

Domestic MEES Masterclass

CPD Course (5 hours)
By Joanne Bailey



1

Course Content:

- Introductions
- Current and Future MEES Standards
- Decent Homes Standards
- EPC Reform & HEM
- Advisory Process
- The Software, tools and Insurance
- RdSAP sensitivities
- Support for Landlords



2

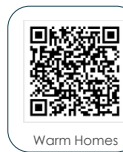
Introductions



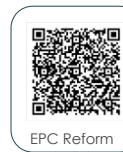
3

References used

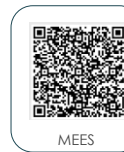
- Warm Homes Plan more information expected this year.
- HEM and EPC reform aiming for 2027
- MEES commencing Oct 2030



Warm Homes



EPC Reform



MEES



Wrapper Consultation

4



Why landlords are demanding more from EPCs

- The industry is demanding more than a lodged EPC
- DEAs are unsure about what they can and cannot say – insurance liability
- Landlords don't want you to lodge until they have made 'alterations' to meet a certain band.
- Want advice 'beyond' the recommendations about changes they can make and want the cheapest option!



© 2021 Elmhurst Energy Systems Ltd

5



Renters Rights Act

- Landlords must supply:
 - EPC (Complying with MEES)
 - Gas Safety
 - Electric Installation condition report
 - How to rent guide
 - Deposit protection information
 - The Renters Rights Act information sheet

The Renters' Rights Act Information Sheet 2026

From 1 May 2026, the Renters' Rights Act 2024 will give tenants new rights and introduce new rules for private landlords. This information sheet explains how the new rules may affect your rental tenancy.

These changes will affect you if you are a tenant in the private rented sector with an assured or assured shorthold tenancy. If you live in social housing or you are a landlord, the new rules will not usually apply to you.

These changes have been introduced by law. This document is not a contract and is not a tenancy agreement or a change of tenancy agreement.

This document is only a summary of the changes. The new rules may change or be changed again before they are made law. The new rules will be made law by the government. You can find out more about the new rules on the government website.

If you do not have a written tenancy agreement or a written record of the tenancy's terms, then your landlord must provide you with written information on or before 1 May 2026.

© Elmhurst Energy Systems Ltd

6

Renters Rights Act

- ❖ **Abolishes Section 21** ("no-fault") evictions - landlords must give a valid reason
- ❖ **Ends fixed-term ASTs** - all tenancies become rolling (periodic)
- ❖ **Rent increases limited** - once per year, tenants can challenge rises
- ❖ **Bans rental bidding** & limits advance rent (max 1 month)
- ❖ **Strengthens tenant rights** - pets allowed (cannot be unreasonably refused)
- ❖ **Outlaws discrimination** - (e.g. against benefit claimants)
- ❖ **Introduces new PRS systems** - landlord database & ombudsman



© 2021 Elmhurst Energy Systems Ltd

7

PRS Database

- ❖ LAs are responsible for enforcing the PRS Regulations.
- ❖ Private landlords will need to register the properties they let on a new PRS Database. The database is rolling out late 2026 with registration through to 2027/2028.
- ❖ Will enable LAs to identify which properties in their area which are let and if compliant.
- ❖ The PRS Regulations will allow for local authorities to issue a maximum fine of £30,000 per property per breach for non-compliance with the Regulations.



© 2021 Elmhurst Energy Systems Ltd

8



MEES – CURRENT AND FUTURE STANDARDS

Minimum Energy Efficiency Standards

9

Current MEES

- ❖ From 1st April 2018 must achieve EPC Band E
- ❖ £3500 spend cap
- ❖ Includes any energy efficiency improvements made since 1 October 2017
- ❖ Exemptions register if cannot be met



© 2021 Elmhurst Energy Systems Ltd

10

Current MEES Exemptions

- ❖ **High Cost** - If making even the cheapest recommended improvement would exceed £3,500.
- ❖ **All Improvements Made** - (or there are none that can be made) and the property remains under E
- ❖ **Wall Insulation** - if insulation is not suitable
- ❖ **Consent** - 3rd Party consent (e.g. Tenant, superior landlord, mortgage lenders etc). Valid for 5 years or length of tenancy.
- ❖ **Devaluation** - Devalue by more than 5%
- ❖ **New Landlord** - 6 months exemption



[Guidance on PRS exemptions and Exemptions Register evidence requirements - GOV.UK \(www.gov.uk\)](http://GOV.UK (www.gov.uk))

11

Future MEES

- ❖ From 1st October 2030 must achieve EPC Band C
- ❖ £10,000 spend cap
- ❖ Recognition of properties already a C before 1st October 2029 (lasting 10 years).
- ❖ Includes any energy efficiency improvements made since 1 October 2025
- ❖ When the EPC is reformed will need C for fabric and either heating or smart readiness. (more later)
- ❖ Exemptions register if cannot be met



© 2021 Elmhurst Energy Systems Ltd

12

Future MEES Exemptions

- NEW Cost Cap** – When a landlord has spent up to or over the cost cap of £10,000, or the next cheapest improvement will take the total spent on improvements, that have not previously been used for an exemption, over the cost cap of £10,000. (valid for 10 years).
- Third-party funding that the landlord receives can be counted towards this cap, including funding from government schemes, except for funding received from the Boiler Upgrade Scheme (BUS).



© 2021 Elmhurst Energy Systems Ltd

13

Future MEES Exemptions

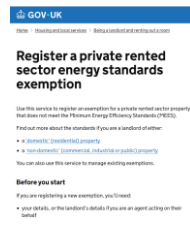
- All relevant improvements made** – No change (valid 5 years)
- High-cost** – If the cost of making even the cheapest recommended improvement would exceed £10,000 (valid 5 years)
- NEW Property Value Adjustment** – Where the cost cap is £10,000 or 10% of the value of the house, whichever is lower (only required to spend 10% of property value if <£100k). (Valid for 10 years).
- AMENDED Solid Wall Insulation** – If inappropriate (valid 5 years)
- NEW Negative Impacts** – Combining devaluation + wall insulation – (valid 10 years)
- Third-Party Consent** – No change (Valid for 5 years or length of tenancy)
- New Landlord** – No change (6 month exemption)
- NEW Portfolio Approach** for large landlords offering a cap (still under review) – (Valid 10 years)



14

PRS Registers

- PRS exemptions register - Register a private rented sector energy standards exemption - GOV.UK**
- Local authorities can issue fines up to **£30,000 per property per breach**
- A **NEW PRS Database** will support enforcement, will be a central digital register linking landlords, properties, and compliance evidence (including EPCs) to improve transparency and enforcement across the private rented sector
- Will they merge eventually?



© Elmhurst Energy Systems Ltd

15

Legacy Metric

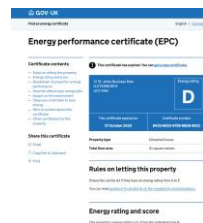
- Private rented homes that are graded C or above against the Energy Efficiency Rating (EER) on EPCs before 1 October 2029 will be considered compliant with the higher standard until the EPC expires.
- For the purposes of demonstrating existing EPC C compliance, EER will remain as a legacy metric and be displayed on reformed EPCs for a period of time.
- Example – an EPC carried out in the new reformed EPC format in June 2029 will be deemed compliant as long as the legacy EER part of it meets the C rating.



16

Grandparenting

- Grandparenting for Existing EPC C**
- Properties achieving **EER C** on an existing EPC **before 1 October 2029** will be treated as compliant until that EPC expires.
- Examples:
 - EPC produced on 5th May 2029 at a C rating – Will be valid until 4th May 2039.
 - EPC produced on 5th Dec 2026 at a C rating – Will be valid until 4th Dec 2036



© Elmhurst Energy Systems Ltd

17

Improvement works

- Landlords of properties that have not met C against the EER before 1 October 2029, will be required to commission a new EPC prior to completing improvements works, to comply with the standard set against new EPC metrics.
- Landlords will also be required to commission an EPC after they have concluded installing the relevant measures to meet the standard to demonstrate compliance.
- The cost of these EPCs will count towards the £10,000 cost cap.



18

Proposed MEES Scotland

- Private rented properties must achieve an EPC Band C (specifically a new Heat Retention Rating of Band C).
- Implementation Timeline:
 - 2028: New tenancies must meet the standard.**
 - 2033: All tenancies must meet the standard.**
- New EPC System (Date TBC) a revised EPC system will be introduced focusing on "Heat Retention" (insulation, windows, draught proofing) rather than just heating systems.
- EPCs becoming valid for 5 years instead of 10.
- Exemptions: Properties that cannot reach the standard after all recommended, cost-effective improvements are made may qualify for an exemption.



© Elmhurst Energy Systems Ltd

19

Social Housing MEES

- Social housing providers must:
 - Ensure all new and existing social rented properties are at an EPC C or equivalent by **1 April 2030**, or for a valid exemption to have been registered.
- They can meet EPC C using either:
 - RdSAP 10 EPC format
 - or
 - Reformed EPCs (under HEM)
- If using the reformed EPC to demonstrate compliance, this can be against any one EPC metric, at the landlord's discretion, by 1 April 2030.



© Elmhurst Energy Systems Ltd

20

Social Housing MEES

- A transitional period will also apply until 1st April 2030 meaning properties that meet the current EPC 'C' standard by this date and have a valid EPC certificate will also be considered compliant with MEES for the duration of the validity period of that certificate.
- This is in addition to a time limited spend exemption of £10,000.



© Elmhurst Energy Systems Ltd

21

Social Housing MEES

EPC Reform - Dual-Metric Standard Using New EPC Metrics

By April 2030 - Landlords must initially meet one of:

- Fabric Performance**
- Smart Readiness**
- Heating System Efficiency**



© Elmhurst Energy Systems Ltd

22

Minimum Energy Efficiency Standards (MEES)

- Providers must then meet EPC C using reformed EPCs against a second EPC metric by **1 April 2039** (Fabric Performance, Smart Readiness or Heating System) or for a valid exemption to be registered.
- Providers are encouraged to prioritise compliance via fabric upgrades. However, where other metrics could provide greater benefits to tenants - for example greater bill savings - social housing providers will have the flexibility to choose them



© Elmhurst Energy Systems Ltd

23



DECENT HOMES STANDARD

24

Decent Homes Standard

The Decent Homes Standard is the Government's minimum quality standard that all rented social sector housing must meet. It sets out what a "safe, warm, and decent" home should provide. The standard was first introduced in 2001, updated in 2006, and fully reformed in January 2026 following consultation. **It will also apply to the private rental sector from 2035.** It has 5 core criteria:

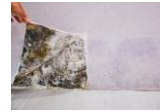
1. **Homes must be free from the most dangerous hazards** - These include damp and mould, fire, unsafe electrics, carbon monoxide, structural hazards, etc
2. **Homes must be in a reasonable state of repair** - One or more key components (e.g., roof, walls, windows, doors, kitchens, bathrooms) are not in reasonable repair, or two or more other components are in disrepair



25

Decent Homes Standard

3. **Homes must provide essential facilities and services** - A kitchen with adequate space and layout, appropriately located bathroom and WC, adequate noise insulation
4. **Homes must provide thermal comfort and meet energy efficiency requirements** - Meeting MEES requirements
5. **Homes must be free from damp and mould** - Issues should be remedied. This has been strengthened by Awaabs law.



26

Awaab's Law

Awaab's Law – officially known as the **Hazards in Social Housing (Prescribed Requirements) (England) Regulations 2025**

- Came into action on **27th October 2025** after the tragic passing of Awaab Ishak in 2020 due to a respiratory condition caused by prolonged exposure to black mould in his family's flat
- Awaab's law mandates stricter timeframes for responding to hazards. Under the new regulations, landlords must take **quick and effective** action when hazards like damp, mould, or other health risks are confirmed



27



EPC REFORM AND HEM

Home Energy Model

28

EPC Reform

- Date TBC
- EPC validity will remain at 10 years (apart from Scotland who will be 5)
- There will be 4 metrics – the current energy cost metric, plus three new metrics; fabric, heating and smart readiness
- EPCs will be needed at the point of marketing
- EPC renewal would be driven by the end of the validity period, not only by a change in tenancy



29

EPC Requirement

- Indication that the following will require EPCs:
 - Short term and serviced accommodation** – Irrespective of who pays the bills (will not fall under MEES at this time).
 - HMOs** – an indication that whole-building EPCs may apply even where rooms are individually let.
 - Listed / Heritage Buildings** – Will no longer be classed as an exemption



30

Home Energy Model

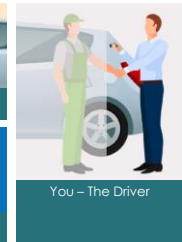
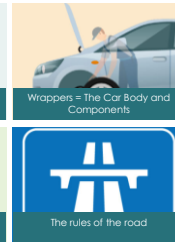


- A complete rebuild of the methodology.
- Will work hand in hand with EPC reform
- New EPC wrapper being discussed:
 - How the new metrics will be banded
 - What a new 'EPC C' will look like
- Possible introduction of a modular approach (either enter complete data or reply on defaults)
- Full new-build level inputs used where data is available

© 2021 Elmhurst Energy Systems Ltd.

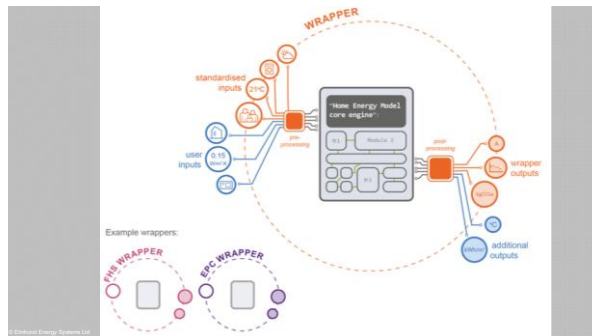
31

HEM



© 2021 Elmhurst Energy Systems Ltd.

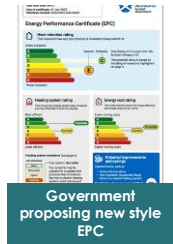
32



© 2021 Elmhurst Energy Systems Ltd.

33

Multiple Performance Metrics



© 2021 Elmhurst Energy Systems Ltd.

34

Smart Readiness

- A smart readiness metric could evaluate a building's capability to optimize energy usage and reduce demand during peak periods through smart technologies like meters, appliances, storage systems, and time-of-use pricing. This could be:

- **Smart meters** – time of use tariffs, export tariffs
- **Solar PV and other Microgeneration** – output info and consumption
- **Electric batteries**
- **Thermal energy storage systems which have smart functionality**: including heat batteries, storage heaters, and hot water cylinders.
- **Smart Heating Controls**
- **Smart EV Charge points** –bidirectional –allowing vehicles to discharge energy back to the home or grid
- **Connection to the electricity network** – single/three phase, shared with neighbours

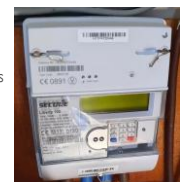


© 2021 Elmhurst Energy Systems Ltd.

35

SMETERS?

- Use smart meter data + algorithms
- Estimate a property's Heat Transfer Coefficient (HTC)
- Some systems also use extra sensors (e.g. indoor temperature)
- They provide an alternative to modelled estimates from SAP and HEM
- Both approaches produce a Heat Transfer Coefficient (HTC)
- SMETERS can be more accurate but vary in reliability, so validation is required
- Government proposal:
 - Allow voluntary inclusion of verified SMETER HTC data alongside HEM results in EPCs
 - Use as supplementary (not primary) information



© 2021 Elmhurst Energy Systems Ltd.

36

Rating Proposal

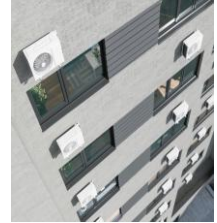
- Microgeneration (e.g. solar) combined with a smart meter could be sufficient to achieve an EPC Band C
 - Government is considering what size of solar installation would be appropriate:
 - Must deliver meaningful energy and cost savings
 - Should still allow higher ratings for more ambitious systems
- Alternative option - Require energy storage (e.g. batteries) alongside solar to reach Band C
- Potential inclusion of:
 - Bidirectional EV charge points as storage
 - Dependent on households having electric vehicles, expected to grow over time

© 2021 Elmhurst Energy Systems Ltd

37

Heating system Metric

- An assessment of the technologies in a dwelling which generate heat – for space heating (and cooling), hot water, and cooking.
- Fossil fuel systems (including hybrid systems and low carbon). Scoring D or below.
- Systems with high efficiency and low carbon emissions, such as electric heat pumps and low-carbon heat networks, would always score a C and above.
- Direct electric heating with no (or insufficient) thermal energy storage will always score a D or below.
- Cooking factored into the metric scores of A or B for electric cooking, (only contributing around 10% to the heating rating).



© Elmhurst Energy Systems Ltd

38

Rating Proposal

- Primary fossil-fuel space or water heating system (such as a gas boiler) – will not score a C
- Hybrid heating systems that include fossil fuels, such as hybrid heat pump gas boilers, should score a D or below.
- Low-carbon fossil fuel systems should still be recognised over less efficient alternatives – but will still not score C
- Systems with high efficiency and low carbon emissions, such as electric heat pumps and low-carbon heat networks, would always score a C and above.
- Direct electric heating with no (or insufficient) thermal energy storage will always score a D or below.
- Electric heating with thermal storage, where the efficiency and use of off-peak electricity results in lower annual emissions than an equivalent direct electric system will typically score a C or above.



© 2021 Elmhurst Energy Systems Ltd

39

Cooking?

- Maximum likely contribution from cooking is less than 10% of the combined energy required for cooking, space heating and hot water
- Significantly smaller than the contribution of space heating and hot water.
- Gov considering how to encourage electric cooking systems within EPC ratings.
- One option would be to retain the highest scores of A or B for electric cooking options, encouraging their uptake at the point that consumers upgrade a fossil-fuel heating system to an electric alternative.



© 2021 Elmhurst Energy Systems Ltd

40

Fabric Performance

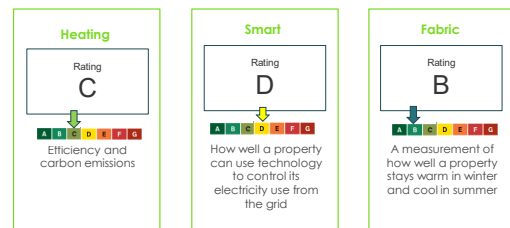
- Approach to achieve close equivalence between the C/D boundary in the existing cost-based EER rating and the C/D boundary on the new Fabric Performance Metric.
- Government will ensure that people who have previously installed measures (such as loft and cavity wall installation) continue to see the benefits on their EPCs.
- Proposal to introduce an option to voluntarily record SMETER HTC estimates, alongside a HTC calculated by the Home Energy Model. This information would be supplementary to the headline fabric metric, with exact presentation and accessibility to be determined subject to the outcomes of detailed EPC design work.



© Elmhurst Energy Systems Ltd

41

Possible EPC Design



© Elmhurst Energy Systems Ltd

42

Cost per year

£1200

This is average compared to similar properties



- ❖ If the EPC expires during a tenancy, then the Landlord will need to ensure that a new EPC is produced to replace it.
- ❖ Questions arising are what if the new EPC is not to the standard?
- ❖ How much grace will the landlord get to carry out the works?
- ❖ What would the impact be on the tenancy?



43

44

THE CONSULTANCY PROCESS



Fee Structures

- Set out clear fee structures upfront, here are some examples:
- EPC only £70
- Initial assessment, Consultancy advice and a re-assessment after improvements with a lodged EPC £150-£200
- Assessment and Consultancy advice only £100



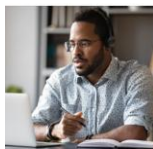
45

46

STEP 1

Pre Assessment Questions

- ❖ Either through email or telephone
- ❖ Important to establish that all areas are accessible, some examples:
 - ❖ Loft space - can you access or do they have paperwork to prove insulation
 - ❖ Room in the roof - do they have paperwork/building regs or can you see in all the areas.
 - ❖ Do they have window replacement paperwork
 - ❖ Insulation upgrade proof (flat roofs, internal insulation, cavity fill etc)
 - ❖ Boiler access and meter access
 - ❖ Make visible portable thermostats
 - ❖ Relevant paperwork, extensions, conversions, PV, solar.



SF57 – Elmhurst Pre-inspection Questionnaire

[illegible]

47

48

Step 2 The Initial Site visit

- Visit the property and collect all data with a view to lodging this.
- If the property does not meet required banding then 'copy' and create an Energy Report



49

Select Assessment Type



England

Create EPC

Selecting an EPC means that your assessment will be lodged to the national register

Create Energy Report

Selecting an Energy Report means that an energy report will be produced. This is **NOT** lodged to the national register.

Create 994 Energy

For Retrofit Purposes ONLY

EPC
or
Energy
Report?

50



Energy Performance Certificate

- Lodged at central register
- Insured (Standard)
- Requirement to take photos/notes to Government standards
- Has to be a snapshot of the property on day of inspection
- Any 'Overview draft' is not insured



© 2021 Elmhurst Energy Systems Ltd.

51



Energy Report

- Desktop report (not lodged)
- Insured (Standard)
- Take notes/photos just like you would for a lodgement.
- Can create scenarios that may be different to what you saw on day of inspection
- Must 'Submit' at the end (incurs a charge)
- Any 'Overview Draft' is not insured



52

Step 3 Report your findings

- Provide them with the initial Energy Report if they have not met required banding
- Look at a few options for the client:
 - Can they meet the required banding through a series of different measures?
 - Could you create 'scenarios' using the software.

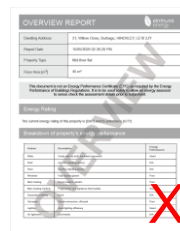


53



Overview report

- For your eyes only!
- Does not carry any insurance
- If you send to a customer, it is at your own risk
- The overview can only really be used as a verbal discussion point, but should then be submitted as an Energy Report



© 2021 Elmhurst Energy Systems Ltd.

54

Insurance

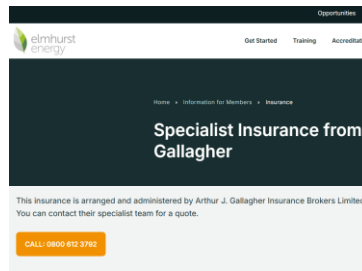
Standard Insurance - Free

Includes PI and PL insurance
Covers the production of EPC and ER (Energy Report)
Allowed to explain the outcome of the report either verbal or in an email, must all be factual.
You can give verbal advice about how to reach a rating, as long as ideally followed up with a submitted Energy Report
You can provide submitted Energy Reports with 'scenarios'

Enhanced Insurance – Based on Quote

Possibly allow you to give verbal and written advice to customer without having to 'submit' or 'lodge'; any reports.
Would need to discuss with insurance company what they can offer.

55



elmhurst energy

Opportunities

Get Started Training Accreditation

Home > Information for Members > Insurance

Specialist Insurance from Gallagher

This insurance is arranged and administered by Arthur J. Gallagher Insurance Brokers Limited. You can contact their specialist team for a quote.

CALL: 0800 412 3792

© 2021 Elmhurst Energy Systems Ltd

Enhanced Insurance

56

Explanations – In writing and verbal

Standard Insurance

- As assessors we are allowed to provide factual explanations and information about the report/EPC and legislation.
- For example it is a fact that electricity is more expensive than gas in our software (and in reality!)
- So if any electric appliances are present then it can be stated that those will be impacting on the rating (e.g. secondary heating or panel heaters that are heating the dwelling)



57

Be Professional

- It is all in the way we talk to customers, we must only be seen to point out the facts
- So, if we can see that the secondary heating is dropping the rating by 5 points, then we must simply point out this fact, for example:
 - Allowed – explain that the presence of secondary heating is making the rating worse rather than better, it is ok to tell them how many points.
 - NOT ALLOWED – Advise the customer to take out the secondary heating to make their rating better, that is their decision.



58

How long before lodging?



If you visit a property and they ask you to hold off lodging until they have made changes, then advise that we would like to see lodgements within 3 months of the visit. The best option here is to submit an energy report, so you have insurance for providing them with the information.



When they have made changes, you can then re-visit and takes photos of just the things that have changed, using the original photos for everything else, then provide a statement to confirm nothing else had changed.

59

Step 4 The Final Assessment

- Once the measures/improvements have been made you can re-visit the property to produce an EPC for them.
- It would be best practice to re-photograph everything, but you actually don't need to collect a full set of data again, you can use all original photos/notes and just take photos of the changes.



60

Recommendation Name	Low Cost	High Cost
Loft insulation	£900	£1,200
Flat roof insulation	£900	£1,200
Roof room insulation	£900	£1,200
Cavity wall insulation	£900	£1,500
Hot water cylinder insulation	£25	£40
Drainage proofing	£150	£250
Low energy lights	£30	£35
Cylinder thermostat	£150	£300
Heating controls for wet central heating system	£220	£250
Water heating controls	£220	£250
Heating controls for warm air system	£220	£250
Upgrade boiler same fuel	£2,200	£3,500
Boilers boiler	£10,000	£12,000
Boilers boiler (ALTERNATIVE)	£10,000	£12,000
Boilers room heater with boiler	£10,000	£20,000
New or replacement storage heaters	£400	£800
Replacement warm air unit	£750	£5,000
Solar water heating	£4,000	£7,000
Double glazed windows	£4,500	£6,000
Replacement double glazed units	£4,500	£6,000
Secondary glazing	£1,500	£1,000
Solid wall insulation	£7,500	£11,000
External insulation with cavity wall insulation	£7,500	£11,000
Condensing oil boiler	£2,000	£4,000
Change heating to B&G gas condensing boiler	£3,500	£10,000
Change heating to B&G gas condensing boiler	£3,500	£10,000
Flue gas heat recovery	£1,000	£1,500
Photovoltaics	£8,000	£30,000
PV battery	£100	£1,000
PV inverter	£500	£1,500

Costs of measures

Recommendation Name	Low Cost	High Cost
Wind turbine	£5,000	£20,000
Floor insulation (suspended floor)	£5,000	£10,000
Floor insulation (solid ground floor)	£5,000	£10,000
Insulated doors	£900	£1,200
Waste water heat recovery	£600	£1,500
Air or ground source heat pump (ALTERNATIVE)	£5,000	£30,000
Air or ground source heat pump with underfloor heating (ALTERNATIVE)	£5,000	£30,000
Micro-CHP (ALTERNATIVE)	£5,000	£15,000



Elmhurst Tool

- 'Improvement Evaluator' allows you to pull in an ER/EPC and create many scenarios (only recommendations) for one fee (£5 + VAT including insurance)

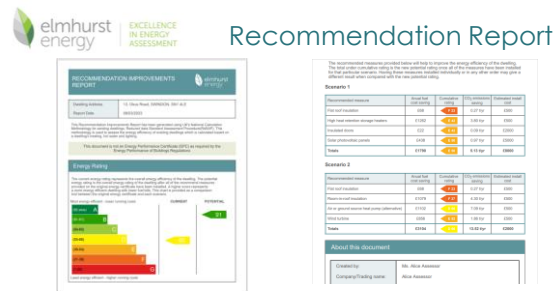
- Will allow you to enter actual 'costs' in so you can calculate the cheapest and best way for them to improve the dwelling.

- Available in Access Elmhurst



67

68



69

70

ADVANCED RDSAP

The sensitivities



Assumptions

- All the assumptions within RdSAP can be found in the RdSAP 10 Specification
- Fuel prices (page 95)
- You can see assumed U values for walls, floors, roofs, windows, doors.

71

72

Table 18 : Assumed roof U-values when Table 16 or Table 17 do not apply

Age band	Assumed Roof U-value (W/m ² K) ⁽¹⁾	Pitched, slates or tiles, insulation between joists or unknown ⁽¹⁾	Pitched, slates or tiles, insulation at rafters ⁽¹⁾	Flat roof ⁽¹⁾	Room-in-roof, all elements ⁽¹⁾	Thatche d roof ⁽¹⁾	Thatche d roof, room-in-roof ⁽¹⁾	Park home ⁽¹⁾
		(2)	(3)	(4)	(5)	(6)	(7)	
A, B, C, D	0.40 (100 mm) ⁽¹⁾	2.3 ⁽¹⁾	2.3 ⁽¹⁾	2.3 ⁽¹⁾	0.35	0.25	-	
E	0.40 (100 mm) ⁽¹⁾	1.5 ⁽¹⁾	1.5 ⁽¹⁾	1.5 ⁽¹⁾	0.35	0.25	-	
F	0.40 (100 mm) ⁽¹⁾	0.68 ⁽¹⁾	0.68 ⁽¹⁾	0.68 ⁽¹⁾	0.35	0.25	1.7	
G	0.40 (100 mm) ⁽¹⁾	0.40 ⁽¹⁾	0.40 ⁽¹⁾	0.40 ⁽¹⁾	0.35	0.25	0.6	
H	0.30 (150 mm) ⁽¹⁾	0.35 ⁽¹⁾	0.35 ⁽¹⁾	0.35 ⁽¹⁾	0.35	0.25	-	
J	0.26 (170 mm) ⁽¹⁾	0.35 ⁽¹⁾	0.35 ⁽¹⁾	0.35 ⁽¹⁾	0.35	0.25	0.35	
K	0.16 (270 mm) ⁽¹⁾	0.20 ⁽¹⁾	0.25 ⁽¹⁾	0.25 ⁽¹⁾	0.30	0.25	-	
L	0.16 ⁽¹⁾ (270 mm) ⁽¹⁾	0.18 ⁽¹⁾	0.18 ⁽¹⁾	0.18 ⁽¹⁾	0.18	0.18	-	
M	0.15 (300mm) ⁽¹⁾	0.15 ⁽¹⁾	0.15 ⁽¹⁾	0.15 ⁽¹⁾	0.15	0.15	0.15	

Roof

Table 6: Wall U-values – England

Age band	A	B	C	D	E	F	G	H	I	J	K	L	M
Wall type													
Stone, granite or slate	According to 5.6	1.7 A	1.0	0.60	0.40	0.40	0.35	0.30	0.28	0.26			
Stone, sandstone or limestone	According to 5.6	1.7 A	1.0	0.60	0.40	0.40	0.35	0.30	0.28	0.26			
Solid brick as built	According to 5.7	1.7B	1.0	0.60	0.40	0.40	0.35	0.30	0.28	0.26			
Semi-detached brick with 90 mm external or internal insulation	According to 5.8	0.55c	0.40 ¹	0.30 ¹	0.30 ¹	0.30 ¹	0.25 ¹	0.21 ¹	0.21 ¹	0.21 ¹	0.21 ¹	0.21 ¹	0.20 ¹
Detached brick with 100 mm external or internal insulation	According to 5.8	0.32c	0.28 ¹	0.24 ¹	0.24 ¹	0.21 ¹	0.19 ¹	0.17 ¹	0.17 ¹	0.16 ¹	0.16 ¹	0.15 ¹	
Semi-detached brick with 150 mm external or internal insulation	According to 5.8	0.23c	0.21 ¹	0.18 ¹	0.18 ¹	0.17 ¹	0.15 ¹	0.14 ¹	0.14 ¹	0.14 ¹	0.14 ¹	0.13 ¹	
Detached brick with 200 mm external or internal insulation	According to 5.8	0.18c	0.17 ¹	0.15 ¹	0.15 ¹	0.14 ¹	0.13 ¹	0.12 ¹	0.12 ¹	0.12 ¹	0.12 ¹	0.11 ¹	
Cub (as built)	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹	0.80 ¹
Cub with 50 mm external or internal insulation	0.40 ¹	0.40 ¹	0.40 ¹	0.40 ¹	0.40 ¹	0.40 ¹	0.35 ¹	0.30 ¹	0.25 ¹	0.21 ¹	0.21 ¹	0.20 ¹	
Cub with 100 mm external or internal insulation	0.26 ¹	0.26 ¹	0.26 ¹	0.26 ¹	0.26 ¹	0.26 ¹	0.24 ¹	0.21 ¹	0.19 ¹	0.17 ¹	0.16 ¹	0.15 ¹	
Cub with 150 mm external or internal insulation	0.20 ¹	0.20 ¹	0.20 ¹	0.20 ¹	0.20 ¹	0.20 ¹	0.18 ¹	0.16 ¹	0.15 ¹	0.14 ¹	0.14 ¹	0.13 ¹	
Cub with 200 mm external or internal insulation	0.16 ¹	0.16 ¹	0.16 ¹	0.16 ¹	0.16 ¹	0.16 ¹	0.15 ¹	0.14 ¹	0.13 ¹	0.12 ¹	0.12 ¹	0.11 ¹	
Cavity as built	1.5	1.5	1.5	1.5	1.5	1.5	1.0	0.60	0.40	0.35	0.30	0.28	0.26
Unfilled cavity with 50 mm external or internal insulation	0.53	0.53	0.53	0.53	0.53	0.53	0.45	0.35 ¹	0.30 ¹	0.25 ¹	0.21 ¹	0.20 ¹	
Unfilled cavity with 100 mm external or internal insulation	0.32	0.32	0.32	0.32	0.32	0.32	0.30	0.24 ¹	0.21 ¹	0.19 ¹	0.17 ¹	0.16 ¹	0.15 ¹

© 2021 Elmhurst Energy Systems Ltd

73

Walls

Table 19: Basis for floor U-value calculation for ground floors when insulation thickness is unknown

Age band	Floor construction ⁽¹⁾	All-over floor insulation ⁽²⁾	England & Wales	Scotland	Northern Ireland	Park home ⁽³⁾
A, B	suspended timber ⁽⁴⁾	none	none	none	none	-
C to F	solid	none	none	none	none	-
G	solid	none	none	none	25 mm	25 mm
H	solid	none	25 mm	25 mm	25 mm	-
I	solid	25 mm	50 mm	50 mm	50 mm	50 mm
J	solid	75 mm	75 mm	75 mm	75 mm	-
K	solid	100 mm	100 mm	100 mm	100 mm	70 mm
L	solid	100 mm	100 mm	100 mm	100 mm	-
M	solid	140 mm	140 mm	140 mm	140 mm	100 mm

⁽¹⁾ Where floor construction is unknown⁽²⁾ For floors which have retrofitted insulation, use the greater of 50 mm and the thickness according to the age band

© 2021 Elmhurst Energy Systems Ltd

74

Floors

EXCELLENCE
IN ENERGY
ASSESSMENT

How this affects your energy bills

An average household would need to spend **£884 per year on heating, hot water and lighting** in this property. These costs usually make up the majority of your energy bills.

You could **save £350 per year** if you complete the suggested steps for improving this property's energy rating.

This is based on **average costs in 2019** when this EPC was created. People living at the property may use different amounts of energy for heating, hot water and lighting.

Set 1 - Fuel prices

- These affect any monetary figures on the EPC, they are updated every six months by the BRE

Set 2 - Fuel prices

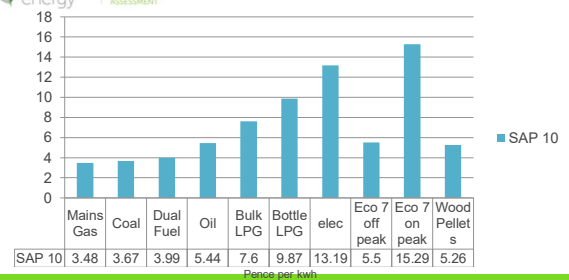
- These fuel prices only change when there is a change in building regulations (uses the current version of SAP)



75

EXCELLENCE
IN ENERGY
ASSESSMENT

Fuel prices



76

(This table is equivalent to Table 12 in SAP10.2 specification)

Fuel	Standing charge £/hr	Unit price p/kWh	Emissions kg CO ₂ e per kWh ⁽¹⁾	Primary energy factor	Fuel code
Gas (as built)	120	4.48	0.210	1.130	1
Main gas	70	7.60	0.241	1.141	2
Dual LPG	10.30	0.241	1.141	3	
Oil (for main heating system)	12.19	0.241	1.133	5	
Oil (for secondary heating)	120	3.48	0.241	1.163	9
LPG subject to Special Condition T1F ⁽³⁾	70	7.60	0.024	1.096	7
Liquid fuels					
Heating oil	7.64	0.268	1.180	4	
Oil-based (PVO) from used cooking oil ⁽⁴⁾	7.64	0.018	1.180	71	
Oil-based (LAME) from animal/vegetable oils ⁽⁵⁾	5.44	0.018	1.180	72	
Biomass ⁽⁶⁾	6.10	0.414	1.139	75	
Derived from any biomass source	6.10	0.308	1.432	76	
Solid fuels ⁽⁷⁾					
House coal	3.87	0.395	1.064	11	
Anthracite	3.84	0.395	1.064	15	
Manufactured gasworks fuel	4.61	0.406	1.051	12	
Wood fuel	4.23	0.028	1.086	20	
Wood pellets (as built, for secondary heating)	4.61	0.053	1.025	22	
Wood pellets (as built, for main heating)	3.28	0.053	1.025	23	
Wood chips	3.07	0.063	1.086	21	
Wood fuel (pellets, internal and wood)	3.99	0.087	1.049	10	
Electricity ⁽⁸⁾					
Standard tariff	54	13.19	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	30
7-hour tariff (day rates) ⁽¹⁰⁾	24	15.29	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	32
7-hour tariff (evening rates) ⁽¹¹⁾	5.50	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	31	
10-hour tariff (day rates) ⁽¹²⁾	23	14.68	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	34
10-hour tariff (evening rates) ⁽¹³⁾	7.50	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	33	
18-hour tariff (day rates) ⁽¹⁴⁾	40	13.67	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	38
18-hour tariff (evening rates) ⁽¹⁵⁾	7.11	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	40	
24-hour heating tariff	70	6.61	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	35
Electricity sold to grid, other	13.19 ⁽⁹⁾	0.136 ⁽⁹⁾	0.901 ⁽⁹⁾	46	
Electricity sold to grid, other	13.19 ⁽⁹⁾	0.136 ⁽⁹⁾	0.901 ⁽⁹⁾	36	
Electricity, very high ⁽¹⁶⁾	...	...	0.136 ⁽⁹⁾	1.501 ⁽⁹⁾	39

77

RdSAP 10 fuel prices

EXCELLENCE
IN ENERGY
ASSESSMENT

Date Built

- Ensure you are getting the construction date correct as this will impact on the 'assumptions' in the survey

- Observing the architectural features remains the primary method of ageing properties

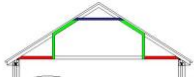
- Assessors **are not** required to support the age banding they select for the **main property or extensions with documentation (except room in the roof or converted building parts)**



78

Loft conversion?

- Any loft conversion paperwork will enable you to enter the conversion with a newer date and therefore making better assumptions.
- If not possible to obtain paperwork consider asking for access into the flat ceiling, stud and slopes. (the cost of paying for this may outweigh doing other things for landlord).



79

Room in the Roof Types



80

Stud

- Includes:
 - Stud facing cold loft space
 - Dormers that are both facing cold loft space or to outside
 - Dormer cheeks
- Measure height and length
- Add areas together if necessary and enter total area in the length and height as 1
- Enter 2 different studs if different insulation levels found



81

Slopes

- Measure the total length of the slopes and height.
- If there are differing heights and lengths, or insulation, then enter as slope 1 and slope 2.
- If necessary, add sloping areas together and enter total area in the length and height as 1 (only if all the slopes have the same insulation).



82

Flat Ceiling

- Flat ceiling includes:
 - A flat ceiling with/without a hatch
 - The flat roof on top of a dormer.
- Any dormers can be ignored if less than 20% of the floor area
- Use flat ceiling 1 and 2 option to show that one flat ceiling may differ levels of insulation
- Merge flat ceiling areas together if necessary and enter in the length and the height as 1



83

Age band for roof room

Age band is Same as the building part unless evidence proves otherwise.

Evidence for Room in the roof includes:

- Planning applications (can be a screen shot off council website)
- Building control sign off
- Dated architects drawings
- Dated photos showing room absent (google maps) might prove the earliest possible date it was added



84

Wall insulation evidence?



External Insulation

A photograph showing the thickness (hold ruler)
Paperwork which confirms the presence (guarantee, builders invoice etc)



Internal Insulation

Paperwork from installer
Photos of work in progress accompanied by insulation receipts
Last resort - willing to expose several areas for you to see and photograph



Cavity Filled

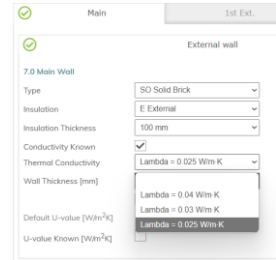
Take photos of drill pattern visible all way round (look 3 bricks down under window)
Paperwork (guarantee, warranty etc)

© 2021 Elmhurst Energy Systems Ltd

85

Lambda Values

- For Solid Stone/Brick In age Band A-E only, if internal or external insulation is specified
- If documentary evidence confirms the thermal conductivity of the insulation the appropriate λ -value should be selected.
- If thermal conductivity not available the options below should be applied (where **visual or documentary** confirms presence):
- 0.04 W/m·K** - mineral wool, rock wool, fibre glass or EPS (expanded polystyrene)
- 0.03 W/m·K** - XPS (extruded polystyrene)
- 0.025 W/m·K** - PUR (polyurethane foam), PIR (polyisocyanurate), phenolic foam



© 2021 Elmhurst Energy Systems Ltd

86

Wall Insulation Types



Mineral Wool



Extruded Polystyrene



Expanded Polystyrene



PUR or PIR Boards



PUR or PIR Boards

© 2021 Elmhurst Energy Systems Ltd

87

Insulation

Insulation types

Enter the depth of insulation visible using a measuring tape/ruler



Double the depth?

Any insulation can be entered as double the depth if evidence that the 'Lambda' value of the product is less than 0.025 W/mk (usually compressed boards)

Multifol you don't need evidence of Lambda value



Halve the depth?

Any insulation with a lambda value greater than 0.08 W/mk has to be halved.

This usually only applies to vermiculite



88

Think outside box

- Could even one wall of insulation bring them to the desired banding? (even though recommendation will want all)
- Are we tapping all exterior walls to check for dry lining? Even one airt wall could make a few points
- If they need advice about what products to get just ensure they keep receipts and a lambda value is available



© 2021 Elmhurst Energy Systems Ltd

89

Party Walls

- If 'unable to determine' is selected for party walls then a U value loss of 0.25 is assumed, if solid can be identified then no loss is assumed.

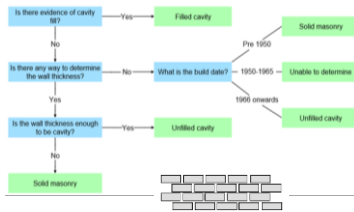
Party Wall type	Party wall assumed U value
Solid masonry, timber frame or system built	0.00
Masonry cavity unfilled	0.5
Masonry cavity filled	0.2
Unable to determine (if house or bungalow) (if flat or maisonette)	0.25 0.00



90

Blockwork visible at party wall

- Basis for determining party wall type to be entered when stretcher bond brickwork or blocks facing on are encountered and there is no other specific construction evidence.



© 2021 Elmhurst Energy Systems Ltd

91

Conservatory

- If conservatory is thermally open then potentially a worse rating than a thermally separated one.
- Heating in a conservatory makes no difference



© 2021 Elmhurst Energy Systems Ltd

92

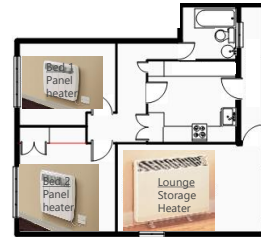
Panel Heaters v Storage

- Avoid taking out storage heaters and replacing them with 'panel heaters' or panel heaters that are claiming to be storage heaters (fischer one known brand)
- Using off peak heating is better than peak when it comes to electric.



93

Storage Heater systems



- If you are bound by electric then have at least one storage heater in your dwelling in a 'habitable' room (lounge/bedroom etc)
- The storage heater is your main heating system regardless of any panel heaters in other rooms.
- Ensure your meter remains dual.

94

Test Property

Mid Floor flat – Original

- Has:
 - 2 Hab rooms
 - Single immersion tank with 25mm foam
 - Panel heaters
 - Dual rate meter
 - Rating – D67



Recommended measure	Typical Energy Rating	Potential Energy Rating after measure installed	Cost (£)	Payback Period (years)
Add additional 50mm jacket to hot water cylinder	D67	D67	120	0.5
High heat retention storage heaters and dual immersion cylinder and dual rate meter	D67	D13	1010	7.7

© 2021 Elmhurst Energy Systems Ltd

95

Test Property

Mid Floor flat- Scenario 1

- Has:
 - 2 Hab rooms
 - Dual immersion tank with 50mm foam
 - Panel heaters
 - Dual rate meter
 - Rating – C69



© 2021 Elmhurst Energy Systems Ltd

96

Test Property

Mid Floor flat- Scenario 2

- Has:
 - 2 Hab rooms.
 - Single immersion tank with 25mm foam
 - HHRSH in the lounge
 - Dual rate meter
 - Rating – C71



© 2021 Elmhurst Energy Systems Ltd

97

Heating

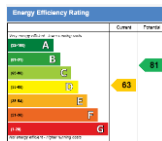
- Bear in mind Secondary heating could worsen a rating if the fuel is more expensive than the main. (or if the fuel is the same then a worse efficiency can make a difference)
- If the fuel is cheaper then this is an advantage. (secondary heating is assumed to heat 10% of your dwelling).
- Open chimneys may worsen the rating; it is worth checking if this will make a difference. (We cannot advise that they block it up though).



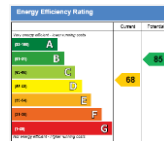
98

Test property

- 1980's 3 bed semi with gas boiler (similar results with old mid terraced house):



With secondary electric fire in the lounge

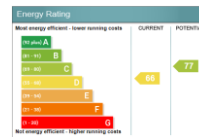


Without any secondary heating

99

Heat pumps

Using generic option
Ground-water
(Assumed 170% efficiency)



73 if MCS certificate available

Using full information from PCDF
Ground-water
(370% efficiency)



100

Heat Pump Selection

- TB196** – Heat pumps
- May have 8 of the same heat pump on PCDF
- 4 are with compensators and 4 are without.
- The 4 options are based on temperature assumptions, 58°C, 55°C, 45°C and 35°C
- Use this PCDF database to choose:
- [Building Energy Performance Assessment - Support Website :Product Characteristics Database \(PCDB\)](#)

HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity
HeatPumps	333128	Mitsubishi	Mitsubishi	Scoslan 11.2kW	PURD 011200A	Heat Pump	electric	Electricity

© 2021 Elmhurst Energy Systems Ltd

101

Controls

- If a landlord adds zone controls (easiest option adding Programmable or communicating TRVs) they could gain a few points
- There are a few in the PCDF which if installed are classed as Zone.
- Smart thermostats – just by acknowledging them in the PCDF could gain a point or 2.
- Compensators – does your programmable room thermostat have a compensator built in?



© 2021 Elmhurst Energy Systems Ltd

102

Controls PCDF

Select pdf heating controls - Work - Microsoft Edge

https://dasp94.elmhurstenergy.co.uk/Processing/WebFormSelectPdfHeatingControls.aspx?Miss=BGV

Heating Control Search Advanced Heating Control Search

Full text search:

Ref	Manufacturer ref no.	Manufacturer name	Brand name	Heating control	Model number	EP Class	Year	Status
200064	20135	Heat Genesis Ltd	Genesis Hub	PHUB-D	EP Class VIII	2015	current	
200071	205	KD Navien	Navien	Smart Plus	EP Class VIII	2019	current	
200080	20051	Bosch Thermotechnology Ltd Bosch	EasControl eTRV	EP Class VIII	2018	current		
200085	20051	Bosch Thermotechnology Ltd Bosch	EasControl eTRV	EP Class VIII	2018	current		
200090	20179	Western Limited	Radbot	26	EP Class VIII	2018	current	
200091	20179	Western Limited	Radbot	26	EP Class VIII	2018	current	
200092	20179	Western Limited	Radbot	26	EP Class VIII	2018	current	
200098	20195	ESI Controls Ltd	ESI Controls	Z2PC307	EP Class VIII	2022	current	
200099	20195	ESI Controls Ltd	ESI Controls	Z2PC307	EP Class VIII	2022	current	
200100	20179	Secure meters Ltd	Radbot 1	SCV100	EP Class VIII	2022	current	
200101	20179	Secure meters Ltd	Radbot 1	SCV100	EP Class VIII	2022	current	
200106	20192	EPH Controls	EPH Controls	CPH	EP Class VIII	2019	current	
200107	20192	EPH Controls	EPH Controls	CPH	EP Class VIII	2019	current	
200108	20180	Resideo Technologies Inc	Honeywell Home Evohome	EP Class VIII	2014	current		
200109	20180	Resideo Technologies Inc	Honeywell Home Evohome	EP Class VIII	2014	current		

1 - 13 / 13 |

© 2021 Elmhurst Energy Systems Ltd

103

Compensators

Compensators

- If a programmable room thermostat has a built in compensator, just by adding this in to the database this could add a point or 2



© 2021 Elmhurst Energy Systems Ltd

104

Compensators

Energy Rating

Most energy efficient - lower running costs

CURRENT: 61 POTENTIAL: 74

Energy Rating

Most energy efficient - lower running costs

CURRENT: 62 POTENTIAL: 74

PCDF Heating Controls:

Main Heating Controls:

Compensator from PCDF:

Percentage of Heat (%):

PCDF Heating Controls:

Main Heating Controls:

Compensator from PCDF:

Percentage of Heat (%):

© 2021 Elmhurst Energy Systems Ltd

105

Heating Pump Age

2012 Or Earlier	2013 or later	Unknown
Select if pump age not known Or no EEI markings visible	EEI rating visible on pump Date of manufacture on the ID plate For pumps inside boilers only ask for paperwork if replaced	Pump not visible or inside boiler casing

106

WWHRS

- Selecting baths and showers will impact on the water usage figures

☒ Water Heating ☒ Community Hot Water ☒ Solar Water Heating

17.0 Waste Water Heat Recovery System

Is WWHRS present in the property?

Total no. of Baths:

Total no. of Baths connected to WWHRS:

Type	Connected
Shower 1	
Type	
Connected to	

© 2021 Elmhurst Energy Systems Ltd

107

WWHRS figures

Gas central heating:

- With no bath and 1 electric shower (39 litres) rating 70
- With 1 bath and 1 electric shower (67 litres) rating 70
- With a bath and 1 of each shower (94 litres) rating 71

- How can the rating be higher when there is more water consumption?
- Due to the amount coming through the electric shower being less and more coming through the gas combi, it works out cheaper to have more water at a cheaper rate, than it does to have the water coming through the shower.

© 2021 Elmhurst Energy Systems Ltd

108

Conversions – How to date them ?

Originally Unheated

Originally an unheated building (barn, outbuilding, warehouse, mill building etc) turned into domestic dwelling/s.

Use the conversion date as the date of construction based on the documentary evidence e.g. the date of building control sign off or the date and details of installed insulation (if available)

Originally heated

Originally a heated building turned into domestic dwelling/s (e.g. school, a hotel, a community hall or other) Or property sub divided

Always use the original construction date, and specify upgraded elements only where documentary or visual evidence is available.



109

Ventilation - negative

Ventilation and Cooling

- Anything entered in this section is a negative (except draught lobby which is a positive, space cooling is neutral).



Ventilation	Mechanical Vn
12.0 Ventilation & Cooling	
No. of open chimneys	0
No. of open flues	0
No. of open chimney/open flues attached to closed fire	0
No. of flues attached to solid fuel boiler	0
No. of open flues attached to other heater	0
No. of blocked chimneys	2
No. of intermittent extract fans	0
No. of passive vents	0
No. of flueless gas fires	0
Fixed space cooling	Not present
Draught Lobby	

© 2021 Elmhurst Energy Systems Ltd

110

Ventilation Rates

Item	Ventilation rate m ³ /hour
Chimney or open flue attached to closed fire (stove)	10
Chimney or open flue attached to solid fuel boiler	20
Chimney or flue attached to other heater	35
Open chimney	80
Chimney, permanently blocked ¹	20
Open flue/vertical duct with diameter < 200mm	20
Intermittent extract fan	10
Passive vent	10
Flueless gas fire	40

© 2021 Elmhurst Energy Systems Ltd

111

Other considerations

- Mechanical ventilation is a great thing in reality, can pull the rating down. (except PIV from loft)
- Know lighting bulbs – Description
- Basements are now adding a positive



© 2021 Elmhurst Energy Systems Ltd

112

Pressure Test

- See Technical bulletin TB182**
Option to enter a result for an air pressure test if test certificate available
- Air pressure tests are historically only carried out on new builds to ensure they comply with building regulations.
- A good test can be between 5-10 pa (@50pa), in the absence of a certificate 15 will be assumed.
- There are two types of air pressure test methods;
 - Blower door (50 Pa)**
 - Pulse (4 Pa).**



113

Certificate examples



© 2021 Elmhurst Energy Systems Ltd

114

SUPPORT FOR LANDLORDS



121



Sources of Advice

- [Energy Saving Trust](#)
- [Simple Energy Advice](#)
- [Find ways to save energy in your home - GOV.UK \(\[www.gov.uk\]\(http://www.gov.uk\)\)](#)

Find ways to save energy in your home

Elmhurst Energy is a company in England or Wales you can get recommendations for some measurements that could make your property cheaper to heat and have more energy.

For each recommendation you can see:

- an estimated cost of making the improvement
- how much you could save in your bills
- what steps you need to make the improvement

There's different advice on reducing your household's energy use. You can find advice for Northern Ireland, Visit www.gov.uk if you need advice for Scotland or visit www.gov.uk if you need advice for Northern Ireland.

You'll need to give us more details about your property that may affect the energy efficiency. This includes:

- The type of house it is
- when it was built
- what insulation there is in the floor, walls and roof space
- whether it has single, double or triple glazed windows

Your property has an energy performance certificate you can enter your address and get advice on how to improve the property.

[Start now >](#)

© 2021 Elmhurst Energy Systems Ltd

122



Zero VAT

- There is zero-rate of VAT until March 2027 on energy saving measures, such as insulation, and low-carbon heating, making it cheaper for people to invest in their properties and reduce their energy usage.
- The commercial incentive to enhance properties is further strengthened as investment in the energy efficiency of a private rented property may qualify as allowable expenses or be tax-deductible.



Warm Homes Plan

A national programme to cut bills, boost energy efficiency, and tackle fuel poverty

- The Warm Homes Plan is a £15 billion UK government programme designed to upgrade millions of homes with modern, low-carbon, energy-saving technologies over the next 5 years
- The plan supports all household types with tailored routes for each (renters, owners, social housing)
- It includes insulation, heat pumps, solar PV, and battery storage



© Elmhurst Energy Systems Ltd

123

124



Warm Homes Plan

- A new Warm Homes Agency will coordinate delivery, skills, and supply chain capacity
- **£5 billion** for low-income schemes
- **£2 billion** for consumer loans
- **£2.7 billion** for the Boiler Upgrade Scheme
- **£1.1 billion** for Heat Networks
- **£2.7 billion** innovative finance
- **£1.5 billion** other funding for Warm Homes Plan Programmes and Devolved Administrations



Go live?

- Part of Warm homes already being delivered to local authorities and social housing.
- ECO closed at the end of March 2026, although extended to Dec 2026 to allow remediation of non-compliant installations
- Government will introduce new procurement arrangements to help keep work flowing through the existing ECO installer network. (yet to see this)
- A ministerial working group will oversee the transition away from ECO.
- All installations will need to follow the PAS process.



© Elmhurst Energy Systems Ltd

125

126

Boiler Upgrade Scheme

- One grant per property. Current grants are available for:
- £7,500 - air to water source heat pump
- £7,500 - ground source heat pump
- £5,000 - biomass boiler
- £2,500 - air-to-air heat pump
- £5,000 - biomass boiler
- [Boiler Upgrade Scheme - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

© 2021 Elmhurst Energy Systems Ltd

127

Example in practice

- Rented property has old gas boiler replaced with heat pump.
- The total cost of installation was £12,500. With the £7,500 BUS grant, their out-of-pocket expense was £5,000.
- The personal investment, £5,000 would be counted toward the PRS MEES cost cap, but the £7,500 grant money would not be included in the PRS MEES cost cap.
- Until March 2027, the materials and installations through BUS are eligible for zero rated VAT (VAT Notice 708/6).

© 2021 Elmhurst Energy Systems Ltd

128

Energy MOT

- [Give your home an energy MOT with new online advice service - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

1. Find out if you can apply for support

There may be schemes or grants available to help with the cost of installing energy efficiency improvements.

We suggest speaking with your energy supplier, [local council](#) and chosen installer to ask if you may be eligible for any help.

Some of the types of support include:

- [ECO](#)
- [Home Upgrade Grant](#)
- [Boiler Upgrade Scheme](#)

If you are worried about affording your energy bills, Ofgem has a [helpful guide](#) to the schemes, grants and benefits that may be available to you.

© 2021 Elmhurst Energy Systems Ltd

129

What is PAS 2035?

This framework provides a whole building approach to the retrofit process.

Rather than retrofit work being considered in isolation (which can unintentionally damage the overall building performance), the new approach looks at the home, environment, occupancy and the householders' improvement objectives when determining suitable measures to install.

Overall the process introduced by PAS 2035 is designed to improve the quality of retrofit work for domestic properties. Ensuring that funding from banks and lenders is used towards good quality work which will actually improve the energy efficiency of housing



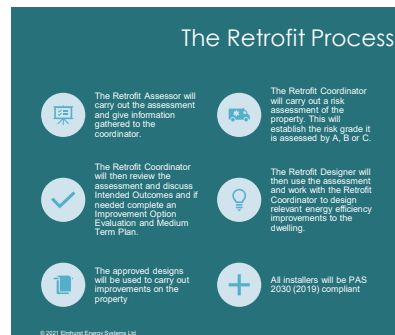
130

Where does PAS 2035 apply?

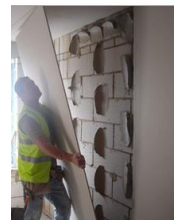
- You must follow PAS 2035 when work is funded through schemes like:
- ECO4 (Scheme has now finished)
- Local authority funding
- Social housing decarbonisation funding
- Warm homes



131



132





References used

- MEES commencing Oct 2030
- Warm Homes Plan more information expected this year.
- HEM and EPC reform aiming for 2027



Warm Homes



EPC Reform



MEES



Wrapper Consultation

© Elmhurst Energy Systems Ltd



Feedback Forms

We hope you enjoyed the course!
Please complete our feedback form by using the QR link below.



© 2021 Elmhurst Energy Systems Ltd