windows and heating bills are lower.

Domestic: SAP v RdSAP

DEAs are reminded that RdSAP is for existing dwellings only. Any dwelling created after lst May 2007 (Scotland), 1st April 2008 (in E&W) or 30th September 2008 (NI) should have a certificate produced using full SAP methodology.

If you are asked to supply 'an EPC', you are required to ascertain when the dwelling was built. If the answer is post the above dates, more investigation needs to be undertaken. Was a full SAP certificate created when the house or apartment was completed? If not, what are the circumstances? A full SAP EPC can be used for sale or rent in just the same way as the RdSAP version, and is also valid for 10 years.

An RdSAP EPC should only be produced on a dwelling which has recently been constructed if a full SAP certificate has previously been lodged on the National Registers – Landmark in EW & NI and EST in Scotland. Once the assessor has found that the dwelling concerned was built after the relevant dates, there are two possible courses of action, depending on the outcome of investigations:

(1) If a full SAP certificate is available, an RdSAP EPC can be created. Even on new houses, RdSAP is required for Feed-in-Tariff and Green Deal applications.

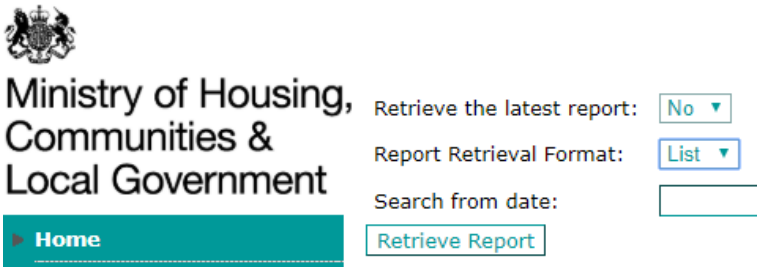
(2) If a full SAP was not created at the time the new build was completed, it will be necessary to find out why. The Conventions give the following guidance:

RdSAP is for assessment of existing dwellings only. Where an EPC is required for a new dwelling under building regulations it must be a SAP EPC. Any new dwelling, including dwellings created by change of use, must be assessed using SAP. For this purpose a new dwelling is, in England, Wales or Northern Ireland, one completed on or after the relevant date. In Scotland this applies to a new dwelling submitted for building warrant on or after the relevant date. The relevant date is 6 April 2008 in E&W, 30 September 2008 in NI, or 1 May 2007 in Scotland.

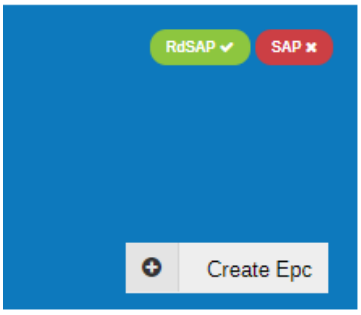
For a new dwelling, where no on-construction EPC has been lodged, a SAP EPC is still required, irrespective of whether the dwelling has been occupied. However, if the SAP data set is not available and the evidence for its lack of availability has been provided, or the SAP data set is available, but the dwelling has been altered in such a way that the data is no longer applicable and the details of the alteration are unknown it can be assessed using RdSAP.

If no full SAP certificate has been created, evidence is required of the investigations carried out to trace one, and if no certificate can be found reasons given why full SAP was not completed along with the dwelling.

Assessors can check the EPC Register for existing SAP reports using www.epcregister.co.uk
Using the RRN of an existing EPC will allow a list of previous reports including any SAP reports registered against that property.



Or if using the Assessor Hub, whilst creating a new report the software indicates if an existing EPC or SAP is registered on that property.



Domestic: Audit Requests

When a request is made for an audit, ECMK send the requests via email to the Energy Assessors preferred email address giving notification of the property to be audited, time scales and a reminder to include any further evidence which may be required for audit purposes within the time set (normally 15 working days if using Assessor Hub). We are receiving a number of audit failures due to no evidence being submitted for the report and the DEA then being suspended for no audit evidence.

DEAs are asked to put ECMK on the safe senders list within their email settings to enable all ECMK correspondence to be delivered successfully and without hinderance to the recipients preferred address.

Please also make regular checks by logging onto the Assessor Hub where any audit requests will also be displayed on the home page.

Domestic: Smart Rule 23

DEA SMART rules V1.3
Implementation date is from 1st July 2019
New rules and changes are highlighted in blue

Priority No.	Rule No	Rule
1	23	Any occurrence of 2 or more EPC lodgements for the same UPRN within a 3 calendar month period made by assessors from the same scheme.
2	1	No main heating system present, but mains gas supply available.
3	2	Main building age band is L
4	3	Heating controls of boiler energy manager
5	4	Overridden U-values for the main building walls
6	15	Wall of any building part that has insulation type unknown
7	16	Floor of any building part that has insulation type unknown
8	17	Non-pitched roof or roof room of any building part has insulation type/thickness 'unknown'
9	6	No heating controls present, but main heating system is a gas (incl. LPG) or oil boiler
10	22	Any floor of any building part room height is <1.5m or >4m
11	8	Mechanical ventilation present in property built prior to 2003 (including supply/extract)
12	21	Gas/Oil/LPG boiler main heating system and hot water from electric immersion
13	11	Age band A cavity walls
14	12	No access to main building loft
15	13	No access to HW cylinder
16	14	Multiple lodgements by same assessor on same property within 1 calender month where SAP rating was F or G but is now E or above
NA	5	Dormant - Any building part on any element has insulation type recorded as unknown
NA	9	Gas boiler main heating system and hot water from electric immersion
NA	10	Dormant - Duplicate lodgement of an EPC for the same property within 1 month by the same assessor

This Smart Rule has been set in place due to MHCLG looking into why multiple EPCs have been lodged or are being lodged against a single property with no clear justification or explanation as to why the existing and current EPC was not utilised.

MHCLG has discovered that multiple reports are being carried out on properties with current existing EPCs already lodged and with no indication of upgraded works being completed to warrant an updated report eg, new or upgraded heating system or controls, or added insulation etc.

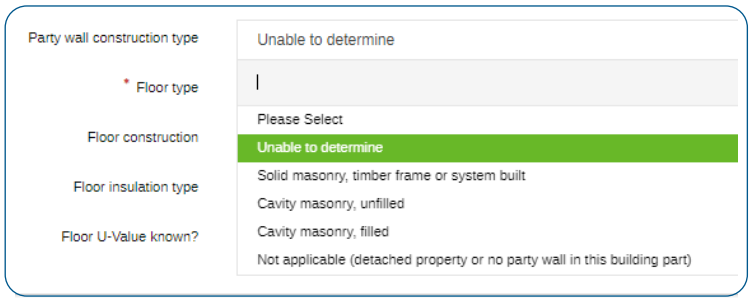
DEAs are now required to carry out much more due diligence before accepting to complete an EPC for a client. This is to include checking the EPC register for any current report on the property, finding out why the EPC is required and if there have been any upgrading works carried out in the period after the last EPC was completed. This information is then recorded within the RdSAP software dropdown menu (9.94 due out later in the year).

Party Wall Construction

This has been a recent acquisition of the data gathering of the party wall type within RdSAP. The options within this section of RdSAP are very limited but are still being incorrectly recorded by DEAs up and down the country.

These are very clear images of the party wall within the loft area and the brickwork pattern clearly shows a line of headers which supports the selection of "solid masonry, timber framed or system build"

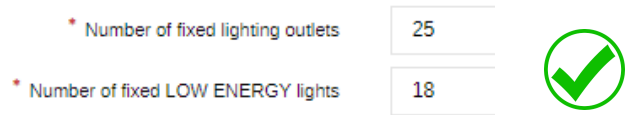
The blockwork party wall construction cannot easily be determined as either filled or unfilled with insulation from the images below. Unless you can evidence either an unfilled cavity by way of an image showing an empty cavity, or a filled cavity by showing an image of insulation within the cavity of the party wall or retrofit cavity drill hole patterns, then this cannot be recorded either way. If the state of the insulation cannot be determined then please select "unable to determine"



Failed Lodgement Troubleshooting

If, after the data set which has been input into the software has been thoroughly checked by the DEA, the report still fails to lodge, there are a number of factors to look out for and check before the inevitable call to the Help Desk.

1. Have you checked the lightbulb count?
   Number of lighting outlets has to be greater or equal to the number of low energy bulbs. You cannot record 10 lighting outlets with 12 low energy bulbs.



2. Have you checked the Flat roof data?
   If a flat roof is selected for an extension or main building, it has to be recorded correctly. Many assessors are recording the flat roof as – Flat roof – as built. This will cause a lodgement error within the software.
   Record the flat roof as – flat roof – flat roof insulation – as built.

* Roofs - Construction Type	Flat
Roofs - Insulation At	Flat roof insulation
Insulation Thickness (Flat roof)	As built
Roof U-Value known?	No

3. Have you checked the Heated Habitable Rooms data?
   The heated habitable room count should not be greater than the total number of habitable rooms

* Number of habitable rooms	6
Are any of these rooms UNHEATED	Yes
Number of HEATED rooms	8
Number of open fireplaces	0

IS YOUR ACCOUNT SUSPENDED FOR ANY REASON?

If you are suspended for any reason at all, you will not be able to lodge any report. Access to the Assessor Hub and Smart Survey is still maintained but is limited to viewing existing assessments and uploading data only. Lodgement is not possible and will result in an error code being generated

Domestic: Appendix Q Technologies

Below are examples of an Appendix Q device. A solar powered ventilation system which was noted in a recent audit carried out by ECMK, meaning this technology is not too far away from being mainstream. This technology cannot be recorded using the PCDF database and as such, BRE have devised a labelling system, accompanying a technical database which is being constantly updated with new Appendix Q technologies.

Appendix Q is a mechanism for recognising technologies not included in the published SAP & RdSAP methodology.

If an Appendix Q device is recognised and noted by an Assessor, a photo of the label and corresponding details need to be recorded and entered into the software. Presently RdSAP 9.93 cannot be easily intergraded to support this data stream but RdSAP 9.94 is currently being developed and will have provision to enable accurate recording of the Appendix Q technology or device.

RdSAP 9.94 will be available at the end of September.

I.1 General description

The Sunwarm Air System is a Low Energy Positive Input Ventilation (LEPIV) unit. Unlike conventional LEPIV units which only draw in external air via the loft in a "cold roof", the unit is capable of drawing in external air from different locations via three air inlet spigots each fitted with their own low energy open/close damper. (See figure 1).

The units airflow is controlled via an integral intelligent control system that measures, and appropriately responds to, temperatures at the various air inlet locations.
The temperature selected by the occupants on the user control panel provided will be the delivered air temperature into the home.

Sunwarm Air
Solar Energy Ventilation System
Installation and Maintenance Details for:

The Roofing contractor
The Building contractor
The Electrician

Section 1.0 Important notes to Designers and Installers

The successful operation of the Sunwarm Air System depends entirely upon installation and ongoing maintenance being carried out strictly in accordance with these instructions.
Additionally, SAP Appendix Q recognition of the Nuaire Sunwarm Air System is contingent upon adherence to this guide, including maintenance activities.

Please read this guide in its entirety before installation and then repeat the exercise step by step to ensure satisfactory completion including any recommended maintenance activities .

Installation of the Solar Air Collectors must be carried out by a suitably qualified roofing contractor taking account of The Working at Height Regulations 2005 and in accordance with CDM Regulations 2007.

Installation of the Air Handling Unit must be carried out by a suitably qualified electrician in accordance with the Electricity at Work Regulations 1989, the 17th Edition IEEE Regulations and

I.3 Installation requirements for the loft mounted Air Handling Unit for retrofit applications

IMPORTANT

Please note that retrofits do NOT form part of this guide in terms of Appendix Q.

I.4 Loft inspection

Check to ensure that the loft has adequate ventilation.
Look for ridge vents, tile vents, eaves vents and continuous air gaps etc. making sure none are blocked. In older properties these vents may not be provided. However, there should be enough 'leakage' to accommodate the requirements of the unit.

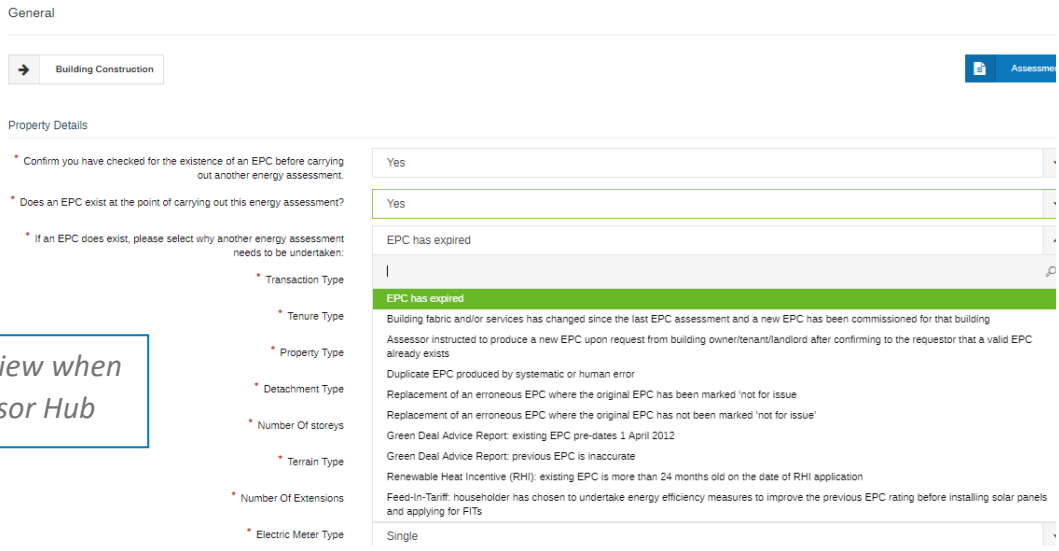
A useful way of checking such lofts is to close the hatch, switch off the lights and look for any daylight penetration.
If you can see daylight it is reasonable to assume that the loft has sufficient ventilation

RdSAP 9.94 Software Update

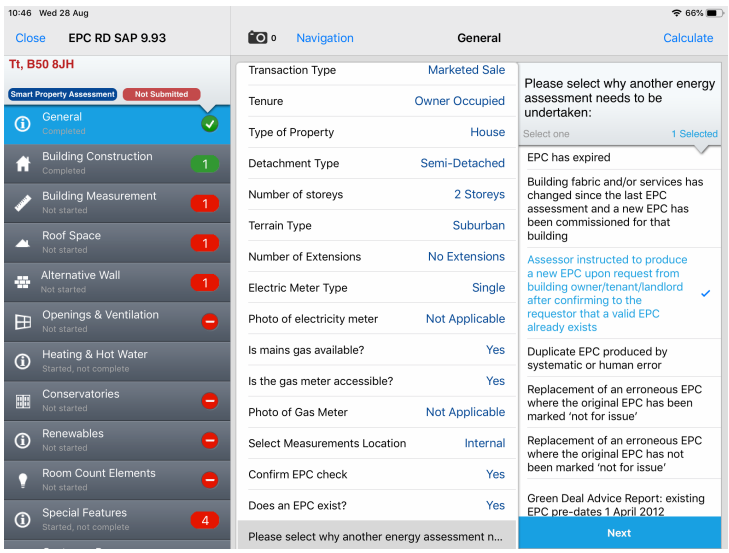
In order to incorporate various new technologies within RdSAP and record these technologies as accurately as possible, an updated version of the RdSAP software has been developed and is in its final stages before being released to the public.
DEAs will now be able to record immerging new technologies using the Appendix Q methodology now incorporated within RdSAP 9.94.

There have been certain changes and additions to the data collected which has also been incorporated within the new Smart Rules and new Conventions version 11.0 and these include;

Reason for carrying out an EPC. You are now required to state why the EPC is being carried out. You are also required to check the current EPC register ensuring no current EPC is still on the register and "live" which can still be used.



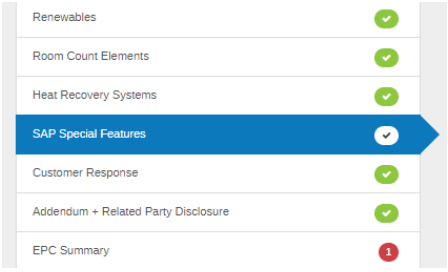
This is the view when using Assessor Hub

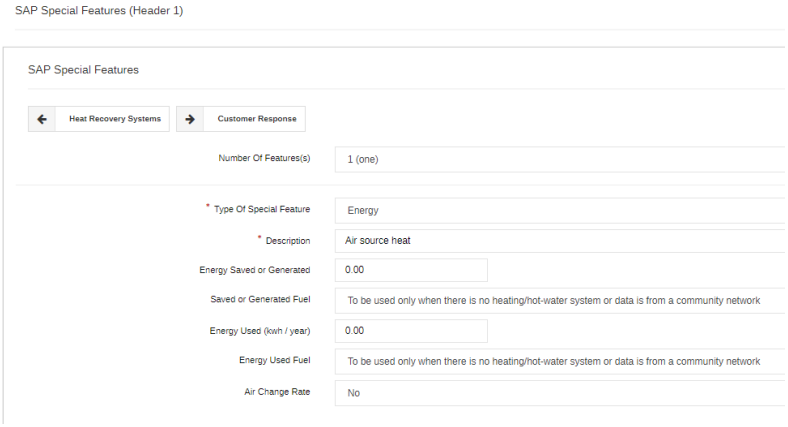


This is the New RdSAP 9.94 SMART Survey view

Appendix Q Technologies – Special Features

This is where the Appendix Q Technology is recorded within RdSAP 9.94





To include technologies that are recognised via the SAP Appendix Q mechanism within RdSAP assessments, the following instructions must be followed.

Technologies recognised by this mechanism are listed at the webpage: http://www.ncm-pcdb.org.uk/sap/page.jsp?id=18 under the RdSAP 2012 heading. The webpage contains Excel spreadsheets that enable the calculation of energy savings and consumption for recognised technologies when installed in existing dwellings.

During assessments of existing dwellings, where the assessor determines that a new technology recognised via SAP Appendix Q is present, they must follow these steps:

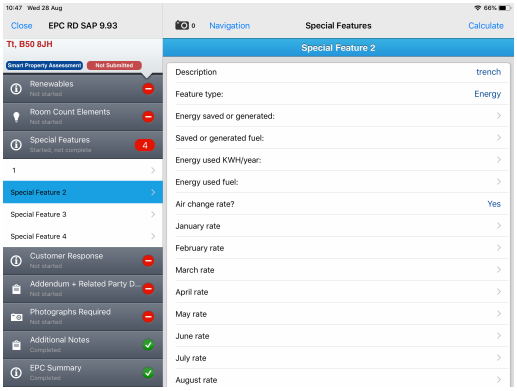
Photograph the NCM (SAP) Identifier label for the installed technology (temporary note: this is currently being developed).

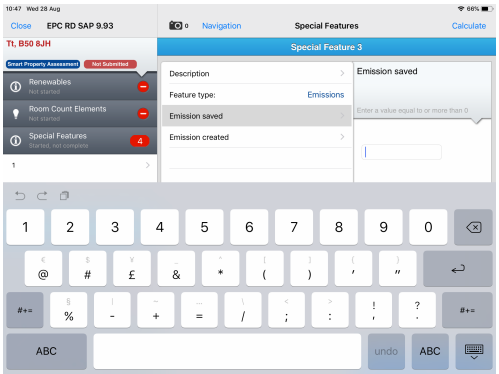
If the label and, where applicable, a commissioning Certificate cannot be found, disregard the technology.

Download the Appendix Q calculation spreadsheet for the appropriate technology from: http://www.ncm-pcdb.org.uk/sap/page.jsp?id=18

If Appendix Q RdSAP Spreadsheet for the technology is not available, disregard the technology.

Follow the data entry instructions contained within Appendix Q calculation spreadsheet, proceed with the calculation by entering the NCM (SAP) Identifier and, if necessary, data from the RdSAP worksheet





Enter calculated energy savings and energy consumption (if applicable), calculated by the Appendix Q calculation spreadsheet and enter into RdSAP software(temporary note: this is currently being developed by BRE)

Within RdSAP software, suppress Energy Performance Certificate (EPC) recommendations when instructed to do so by the RdSAP Appendix Q calculation spreadsheet

The Appendix Q calculation spreadsheet containing the calculation of savings must be saved and retained for audit purposes.

Select a Solar Assisted Heat Pump from the list below based on the signed installation and commissioning checklist details

Select an index number from the table and enter it in the green cell to the right | | Box Q01

Table of Recognised Heat Pumps

Index no.	Manufacturer Name	Brand Name	Model Name	Model Qualifier	Solar pre-heat volume	Solar storage heat loss to ground kWh/day @45K	Solar storage heat loss to air kWh/day @45K	Number of collector sets	Total solar collector area	Collector - zero heat loss efficiency η_0	Collector heat loss A_0 W/K	Index no.
100	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	100
101	Sunergy Systems Ltd	Minus7	SEP3G10	1	3600	1.69	0.42	1	20.11	73	15.111	101
102	Sunergy Systems Ltd	Minus7	SEP3G10	2	3600	1.69	0.42	2	40.22	73	15.111	102
103	Sunergy Systems Ltd	Minus7	SEP3G10	3	3600	1.69	0.42	3	60.33	73	15.111	103

SAP 2009/2012 New Technology (Appendix Q) - Data entry for Solar Assisted Heat Pumps

SAP Assessment Reference Number	

Step 1: Check the details of the heat pump selected in the 'Select System' tab are consistent with those noted above, if not, re-select the correct system. If the system is not listed in the 'Select System' tab abandon the assessment.		
System index number (taken from "Select System")		Box Q01
System manufacturer	Select a system from 'select system' first	
System brand name	Select a system from 'select system' first	
System model name	Select a system from 'select system' first	
System name qualifier	Select a system from 'select system' first	
Number of solar collector modules	Select a system from 'select system' first	
Solar collector area (m^2)	Select a system from 'select system' first	
Solar collector heat loss coefficient (a_0)	Select a system from 'select system' first	
Solar collector zero-loss efficiency (η_0)	Select a system from 'select system' first	
Solar collector pump power	Select a system from 'select system' first	
Hot store volume litres	Select a system from 'select system' first	
Store heat loss to ground @ 45K rise (kWh/day)	Select a system from 'select system' first	
Store heat loss to air @45K rise (kWh/day)	Select a system from 'select system' first	

PLEASE NOTE:

The RdSAP 9.94 software goes live September 23rd 2019.

Energy Assessors are required to complete all reports which were started using RdSAP 9.93 by 22nd September 2019.

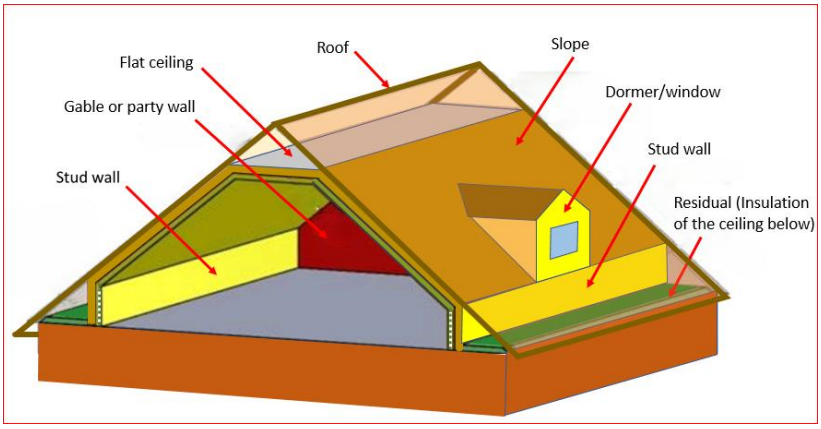
Any Reports started before that date using the current RdSAP 9.93 software will need to be started again using RdSAP 9.94 if not lodged on or before the 22nd September 2019.

Reports started on RdSAP 9.93 cannot be carried over to RdSAP 9.94.

Domestic: U Values for Room in Roof

Domestic Energy Assessors are not normally permitted to use U-Values in recording the insulation characteristics of any part of the building being assessed, but as per the New Conventions version 11.0, Energy assessors can now use U-Values to better reflect and record the actual insulation within the room in roof.

You are required to record the room in roof construction date and then consider each section of the room in roof insulation type, before measuring the actual depth and using the table below to record the U-Value for that particular section.



Convention 2.06

To achieve better precision, known U-Values can be applied to measured areas of roof room elements; Detailed measurements of all elements are recommended only if evidence exists that ceiling/slope/stud wall/gable wall have different levels of insulation and their U-Values are known or taken from Appendix 4.

Appendix 4. Rooms in Roof - U-values applicable to room in roof insulation

Insulation thickness at joists (mm)	Slope u-value		Flat ceiling u-value		Stud wall u-value	
	Mineral wool or EPS slab	PUR or PIR	Mineral wool or EPS slab	PUR or PIR	Mineral wool or EPS slab	PUR or PIR
None	3.85	2.43	1.68	1.68	3.13	3.13
12	1.91	1.23	1.18	1.04	1.79	0.71
25	1.24	0.82	0.9	0.75	1.23	0.56
50	0.77	0.52	0.62	0.51	0.78	0.41
75	0.56	0.39	0.5	0.39	0.59	0.34
100	0.45	0.31	0.41	0.32	0.48	0.29
150	0.33	0.24	0.33	0.26	0.29	0.24
200	0.23	0.16	0.23	0.16	0.21	0.16
250	0.18	0.12	0.18	0.12	0.17	0.12
270	0.16	0.11	0.17	0.11	0.16	0.11
300	0.15	0.1	0.15	0.1	0.14	0.1
350	0.13	0.08	0.13	0.09	0.12	0.08
>400	0.11	0.07	0.11	0.07	0.11	0.07

Key:
EPS - expanded polystyrene slab
PUR - polyurethane rigid insulation
PIR - polyisocyanurate rigid foam

Assumptions used for calculating U-values:
Up to 150 mm, the insulation is between timber (rafters or studs)
Timber fraction is 12%
After 150mm, the next layer of insulation is continuous
0.04 W/mK – thermal conductivity of mineral wool slab or EPS slab
0.025 W/mK – thermal conductivity of PUR or PIR slab

Notes:

1. U-values from this table can be used for elements of rooms in roof only when the type of insulation and its thickness are known (evidence required)
2. Use the actual thickness of insulation (**do not** double insulation thickness if thermal conductivity is 0.025 W/mK)

PAS 2035 – Retrofit Assessor Training

ECMK will be delivering a range of courses and events based around the implementation of the PAS 2035 standard.

PAS 2035 is set to change the way domestic retrofitting is carried out in the UK. PAS 2035 is the overall certification document within the retrofit standards framework and all TrustMark holders will be required to comply with this standard when carrying out any domestic retrofit work. Climate change targets suggest a substantial reduction of greenhouse gasses need to be made by us all. This means improvements must be made to the existing building stock within the UK which equates to around 27 million domestic buildings needing retrofitting works to be carried out. New EU objectives means that PAS 2035 will be a major mechanism in achieving the Near Zero Energy Buildings target (NZEB)

TRUSTMARK
Government Endorsed Quality

Retrofitting is one mechanism that is proving crucial to improving quality in the built environment and there is an increasing opportunity to professionalise this type of work. Though the PAS 2035 is still in its infancy, ECMK are developing formal training and certification to offer energy assessors.

As PAS 2035 develops, we will be informing DEAs of the updates to the certification and training.

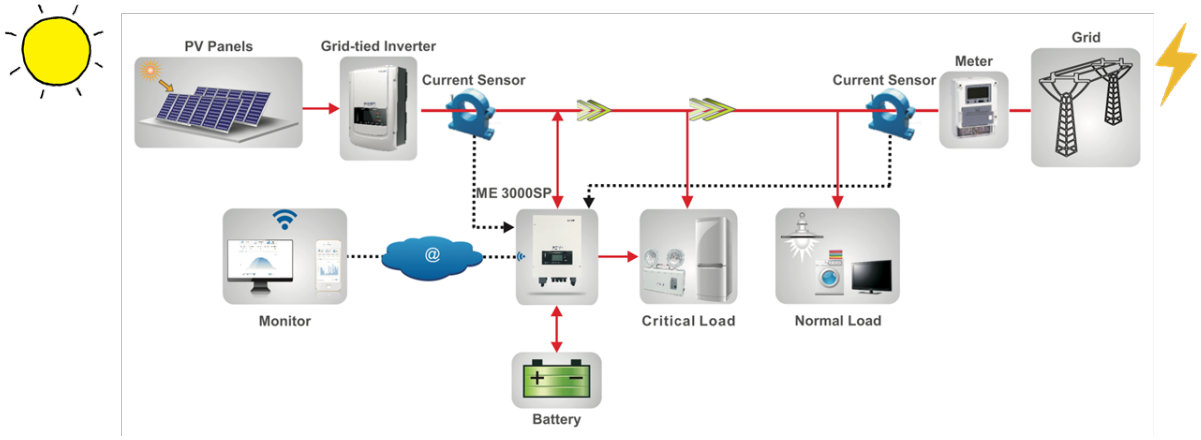
ECMKs PAS 2035 Retrofit Assessor Scheme will deliver training and CPD sessions geared around the Retrofit Assessor Role where by DEAs will be authorized to carry out a Retrofit Assessment which is a non-intrusive on site assessment allowing a retrofit coordinator to carry out a Medium Term Improvement Plan based on the evidence gathered from the assessment.

PAS 2035 Training Prices:
PAS 2035 2 Day Intensive Course at our training centre in Solihull
£499.00 + VAT
Dates to be announced shortly

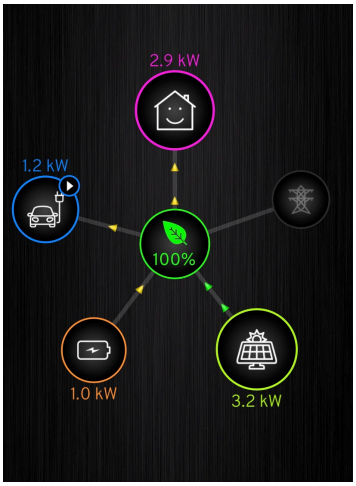
Renewables in the Home CPD: Car Charging & Solar Diverters

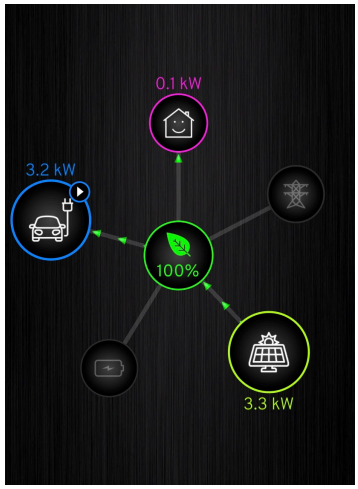
More and more homeowners are finding new ways to compensate for the lack of Feed in Tarif payments now available with the installation of solar pv panels. One way is to use the surplus electricity to heat for example, a tank of water using a solar diverter. This will divert any electricity generated by the panels to the immersion coil of the cylinder giving the household a free tank of hot water. The hot water cylinder is not the only system that can benefit from

surplus electricity as the diverter can send the electricity to charge the householders electric vehicle or even a bank of batteries to be used when the sun goes down.



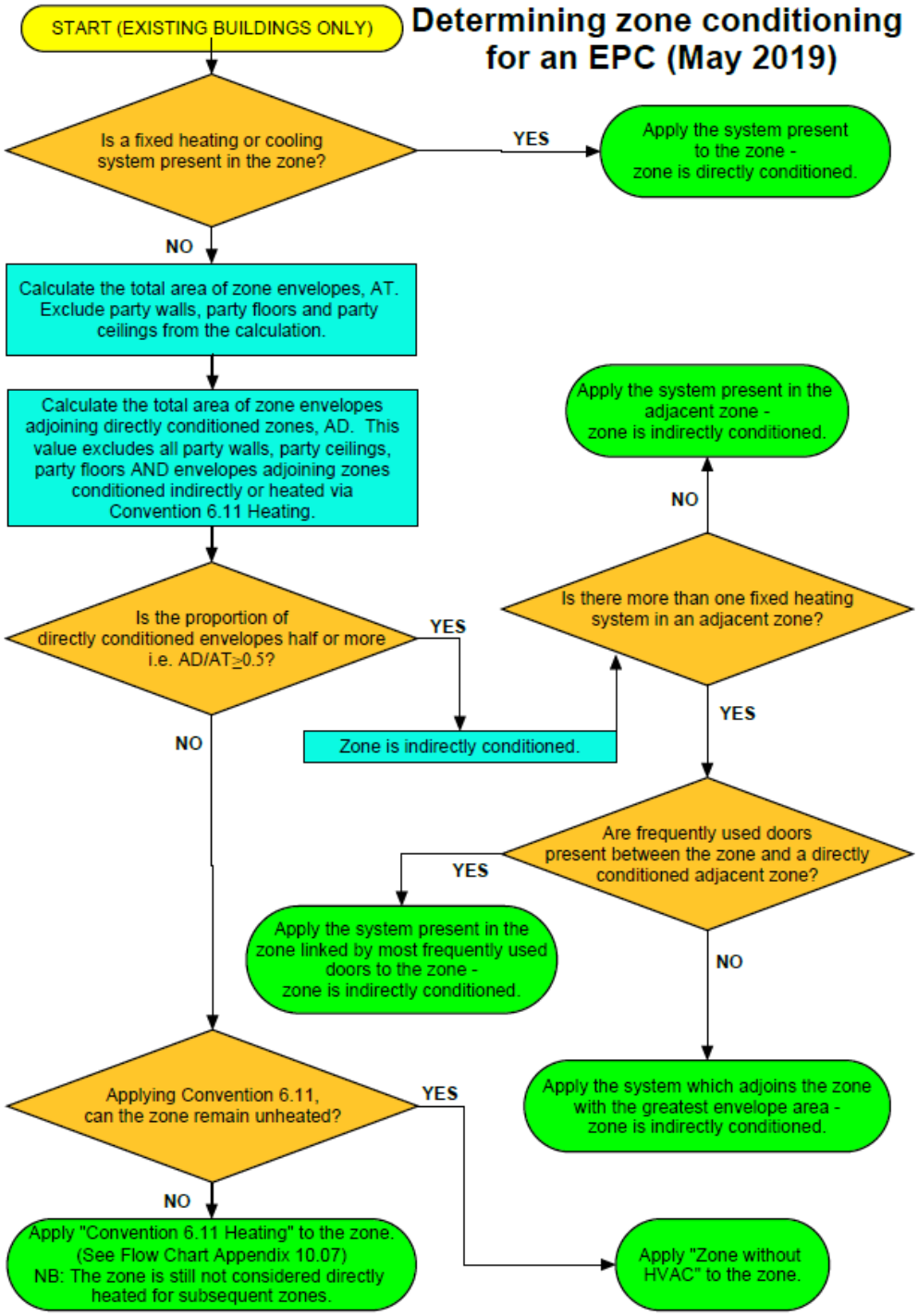
Due to the changing landscape of energy generation and storage in the home, we now offer a CPD session which helps to identify this new technology and explain how it works and may be recorded for future assessments. This session ties in very well with Appendix Q technology as it focuses on Solar PV, battery technology and Solar Diverters





Non-Domestic: Identifying Indirectly Conditioned Zones

Following amendment of convention 6.13, identifying indirectly conditioned zones, it has become apparent that extra guidance is required for assessors to demonstrate that the convention is being applied correctly. Below is a flow chart showing the methodology that should be followed.



If you do have any further questions or queries then please contact us via:
accreditation@ecmk.co.uk

Upcoming CPD Webinars & Courses

		September	Cost (+ vat)*
Renewables and LZC Technology		Tues 3 @ 0830-0930	£15.00
RdSAP 9.94 Update	** NEW **	Wed 4 @ 1500-1600	£15.00
Measuring & Modelling		Thurs 5 @ 1500-1600	£15.00
Walls – Construction, Party & Alternative		Fri 6 @ 1600-1700	£15.00
Mini Audit: Tips & Hints – How Not to Fail		Mon 9 @ 1300-1400	£15.00
RdSAP 9.94 Update	** NEW **	Tues 10 @ 1300-1400	£15.00
The Electrifying Future	** NEW **	Wed 11 @ 0900-1000	£15.00
SORs, Conventions & SMART Audits Explained	** NEW **	Thurs 12 @ 0900-1000	£15.00
Plan Up Floor Plan		Mon 16 @ 1500-1600	£15.00
RdSAP 9.94 Update	** NEW **	Tues 17 @ 0830-0930	£15.00
RdSAP 9.94 Update	** NEW **	Wed 18 @ 1500-1600	£15.00
Flats & Maisonettes		Thurs 19 @ 0900-1000	£15.00
Lighting & Storage Heaters		Fri 20 @ 1600-1700	£15.00
RdSAP 9.94 Update	** NEW **	Tues 24 @ 0830-0930	£15.00
DEA Bootcamp & RdSAP 9.94 Update (1 Day)	** NEW **	Wed 25 @ 0900-1700	£95.00
Rooms in the Roof		Thurs 26 @ 0900-1000	£15.00
Glazing		Fri 27 @ 1600-1700	£15.00
Evidence: Photographs & Documents		Mon 30 @ 1300-1400	£15.00

Costs listed are for ecmk members

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