PEPA Retrofit Assessor Scheme Requirements

2019 Edition

Document Control

Change History

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Approval History

Name	Role	Organisations	Date	Version
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Distribution List

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-	Not issued.
I	For information only – no action required.
R	For review – comments to be directed to the Project Manager.
S	For sign-off approval.
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Property Energy Professional Association Retrofit Assessor Scheme Requirements

This document outlines the Scheme Requirements for EPBR Accreditation Schemes to extend their services to approve Retrofit Assessors to meet the requirements of PAS 2035.

This document has been written by the management of PEPA (the Scheme Owner) for the use of all EPBR Accreditation Bodies (The Scheme Operators) whether or not that EPBR Accreditation Body is a member of PEPA.

Ownership

This document is managed on behalf of approved Certification Schemes by the PAS 2035 Retrofit Assessor Working Group.

The working group (WG) will:

- review the Scheme Requirements document and consider any updates that may be required, and
- be made up of all Certification Schemes and TrustMark representatives and will have a rotating nominated chair.

Oversight

The working group will provide management oversight for the Scheme Requirements document. Trustmark will be stakeholders in the overseeing of the document.

Trustmark is the ‘key’ stakeholder for the Scheme Requirements document and have the ‘Golden Vote’. This means that Trustmark can stop any proposed amendment they deem inappropriate or unacceptable.

As key stakeholders Trustmark are invited to all working group meetings and will be party to all correspondence. All proposed changes to the Scheme Requirements will be clearly flagged and highlighted to TrustMark. The working group will apply version control and effective go live dates to the document; this is to ensure that all stakeholders are always aware of the latest version

Definitions

A **Retrofit Assessment** is the consideration of all evidence based upon a non-intrusive on-site assessment that will allow a Retrofit Coordinators to create a Medium-term Improvement Plan compliant with the requirements of PAS 2035.

A Retrofit Assessor is a person qualified to carry out a retrofit assessment,

A **Retrofit Assessment Report is** the written report that communicates the evidence of the *Retrofit Assessor* to the *Retrofit Coordinator*

All other definitions from the EPBR Scheme Operating Rules and PAS 2035 apply.

Authority to operate a Retrofit Assessor Scheme

All Scheme Operators will be Accreditation Bodies approved by MHCLG for the accreditation of domestic energy assessors. The audit shall be called at least annually, and a copy of the report will be sent to the management team at PEPA.

As Scheme Operators are required to comply with MHCLG Scheme Operating Rules and are independently audited it is considered that there are adequate safeguards already in place to be assured that Scheme Operators have sufficient controls for Financial and Operational stability. Other aspects of the scheme management system will need to be extended;

Management systems

- To be extended to include the requirements of this Scheme Document

Insurance.

- To be extended to cover the activities of a Retrofit Assessor

Record retention

- To ensure that records generated to demonstrate compliance with the requirements of this scheme document are retained for as long as the Retrofit Assessor remains a member of the scheme

Assessing suitability
To become a member and maintain membership, the Retrofit Assessor must be able to demonstrate the competence to meet the requirements of Appendix 2.

- Code of Conduct.
- The existing Code of Conduct must be extended to include the activities of the Retrofit Assessor and meet the minimum requirements specified by TrustMark.

Continuing professional development

- Retrofit Assessors must undertake at least ten hours of CPD per annum to ensure that their knowledge remains current.

Disciplinary action

- Schemes must have processes in place to discipline members that do not meet the Scheme Rules or Code of Practice. Malpractice as a Retrofit Assessor should be

considered independently of EPBR Accreditation however a Retrofit Assessor who has their EPBR accreditation revoked will automatically lose their status as a Retrofit Assessor.

Surveillance.

- Schemes will audit a minimum of 2% of Retrofit Assessments per year.
- Accreditation Schemes will sample a minimum of 5% of members' CPD records each year to ensure the CPD obligations have been met.

Complaints

- The scheme shall extend their complaints process to include complaints about the activities of a Retrofit Assessor.
- Schemes must give consumers access to an Alternative Dispute Resolution Service, as an alternative to the courts, in cases where a complaint cannot be resolved to the satisfaction of both parties.

Appeals

- The scheme shall extend their appeals process to include complaints about or by Retrofit Assessors.

Support

- Support to the public: Schemes will provide general information to the general public and stakeholders concerning Retrofit Assessment reports issued by members.
- Support to Members: Schemes will provide a helpdesk for members.

Appendix 1 Assessment Process

The assessment shall include:

- an appraisal of the dwelling's heritage, architectural features, structure, construction and condition, in sufficient detail to establish the suitability of the dwelling for improvement;
- identification of the installed building services (ventilation, heating, hot water and lighting systems and their controls), the locations of the equipment, the areas served and confirmation that the systems are working;
- identification of any constraints imposed by the local planning authority (including requirements for planning permission, Listed as of Special Architectural, Protected or Historic Interest, Conservation Area constraints, Tree Preservation orders, etc.);
- identification of any energy efficiency measures already installed or proposed.
- an appraisal of the dwelling's construction in sufficient detail to establish the thermal transmittances (U values), and moisture properties of the main building elements (exposed floors, walls and roofs), and the suitability of the dwelling for improvement;
- a measured survey to establish the overall dimensions of the dwelling's heat loss envelope (including any basements and attics), the dimensions of all building elements (exposed floors, external walls, roofs, etc) and the dimensions of all window and door openings;
- identification of constraints imposed by the site, e.g. elevation and exposure (to sun, wind and rain, major roads and industrial activity); access, party walls, rights of light, consideration of adjoining properties, etc.;
- identification of the location and severity of any existing construction defects, structural defects or leaks that relate to the energy efficiency recommendations being made;
- an appraisal of occupancy, including the number of occupants and any special considerations such as the presence of vulnerable persons, e.g. children or elderly people, or those with disabilities;
- an estimate of annual fuel use, fuel costs and carbon dioxide emissions, under standard or actual occupancy (as appropriate), made from fuel bills or by using a recognised methodology such as SAP or RdSAP.
- an assessment of the existing ventilation arrangements, including:
    - identification of the location and severity of any condensation and/or mould growth in the dwelling;
    - any intermittent extract ventilation fans or passive stack ventilators and where they are located;
    - any background ventilators (air inlets or 'trickle ventilators'), and where they are located;

- any other ventilation system and where it is located, including: single-room heat recovery ventilators (srHRVs), positive input ventilation (PIV), whole-house mechanical extract ventilation (centralised cMEV or decentralised dMEV), and mechanical ventilation with heat recovery (MVHR);
- Whether the identified ventilation systems are functional.

Where necessary the Retrofit Assessor may also recommend the commissioning of;

- a test of the air permeability of the building envelope, using an approved method;
- a structural engineer's report on the structural condition of the building and its suitability for any proposed improvement measures;
- other relevant in-situ tests (e.g. pull-out tests to establish suitability for proposed fixings).

Reporting the assessment

The whole-dwelling assessment, including the ventilation assessment, the SAP/RdSAP data file and a photographic record of all the recorded features of the building and of any identified defects, shall be recorded and reported to the Retrofit Coordinator.

See Appendix 4 for Requirements for the Retrofit Assessment Report

Appendix 2 – Competence Requirements

A Retrofit Assessor must be an accredited Domestic Energy Assessor and have received at least twenty hours of additional training relevant to the Retrofit Assessor role; at least twelve hours of which must be classroom based.

Module	Title	Scope
Introduction		
	PAS2035	Overview of PAS2035, the other roles involved, link to PAS2030
	Trust Mark	Overview, including data warehouse, property passport
	Initial Risk Assessment	What it is (routes A, B and C), how it works, and impact on Assessors
	Energy Efficiency Advice	Covered by all roles in PAS2035 – see separate Annexe for more detail for Assessors
	The benefits of deep retrofit	What is deep retrofit and why whole house assessments are required.
Building Physics		
	U-values	Understanding thermal transmittances (*U* values) of building elements (i.e. floors, walls and roofs, etc.) from data on the thermal conductivities (λ values) of building materials. What makes good U values, and what makes poor U values
	Condensation	Understanding the risk of interstitial condensation within the construction of a building element, using data on internal and external temperature and humidity and on material moisture contents and vapour pressures
	Linear Thermal Bridging	Understanding linear thermal transmittances (Ψ values) and critical temperature factors (f_{Rsi}) at the corners, junctions and edges of building envelopes that are identified as “thermal bridges”, i.e. places where the envelope of insulation is either thinner or discontinuous;
	Heat Gains	An understanding of overall heat gains in a dwelling from occupants, cooking, hot water, lighting, the use of appliances and solar gains through glazed openings
	Ventilation	Understanding of the whole-dwelling ventilation rate required to maintain good IAQ and minimize the risk of condensation and mould growth
	Mould	Understanding of the risk of surface condensation and mould growth using temperature factors and data on internal and external temperature and relative humidity to calculate vapour pressure differentials
	Moisture	Understanding dynamic moisture equilibrium through a building element

	Solar gain	Understanding of internal daylight levels from data about the sizes, locations and orientations of windows, and any local shading, and therefore requirements for artificial lighting.
	SAP and PHPP overview	Familiarity with SAP and PHPP principals and models, and differences to RdSAP
Occupancy Assessment		
	Occupancy Assessment process	An appraisal of occupancy, including the number of occupants and any special considerations such as the presence of vulnerable persons, e.g. children or elderly people or those with disabilities
		In-depth knowledge of the OA Methodology, with ability to advise consumer's around inputs and calculation results
		In-depth knowledge on recommendations and all results from Occupancy Assessment
		Be able to deliver the necessary advice on how occupancy variables affect energy use and savings from installing measures
		Be able to explain 'in use factors' and how they affect measure savings.
		Be able to explain the impact of fuel costs on the running costs and savings of measures
Condition Assessment		
	Heritage buildings	Be able to make an appraisal of the dwelling's heritage, architectural features, structure, construction and condition and the installed building services (ventilation, heating, hot water and lighting) in sufficient detail to establish the suitability of the dwelling for improvement;
	Building Structure	Be able to identify the location and severity of any existing construction defects or structural defects or leaks.
	U - Values	Be able to make an appraisal of the dwelling's construction in sufficient detail to establish the thermal transmittances (*U* values) and moisture properties of the main building elements (exposed floors, walls and roofs) and the suitability of the dwelling for improvement
	Moisture, mould and Ventilation, condensation, trickle vents etc.	Be able to conduct an assessment of the existing ventilation, including: identification of the location and severity of any condensation and/or mould growth in the dwelling; any intermittent extract ventilation fans or passive stack ventilators and where they are located; any background ventilators (air inlets or "trickle ventilators"), and where they are located;

		any other ventilation system and where it is located, including single-room heat recovery ventilators (srHRVs), positive input ventilation (PIV), whole-house mechanical extract ventilation (centralized cMEV or decentralized dMEV), and mechanical ventilation with heat recovery (MVHR); whether the identified ventilation systems are functional.
	Dimensions above RdSAP	Be able to complete a measured survey to establish the overall dimensions of the dwelling's heat loss envelope (including any basements and attics), the dimensions of all building elements (exposed floors, external walls, roofs, etc) and the dimensions of all window and door openings
	Planning constraints	Be able to identify any constraints imposed by the local planning authority (including requirements for planning permission, Listing as of Special Architectural or Historic Interest, Conservation Area constraints, Tree Preservation orders, etc.);
	Site constraints	Be able to identify any constraints imposed by the site, e.g. elevation and exposure (to sun, wind and rain, major roads and industrial activity) access, party walls, rights of light, consideration of adjoining properties, etc.;
	Structural defects	Be able to identify construction defects or structural defects or leaks, or condensation and/or mould growth in any dwelling(s), including identification of such defects in two categories: • defects that need to be repaired before any retrofit work can proceed; and • defects whose repair is recommended but not an essential prerequisite to retrofit. Relative to the measures to be insulated
	Identify existing energy efficiency measure(s)	As per RdSAP assessment
	Estimating energy use and cost	The data collected shall be sufficient for an estimate of annual fuel use, fuel costs and carbon dioxide emissions, under standard or actual occupancy (as appropriate) to be made by the Retrofit Assessor, Retrofit Coordinator or Retrofit Designer, using a recognized domestic energy model such as the Reduced Data Standard Assessment Procedure (RdSAP), the Standard Assessment Procedure (SAP) or the Passive House Planning Package (PHPP).
	Condition Report	Be able to create a condition report that gives all required information to the Retrofit Co-ordinator

Appendix 3 – Provision of Advice

A Retrofit Assessor must be able to provide suitable advice, as detailed in the below table.

Element	Scope
Technology	
Fabric (Thermal) Insulation	Understand nature of different parts of the property which can be thermal improved such as walls, roofs, floors; and the generic techniques to achieve better performance
Heating & DHW	Understand current heat and hot water provision and potential alternative retrofit solutions and the impact on energy, warmth, cost and emissions.
Micro Generation	Understanding of current microgeneration solutions available that can be modelled in the methodologies
Household electrical appliances	General understanding of typical household appliances and their impact on energy use
Monitoring consumption	General understanding of how occupants can monitor energy usage and benefits of doing so
Retrofit	
Choice of products/tech	General advice around energy retrofit measures, based on standard products as defined in RdSAP and OA outputs. (Independent of manufacturers)
Use of equipment	General advice around use of energy efficient products
Cost and savings of improvements	Using the outputs of RdSAP and OA software advising consumers on what costs and savings are predicted
Finance	General knowledge of any grants and finance and where to signpost consumers towards for independent advice
Explaining the customer journey through the PAS framework	Understanding of the other roles within PAS framework and the customer journey.
Behavioural Issues	
Use of heating, DHW and controls	How to use controls effectively to manage energy efficiency of the home
Use of electrical appliances	How to effectively use and manage energy efficiency of the appliances around the home
Use of monitoring equipment	How and why to monitor use of energy in the home, including current bills and smart meter technology etc.
Using Passive Solar and retaining heat	General understanding of passive solar gains in the home and tips surrounding retaining heat in homes
On site renewables	Making the most of any on site renewable technologies
Consumer and Services	
Consumer rights – energy supply, energy efficiency and Micro Generation	General understanding of consumer rights with regards to supply of energy, the journey through the PAS, and consumer rights under TrustMark and any additional rights in regards to Microgen
Regulations, rights in rental sector	Understanding of all current regulations on landlords and tenants e.g. MEES/PRS, in order to help these consumers, make informed choices around the energy efficiency of the home

Choice of suppliers and tariffs (& switching)	General understanding of consumer bills, understanding tariffs and the process of switching supplier(s)
Awareness of Grants and Funding for energy efficiency measures	General understanding and awareness of current grants, subsidies and polices in energy efficiency such as FiTS
Understanding energy bills and payment options	Good understanding of reading energy bills and different payment options, with advice around alternative options
Understanding energy usage and costs	Linking the bills to total energy usage and costs within the property including use of heating, hot water, lighting and appliances
Fuel Debt	Understanding of what fuel dept is and how to manage it
Services for vulnerable households	Understanding energy efficiency implications for vulnerable households
Details of impartial advice	Ability to point consumers towards further independent energy advice (retrofit advisors)
Fuel related benefits/grant	Knowledge of any current fuel related benefits of grants available
Redress for energy supply & retrofit	General understanding of redress for energy supply and also for all the component parts of the TrustMark/EHC process
RdSAP & SAP and Occupancy Assessments	
RdSAP Appreciation	In-depth knowledge of the RdSAP Methodology, with ability to advice consumer's around inputs and calculation results
RdSAP Outputs	In-depth knowledge on recommendations and all results from RdSAP
OA Appreciation	In-depth knowledge of the OA Methodology, with ability to advice consumer's around inputs and calculation results
OA outputs	In-depth knowledge on recommendations and all results from Occupancy Assessment
SAP Appreciation	Understanding of SAP methodology in order to deal with any queries relating to the methodology or outputs
Related Health Issues	
Health and comfort in relation to the indoor environment	General understanding of health and comfort in the home, adequate temperatures, appropriate ventilation etc (build tight, ventilate right)
Ventilation	Good understanding of ventilation issues and requirements to allow for a healthy home
Avoiding condensation damp and mould growth	Good understanding of techniques for avoiding condensation, damp and mould growth in homes
Affordability of energy services	General understanding of cost and affordability of potential energy efficiency measures

Appendix 4 - Requirements for Retrofit Assessment Report

Retrofit Assessment

Retrofit Assessors will need to upload relevant data and documents to the Data Warehouse. They will upload the required documents and information through Accreditation Scheme portals.

Data:

- The following data will be uploaded:TrustMark Reference (key)
- Scheme Reference
- UPRN & Address
- Date of Assessment
- Retrofit Assessor Details

RdSAP Results:

- SAP score
- SAP rating (A-G)
- Running costs estimate
- CO2 estimate

Occupancy Assessment Results:

- Running costs estimate
- Co2 estimate

Document(s)

The following documents will be uploaded:

- Energy Report - which provides a SAP score, estimated costs and CO2 emissions, recommendations for improvement and the levels of savings possible
- RdSAP Inputs – the data that was collected and assumed in the production of the energy report
- OA Inputs - Data that has been entered to reflect the occupant lifestyle that impacts upon the energy calculation
- OA Report - which provides a SAP score, estimated costs and CO2 emissions, and recommendations for improvement and the level of savings possible
- Condition Report the physical state of the dwelling at the time of the assessment related to features that may inhibit the performance of any future energy efficiency measures, typically containing photographs and a written description.

Please note the documents:

- do not have to be singular, they can be combined, as long as the information above is covered
- are likely to be PDFs or similar