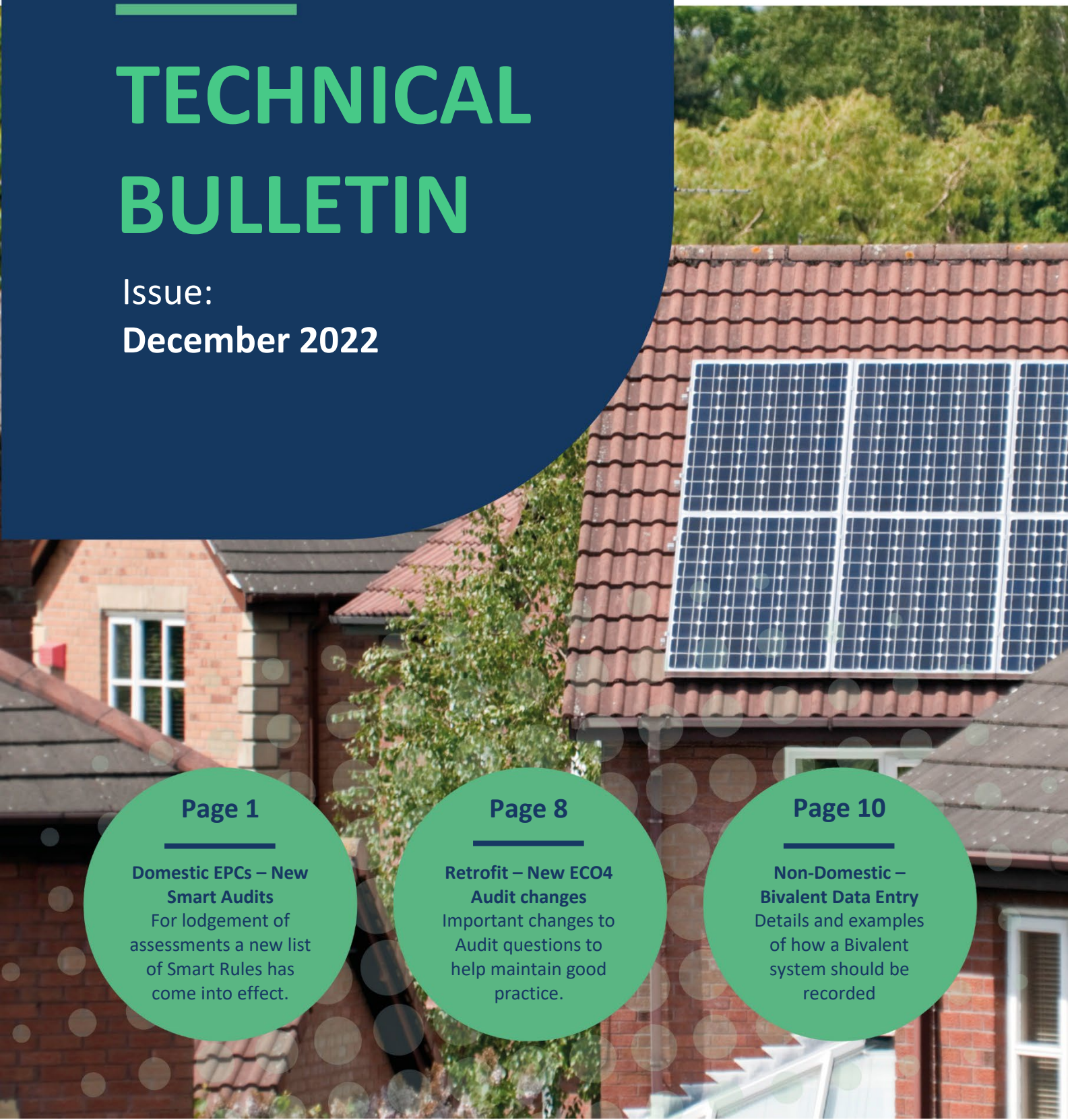
TECHNICAL BULLETIN

Issue:
December 2022



Welcome

Hello and welcome to the December issue of the ecmk Technical Bulletin. In this issue we will be covering the new Smart Rules for the lodgement of assessments, what is ECO4 and how is it implemented, as well as some important updates for Non-Domestic Assessments. We hope that you find this issue useful and informative. If you have requests for particular topics to be covered in future issues, please get in touch with us.

Chris Wilkes, Scheme Manager, ecmk

Inside this issue:

Domestic EPCs

New Smart Audits

For lodgement of assessments following 1st November 2022 a new list of Smart Rules has come into effect. The full list of smart rules can be found either on Assessor Hub or at http://easob.co.uk

Below is the list of the Smart Rules which have been added to the list.

Priority No	Rule No	Rule
1	31	Multiple lodgements on the same property by assessors from the same scheme within 12 calendar months where the SAP rating has dropped by two bands or more
6	30	Multiple lodgements by assessors on the same scheme on same property within 12 calendar months where SAP rating was A-D but is now E or lower.
7	29	Multiple lodgements by same assessor on same property within 12 calendar months where SAP rating was F or G but is now E or above.
8	28	Multiple lodgements on same property within 1 calendar month where SAP rating was E or lower and is now C or above by assessors from the same scheme

Triggering a Smart Audit is not something to be concerned about or to be avoided. Smart Audits exist to ensure that potentially unusual occurrences within an EPC have been recorded correctly. If a property has been recorded correctly and the evidence supports what has been recorded, then such audits should be of little concern.

However, if you are aware that an assessment could trigger a Smart Audit, additional site notes should be provided to acknowledge the Smart Rule. In the case of all the new Smart Rules, these audit triggers are where multiple assessments have been lodged on a property and there has been either a deterioration or improvement in the rating. In all cases an explanation should be provided.

For Smart Rule 31 (Multiple lodgements on the same property by assessors from the same scheme within 12 calendar months where the SAP rating has dropped by two bands or more), it would be very unlikely that a rating on a property would drop by as much as 2 Bands. This would either be due to a very bad decision being made by the homeowner when making alterations to a property, or errors made by the previous or current assessor. Please ensure your sitenotes acknowledge the previous EPC and explain what has changed at the property since it was carried out.

Again, the same would apply to Smart Rule 30 (Multiple lodgements by assessors on the same scheme on the same property within 12 calendar months where the SAP rating was A-D but is now E or lower). Acknowledgement of the changes to the property should be made.

Smart Rule 29 (Multiple lodgements by the same assessor on the same property within 12 calendar months where SAP rating was F or G but is now E or above) is perhaps more likely where improvements have been made to a property, most likely to allow the property to comply with MEES requirements. An explanation of what has changed at the property should be provided along with evidence that clearly supports the new and improved state of the property.

Finally, Smart Rule 28 (Multiple lodgements on the same property within 1 calendar month where SAP rating was E or lower and is now C or above by assessors from the same scheme) This is where significant improvements have been made to the property and 2 EPCs have been lodged within a month. Although possible it would be unlikely that such an improvement could be achieved in such a

short space of time. Again, details of the improvement made and clear evidence which reflects the state of the property at the time of inspection should be provided.

Assessors are reminded that all elements recorded should be fully supported by sitenotes, photographic evidence, and supporting documentation, to allow for the assessment to be verified as correct by a 3rd party. Failure to provide clear evidence could result in the Assessment failing the audit. Also, particularly with these new Smart Rules, remember that an audit is called against an Assessment's RRN and not against a property address. When an Assessment is called for Audit please check the Assessment's RRN and ensure that the required evidence is against that RRN. When auditing, Auditors will not look for evidence if it is not presented against the RRN which is being audited. When an Assessment is cloned on either Smart Survey or Assessor Hub any photographic evidence on the original Assessment does not get transferred across, therefore evidence for the cloned assessment has to be manually uploaded to the assessment on Assessor Hub. Assessors are expected to ensure that the evidence is in the right place prior to an Audit taking place. Evidence being uploaded to the wrong assessment is not a valid reason to have a failed audit result overturned.

Domestic EPCs

Electric Boilers in RDSAP

Electric combi boilers can't be found in the PCDF in RdSAP, therefore they have to have unique manual entry data inputs within.

Electric Combi boilers

Electric combi boilers- should be entered into RdSAP with the following data inputs:

Type of boiler-Standard boiler,

Fuel type-Electricity,

Heating system-Direct acting.

See below the data entry in Assessor Hub. Please note the **electric instantaneous** hot water data entry for an electric combi boiler.

Main Heating Systems

* How many heating systems are there ?	1

Main Heating 1

How would you like to select Heating System	Manual
* System type	Boiler with radiators or underfloor heating
Type of boiler	Standard
Fuel	Electricity
Heating System	Direct acting
Controls	Programmer, room thermostat and TRVs
Central heating pump age	Unknown
Emitter	Radiators

Secondary Heating Systems

* Secondary Fuel	No Secondary Heating

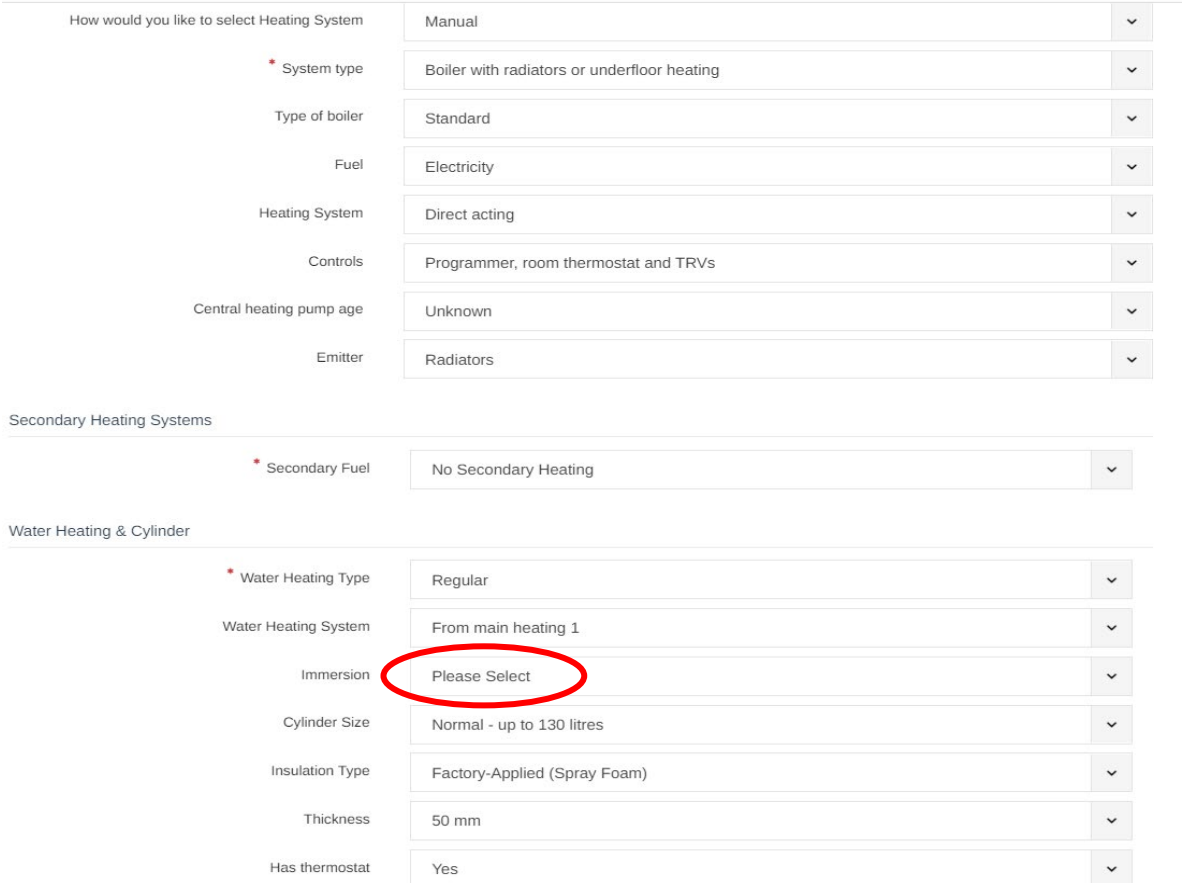
Water Heating & Cylinder

* Water Heating Type	Regular
Water Heating System	Electric instantaneous
Cylinder Size	No Cylinder

Electric conventional boilers (with a Hot water cylinder)

Conventional electric boilers can't be found in the PCDF in RdSAP, therefore they also require manual data entry.

The hot water is either recorded from the main heating system or Electric Immersion. If recorded from the main heating, record the hot water cylinder size, insulation, and any thermostat from what is evidenced at the time of the survey.



Retrofit

What is ECO 4?

What is ECO4 and how does it differ from ECO3?

Compared to previous ECO schemes, ECO4 focuses on improving the least energy-efficient homes, as only properties in band D-G can be treated. It also requires a more complete upgrade of those homes, shifting to a multi-measure whole-house retrofit approach.

There is a new Minimum Requirement (MR) to improve the energy efficiency rating of band D and E homes to at least a band C, and band F and G homes to at least band D. This approach increases the number of measures installed per home and the savings for the household.

Private tenure E,F,G homes

Suppliers must upgrade a minimum equivalent of 150,000 private tenure band E, F and G homes under ECO4 ensuring the least efficient homes are treated. Private tenure refers to properties that are either owner-occupied (OO) or private rented sector (PRS).

PRS properties occupied by a member of the Help To Heat Group (HTHG) or a person declared as eligible by the local authority living in a property with an initial SAP energy efficiency rating of E, F and G are eligible to receive ECO4 measures.

Social housing

ECO4 measures can also be delivered to social housing with a SAP energy efficiency rating of D, E, F, and G, where the premises are let below the market rate. All social housing properties are required to meet the relevant ECO4 MR to receive funding. The type of measures that can be delivered to social housing properties is dependent on the SAP energy efficiency rating of the property before the installation of measures.

ECO4 Project Scores

Where the project meets certain requirements, the final score for a property will be attached to the project, rather than the individual measures. This is called the full project score (FPS), which may only be awarded once a project is complete, the minimum requirement is met, relevant post-retrofit evidencing is provided and all measures in that project have passed required validation checks.

As an interim approach for measures awaiting project completion, or for completed projects that do not qualify for the FPS, individual measures can be awarded deflated partial project scores (PPS). PPS will be provisionally awarded to measures that pass required eligibility checks and are moved into an approved status on the ECO4 register.

Minimum requirement

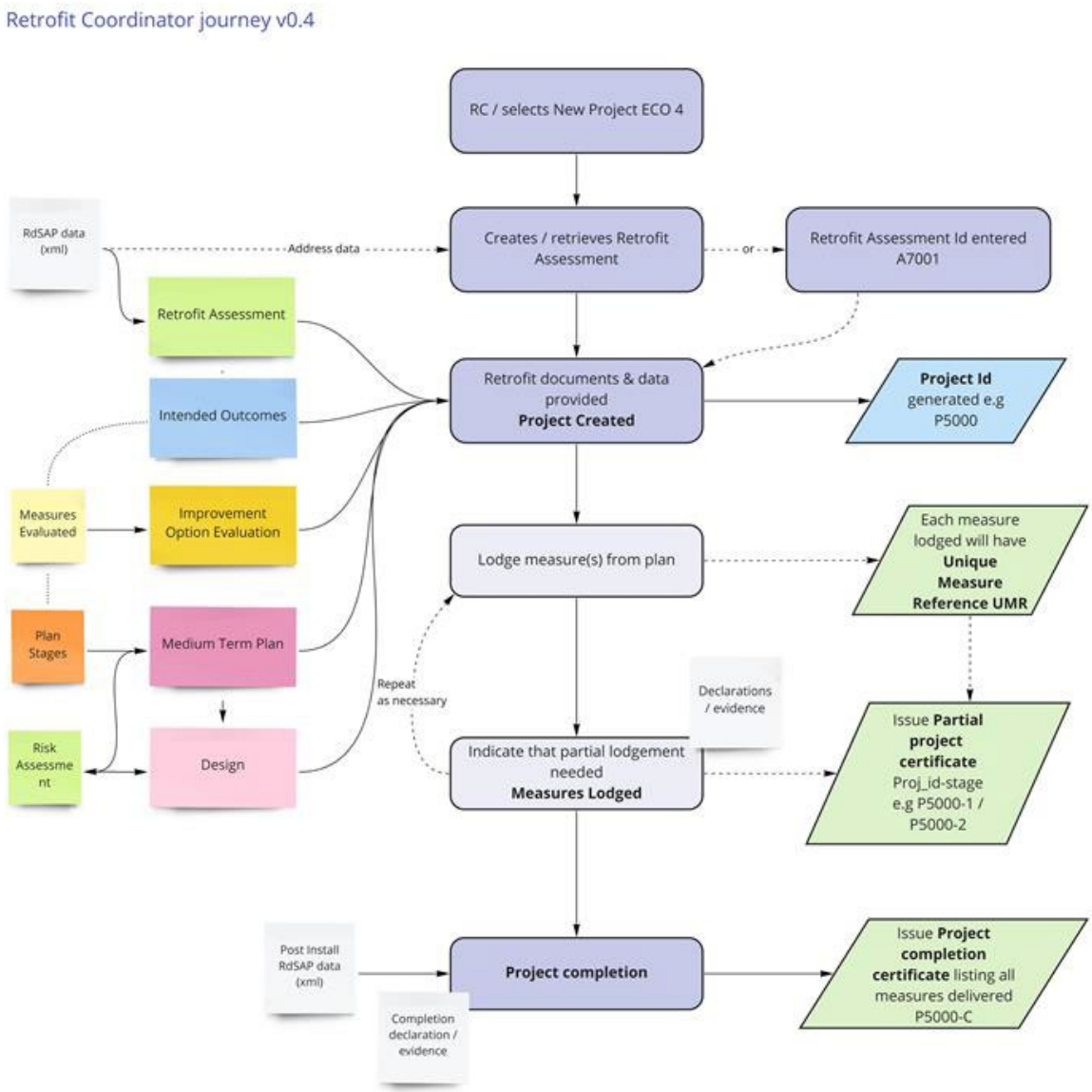
To be granted a FPS, a project must produce a sufficient increase in the property's SAP rating to meet the minimum requirement (MR). The minimum requirement is:

- **Any starting SAP band F or G property treated must be improved to at least a band D.**
- **Any starting SAP band D or E property treated must be improved to at least a band C.**

Properties with a starting SAP band of C or above are not eligible under ECO4. The only exceptions to this are in-fill retrofits, which are not subject to the usual eligibility requirements or minimum requirements.

Whether a project meets the MR does not impact the eligibility of the measure(s) within that project. Projects which do not achieve the MR will receive deflated PPS, unless they are subject to certain exemptions.

Trustmark's Data Warehouse Project Completion (process can be completed using PAS Hub)



Key Concepts:

- A retrofit project will be created.
- A retrofit project will require a retrofit assessment.
- Retrofit assessments will be accompanied with RdSAP xml data.
- Before a project ID can be generated, certain requirements must be met.
- Defects in the property can be recorded at both Assessment and mid-project.
- Designs must indicate who created them, which measures they cover and how property defects are addressed.
- A project can be completed and lodged in stages.
- Each lodged stage can contain one or more measures.
- To complete a project an updated RdSAP xml must be provided.

Trustmark – Documentation Required for Structured Retrofit

From Monday **21st November 2022**, Trustmark will be looking to see that both PRE and POST EPR documents are uploaded into the Data Warehouse when the project has been completed. Energy Performance Reports are generated with the XML files when the assessment is completed.

Initially, both documents should be uploaded within the 'Documents' section, moving forward Trustmark hope to create fields within the Data Warehouse, next to the XML upload section, to populate with this information.

TRUSTMARK
Government Endorsed Quality

Documentation required for Structured Retrofit
v2.1 29.04.22

	Structured Retrofit (ECO 4 etc.)			
Document	PAS2030:2019 / MCS & PAS 2035			Notes
	Path A	Path B	Path C	
Assessment				
Advice report	o	o	o	
Assessment Report	Y	Y	Y	pre installation RdSAP xml
Project Creation				
Intended Outcomes	Y	Y	Y	
Improvement Option Evaluation	y	Y	Y	Required for all pathways
Medium Term Imporovement Plan	y	Y	Y	Required for all pathways
Risk Assessment	Y	Y	Y	
Pre-Design Building Survey	Y	Y	Y	PAS2030 measures
Retrofit Design	Y	Y	Y	Design must cover all measures, thermal bridging, ventilation and defect resolution
Significance Survey	Y	Y	Y	where Traditional construction
Lodgement Stage				
Claim of Compliance PAS2030	If PAS	If PAS	If PAS	
MCS Compliance Certificate	if MCS	if MCS	if MCS	
Evidence of submission to CPS	Conditional	Conditional	Conditional	Where applicable
Handover documents for Client	Y	Y	Y	Encouraged
Claim of Compliance PAS2035	Y	Y	Y	Covering the progress to date
Guarantee / Insurance	Y	Y	Y	Must cover all measures
Other commissioning certificates	o	o	o	if not part of handover document
Pre-Installation Building Inspection	Y	Y	Y	PAS2030 measures
Mid-install Inspection	o	o	o	requested where available
Commisioning Checklist	o	o	o	
Other	o	o	o	With description
Project Completion				
Claim of Compliance PAS2035	Y	Y	Y	
Post Installation RdSAP xml	Y	Y	Y	
Other	o	o	o	With description
Contract / Invoice	o	o	o	
Post Completion				
Monitoring and Evaluation outcomes	Conditional	Conditional	Conditional	Appropriate level post completion as conducted

Key	
Y	Mandatory
o	Optional, but encouraged
Conditional	See notes
Declaration	Provision needs to be declared although upload not required

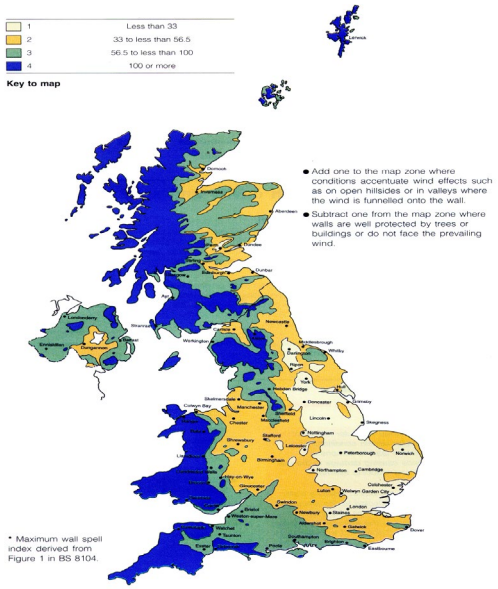
Source: https://www.trustmark.org.uk/tradespeople/data-warehouse/1

Retrofit

New ECO4 Audit Changes

On the **1st September 2022** new questions were added to the PAS APP for assessors to answer. Alongside this, ecmk also modified the new ECO4 audit questions. These changes were compiled to maintain good practice and ensure that the new questions were being answered correctly. Please see the details below, highlighting the new changes, to ensure that our assessors approach the new processes correctly and that we continue to support our retrofit members going forwards.

ORIENTATION & EXPOSURE ZONE:



Dependant on measures being installed EG: All wall insulation in the severe exposure zone would be a major non-conformity if not recorded correctly.

Incorrect orientation data entered, or no orientation entered will carry a minor non-conformity. Stand at the front door with your compass and record accordingly.

The incorrect exposure zone selected will carry a minor non-conformity. Please refer to the exposure zone map of the UK found in **Appendix 1.** Exposure zones.

DISCUSSION OF EEMs DETAIL IN SUMMARY SECTION:

As the advice section has been removed, the project summary section now requires clear notes of Energy Efficiency Measures (EEMs) that are to be installed, including details of ventilation upgrades.

The project summary should outline the details of EEMs and ventilation upgrades discussed with the client, if not recorded this will carry a MAJOR non-conformity.

OCCUPANCY:

- If recorded as typical when it is over-occupied is a MAJOR non-conformity.
- If recorded as typical when it is under-occupied is a MAJOR non-conformity.

OPEN PLAN LIVING SPACES: (Kitchen/diner/studio):

If a kitchen diner has been incorrectly recorded as a habitable room (should be a wet room) for the ventilation survey, this will carry a MAJOR non-conformity as it will result in an incorrect ventilation strategy.

DEFECTS:

Any defects must be recorded and evidenced appropriately. If defects are evidenced in photographs but not recorded in PAS assessment this results in a MAJOR non-conformity.

DATA PROTECTION BREECH:

A breach of GDPR carries a MAJOR non-conformity. Do not include photographic evidence containing personal/financial information within the PAS assessment e.g., bank statements, pensions, benefit letters.

If collecting and evidencing personal documents, then these documents should be uploaded into the section called “ECO Documents” and then “Other ECO Documents”

PATH C JOBS:

Evidence of a Level 3 Award in Energy Efficiency for Older and Traditional Buildings needs to be uploaded to site notes for every Path C assessment. Failure to do so will result in a major non-conformity.

DOOR UNDERCUTS:

To ensure good transfer of air through the dwelling, there should be an undercut beneath the door of 10mm. (10 mm is roughly the thickness of a pen or pencil)

The average door is 760mm wide x 10mm undercut = effective ventilation area of 7,600mm2

This should be achieved by making an undercut to the door of 10mm above the floor finish, or 20mm undercut above the floorboards, or other surface, ie, concrete, if the finish has not been fitted.

Measuring Door Undercuts

Record all habitable rooms & wet rooms so the Retrofit Coordinator / Designer can confirm that there is adequate background ventilation

Door Undercuts PAS2035 Compliant Evidence Guidelines

To ensure full compliance, please adhere to the following when providing evidence;

Please provide evidence of all internal doors (labelling the room in the photographs)

Photograph the undercut with the door closed as this is when the undercut is important

Ensure the photographs clearly illustrate the depth of undercut by ideally placing a measure wedge, tape measure, pen or pencil in the gap, or hold a tape measure against the gap - (taking the photo at a low angle and ensuring that it is in focus).

Door Undercuts that do NOT meet he required measurement need to be recorded as well to inform the Coordinator.

Non- Domestic

Correct Bivalent Data Entry

What is a bivalent system?

i.e. 'One in which the heating is supplied by two (or more) different types of heat source' (present in a zone within the building)

How is a Bivalent system recorded?

specify the proportion of load met by each of the systems present.

'zone by zone' basis

enter the proportion of heating load that the additional (bivalent) heat generator(s) provide and the balance is assigned to the main system.

It is only possible to select one set of control options to which supplies the greatest heating load.

NOTE- Any system which provides cooling must be entered as the main system. When none of the systems provide cooling, the main system should, if possible, be the one that supplies the greater proportion of heating load.

The following hierarchy should be followed

1. The software will only account for cooling from the main system and the main system

does not need to be the one which supplies the greater proportion of heating load in

this instance.

2. Where there is evidence of the relative heating load e.g. a 'heating load design' this

should be used.

3. Where the relative heating load is unknown the following principles shall be applied:

a) One central (multi-zone system) and one or more local (single zone) system(s):

- 80% is assigned to the central system and 20% to the local system (or equally divided

between the local systems).

b) Two central (multi zone) systems only:

- 50% is assigned to each system.

c) Two central (multi zone) systems and one or more local (single zone) system(s):

- 40% is assigned to each central system and 20% to the local system (or equally

divided between the local systems).

d) No central (multi zone) system and two or more local (single zone) systems:

- load is equally assigned to each local system.

For the purpose of the conventions a split or multi split is considered to be a local system.

EXAMPLE 1

For the example below we are using the assumption that a zone(s) are heated by a LTHW and an open solid fuel fire.

For bivalent heating systems (i.e. where more than one fuel is used in the actual building to provide space and/or water heating, such as a open fire room heater supplemented by a natural gas boiler), the following example below should be selected from the conventions hierarchy

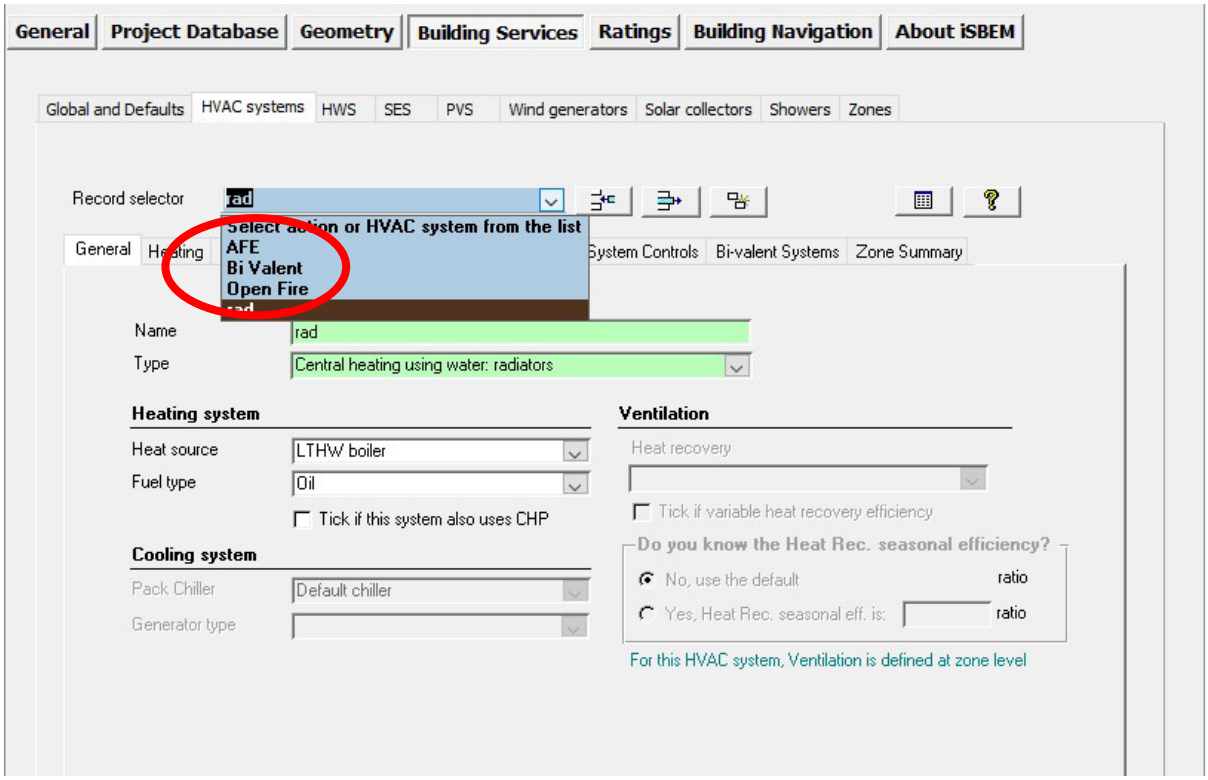
(From Convention 6.15)

3. Where the relative heating load is unknown the following principles shall be applied:

a) One central (multi-zone system) and one or more local (single zone) system(s):

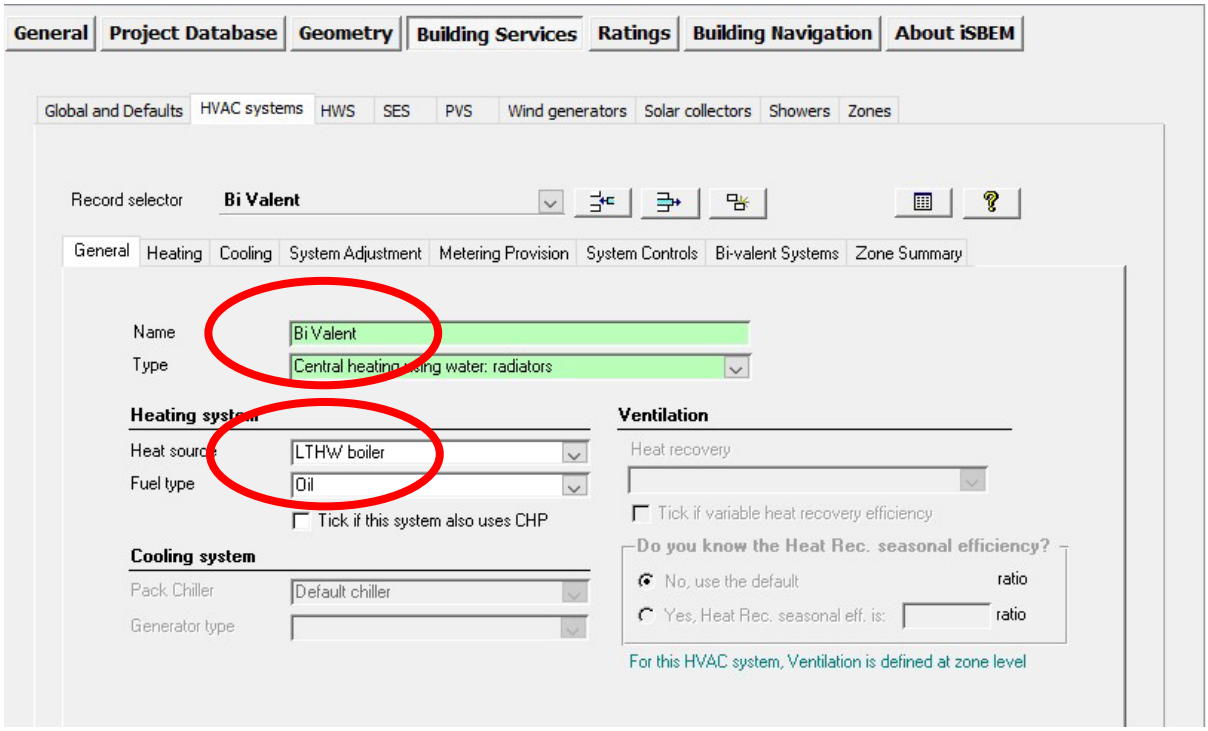
- 80% is assigned to the central system and 20% to the local system (or equally divided

between the local systems).



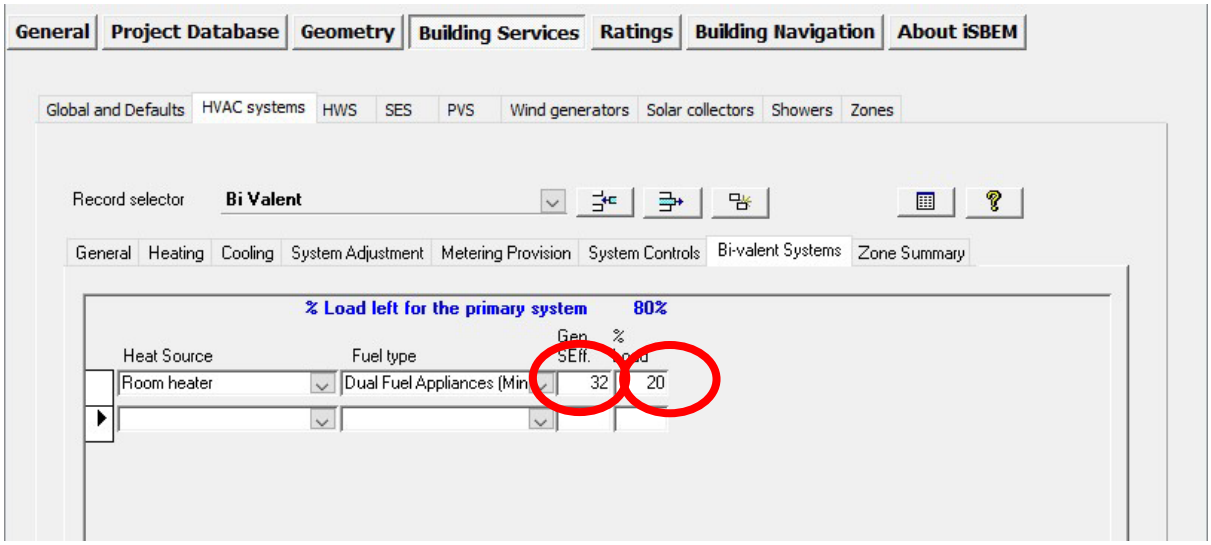
Create a new Bi Valent heating option within the HVAC record selector.

This option is selected in 'addition' to the boiler and room heater option as this is the HVAC heating the zones together on a room by room basis.



In this example, the LTHW boiler is the central system and the seasonal efficiencies are input in the normal way via the convention 6.04.

In this example, the local heater is 20% load, the LTHW is then automatically calculated at 80% load.



In this example we also need to find the seasonal efficiency of the open fire room heater.

The seasonal efficiencies can be found on your SAP 2005 tables.

SAP 2005

The Government's Standard Assessment Procedure for Energy Rating of Dwellings

2005 EDITION

In this example we need to refer to our SAP tables 2005 to find the values.

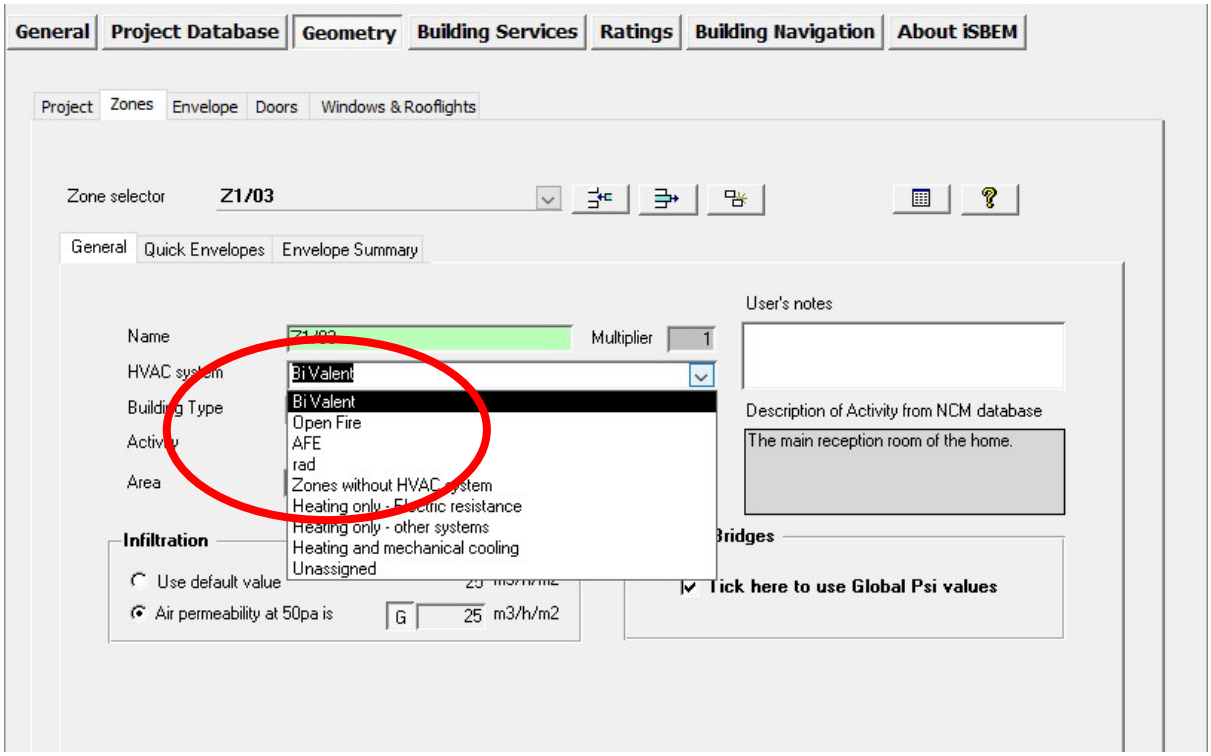
32% seasonal efficiency for Open Fire in Grate

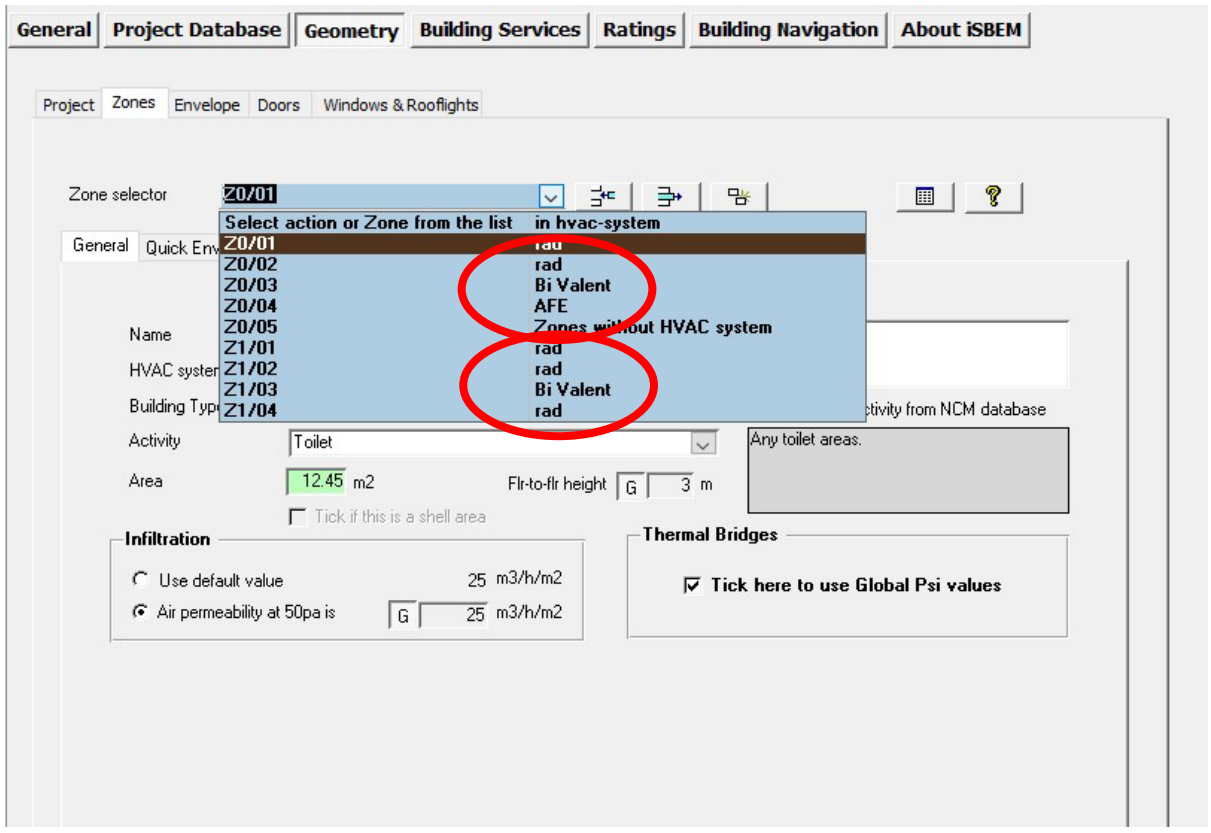
Solid fuel room heaters

Column (A) gives minimum values for HETAS approved appliances, use column (B) for other appliances (see section 9.2.3).

	(A)	(B)		
Open fire in grate	3[illegible]	32	3	0.50
Open fire with back boiler (no radiators)	50	50	3	0.50
Closed room heater	65	60	3	0.50
Closed room heater with boiler (no radiators)	67	65	3	0.50
Stove (pellet fired)	67	65	2	0.75
Electric (direct acting) room heaters				
Panel, convector or radiant heaters		100	1	1.0
Fan heaters		100	1	1.0
Portable electric heaters		100	1	1.0

Ensure that the Bi Valant HVAC is correctly assigned to the relevant zones in Geometry tab





EXAMPLE 2 - Entering a split system and LTHW boiler serving the same zone(s)

For the purposes of this example a zone conditioned by a split system providing heating and cooling with COP of 2.25 and a LTHW boiler serving radiators with 88% efficiency are considered.
An appropriate HVAC system is defined.

In accordance with Convention 6.15, the system "Type" is identified as "Split or multi-split system". This is necessary to enable the input of cooling characteristics and to ensure these are considered in the subsequent calculation.

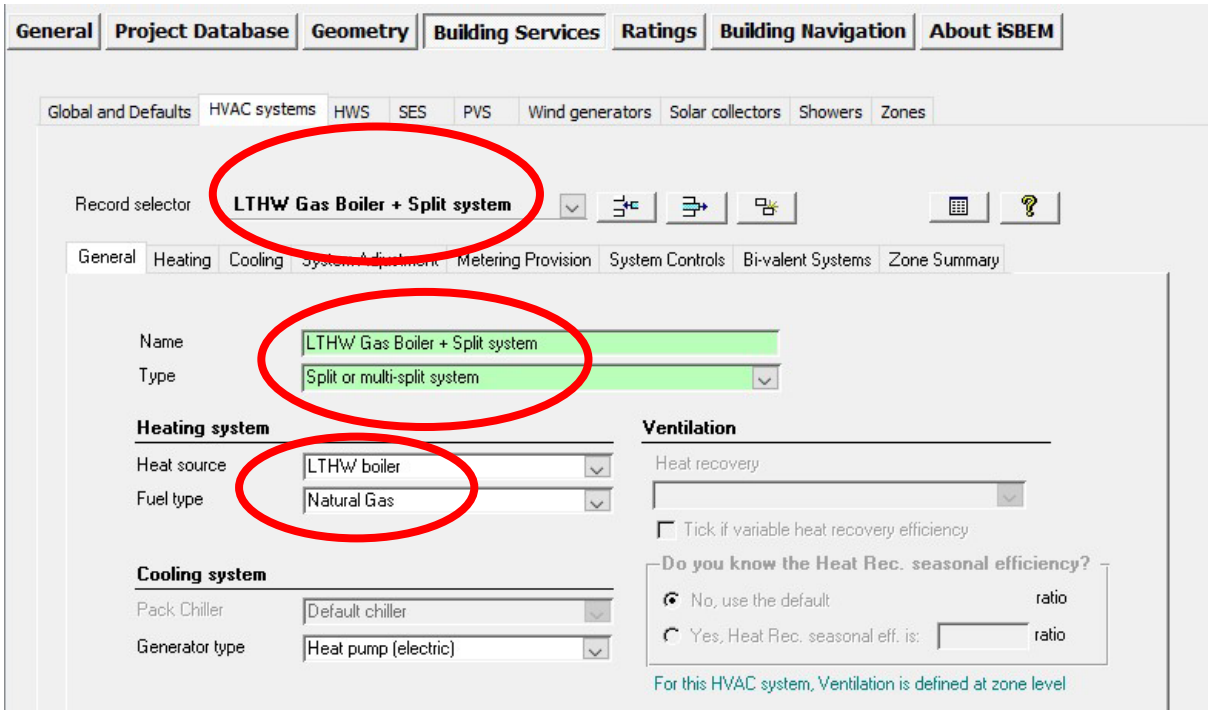
NOTE:

For Split systems with LTHW BRE have confirmed that:

1. The "Primary Heating System" is the system which provides the largest portion of the heating load; and

2. The "Primary Heating System" must be entered on the Heating sub-tab and used as the main "Heat source" regardless of the Heating system type selected.

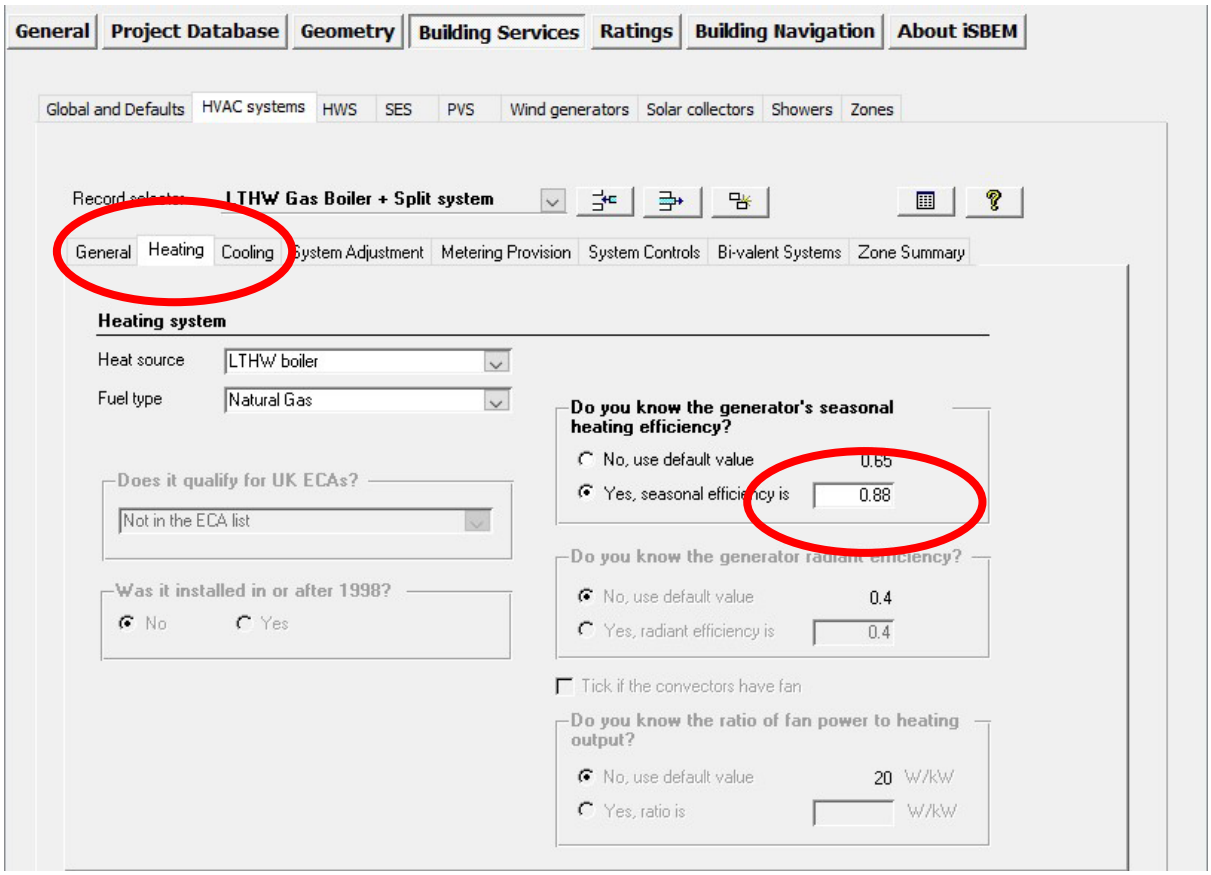
3. All other systems, including any "Heat source" which is directly part of the system "Type" selected, must be entered on the Bi-valent Systems sub-tab.



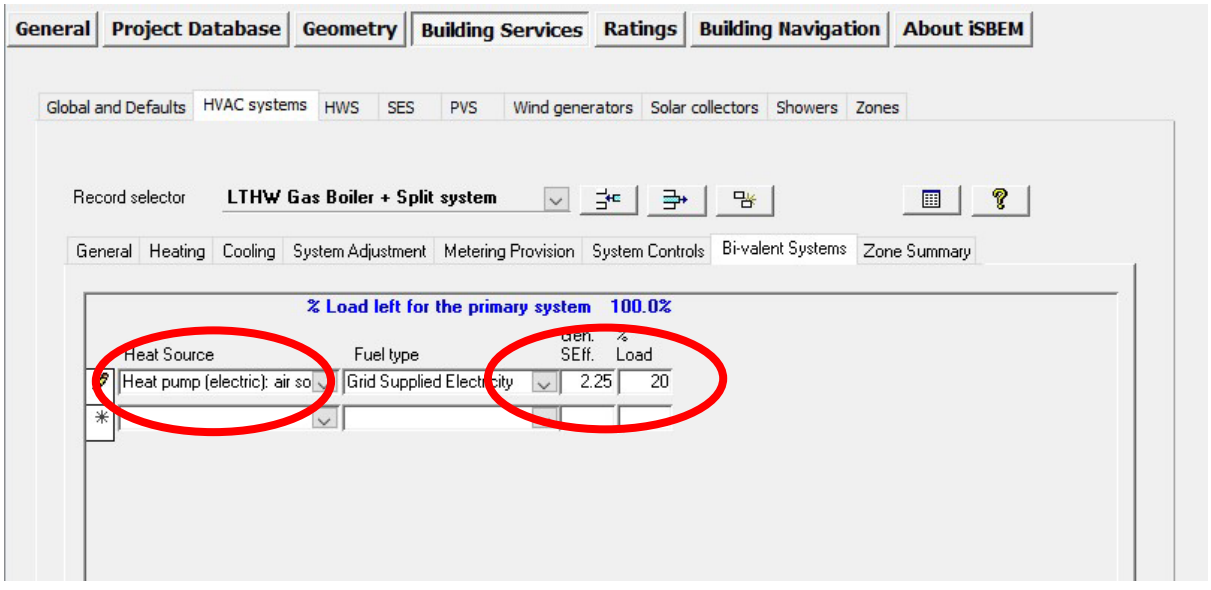
Therefore, In this example "Heat source" is identified as "LTHW boiler" with the "Fuel Type" set to "Natural Gas".

This is the "Heat source" for the central radiator system which serves multiple zones and is allocated the largest portion (80%) of the heating load.

Therefore, this **MUST** be entered as the 'Primary Heating system' contrary to the conflicting information provided in Note 1 of Convention 6.15.



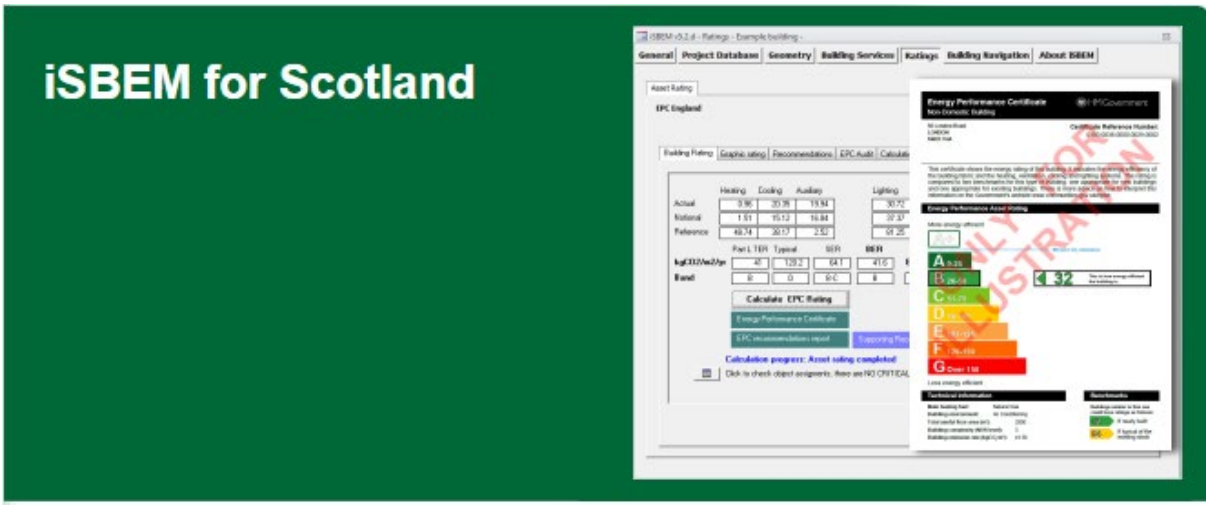
To clarify, this is entered in this order as the system that is deemed to provide the largest portion of the heating load. In accordance with Convention 6.15, this would be expected to be one of the central systems present.



Non- Domestic

iSBEM 6.1d for Scotland postponed

The Scottish Government has confirmed that the proposed implementation date for Section 6 (Energy) 2022 standards has now been moved from 1st December 2022 to **1st February 2023**.



'The decision has been taken to defer the implementation date of the changes to energy and environmental standards within the December 2022 Technical Handbooks by two months, from 1 December 2022 to 1 February 2023.'

More info

NB. Updates will be provided to our members accordingly

Upcoming training

Looking to become a qualified Retrofit Assessors?

Every building that undergoes energy retrofit work, first need to be assessed by a trained and certified Retrofit Assessor. ecmk have developed formal training and certification to offer energy assessors. ecmk's PAS2035 Retrofit Assessor Scheme delivers training and CPD sessions geared around the Retrofit Assessor Role whereby DEAs will be authorised 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 Retrofit Assessor Course

Date: 5-8th December (2-4pm)

Cost: £300 + VAT

Book here

Have you claimed your free CPD?

Don't forget we offer ecmk members 4 hours free CPD every year to help you upskill and work towards your required hours for your accreditation. Call us on **0333 123 1418 (opt 4)**.

December CPD Sessions 'Live online'

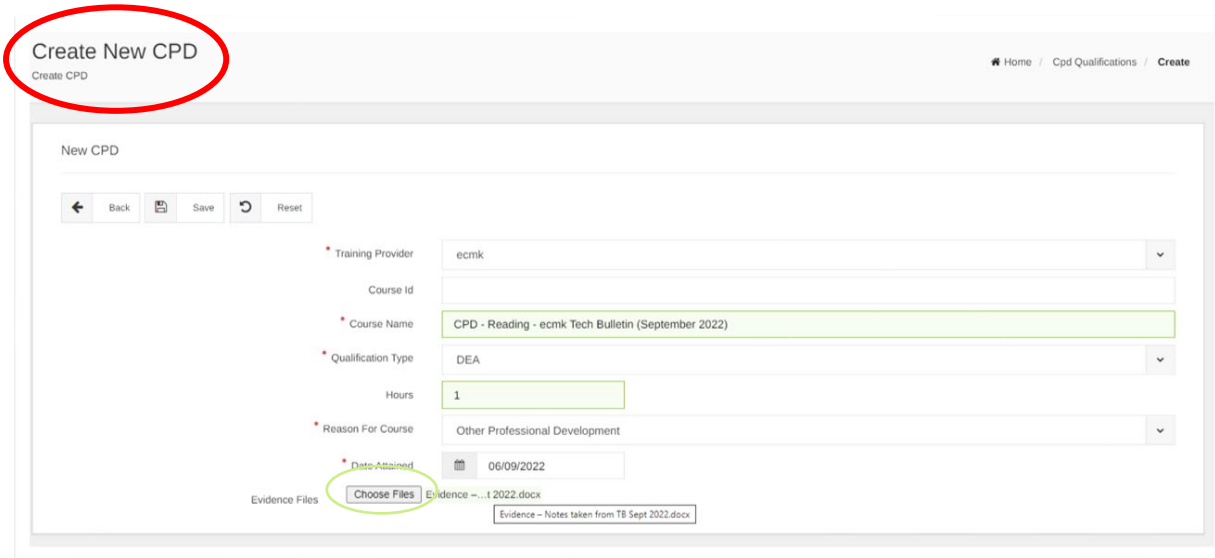
Course	Duration	Date	Time	Cost (+VAT)
Mini Audit: Tips and Hints – How Not To Fail	1 hr	1 Dec	16:00	£25
PAS Retrofit Assessment App Training	1.5 hr	2 Dec	10:30	£30
Heating Primary	1 hr	5 Dec	16:00	£25
Measuring and Modelling	1 hr	6 Dec	16:00	£25
DEA Bootcamp 2	4 hr	7 Dec	08.30	£50
Heating Advanced	1 hr	7 Dec	16:00	£25
Lighting and Storage Heaters	1 hr	9 Dec	14:30	£25
PAS Retrofit Thermal Bridging	1 hr	9 Dec	16:00	£25
DEA Bootcamp 1	4 hr	12 Dec	08.30	£50
Secondary Heating	1 hr	12 Dec	16:00	£25
Walls – Construction, Party & Alternative	1 hr	15 Dec	16:00	£25
PAS Retrofit Assessment App Training	1.5 hr	16 Dec	10:30	£30
Rooms in the Roof	1 hr	16 Dec	16:00	£25
Water Heating	1 hr	19 Dec	16:00	£25
Glazing	1 hr	20 Dec	16:00	£25
Smarter Surveys – The Smart EPC App	1 hr	21 Dec	16:00	£25
PAS2035 Ventilation – Coordinator	2 hr	22 Dec	14.30	£50
Evidence: Photographs and Documents	1 hr	23 Dec	16:00	£25

For further information, more course dates and to book your place: **click here.** Alternatively, email **support@ecmk.co.uk** or call **0333 123 1418 (opt 4)** and tell us what you'd like to book.

Book training

****Claim 1 hour CPD for reading this Technical Bulletin****

Once you have read this technical bulletin, please upload a copy of your notes to Assessor Hub, under the 'CPD and Training' tab to claim 1 hour CPD, as below.



Christmas support opening hours

Should you need us over the holidays, please see below:

- **Friday 23rd December – 8am – 8pm**
- Saturday 24th December (Christmas Eve) – Closed
- Sunday 25th December (Christmas Day) – Closed
- Monday 26th December (Boxing Day) – Closed
- **Tuesday 27th December - Closed**
- **Wednesday 28th December – 8am – 8pm**
- **Thursday 29th December – 8am – 8pm**
- **Friday 30th December – 8am – 8pm**
- Saturday 31st December (New Year's Eve) – Closed
- Sunday 1st January (New Year's Day) – Closed
- Monday 2nd January – Closed
- **Tuesday 3rd January – 8am – 8pm**

Email **support@ecmk.co.uk** or call **0333 123 1418**