FINAL

Consultation Response

BS 40104 Consultation Responce

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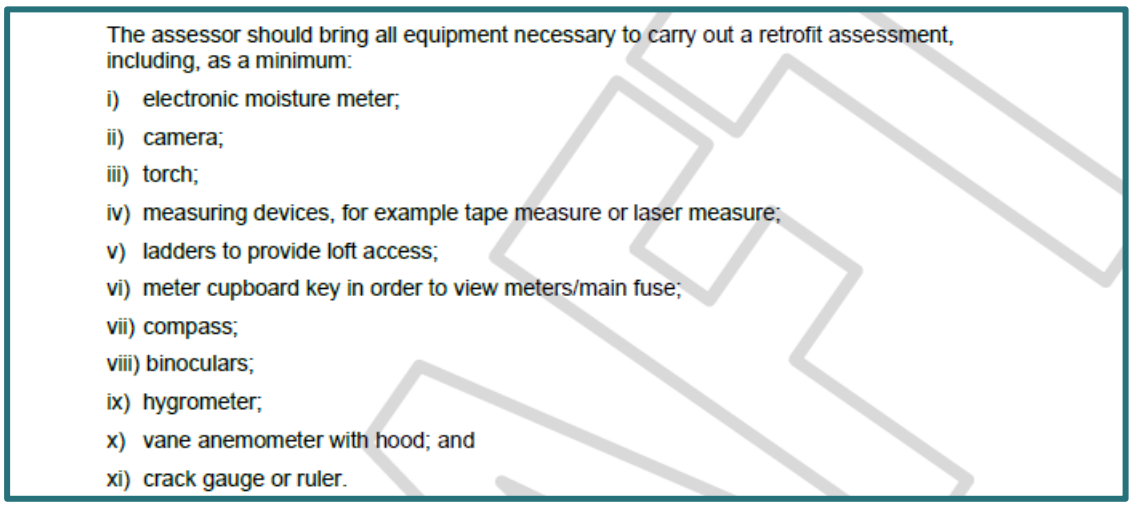
1. Introduction

Following engagement with members and a full internal review of 'BS 40104 Retrofit Assessment for Domestic Dwellings - Code of Practice' consultation, Elmhurst Energy has crafted a comprehensive response to the British Standards Institution's (BSI's) consultation.

We have addressed the key areas where we believe our input is crucial, as detailed below.

2. Sections and Comments

Section 4.2 - Stage 2: On-site assessment



The assessor should bring all equipment necessary to carry out a retrofit assessment, including, as a minimum:

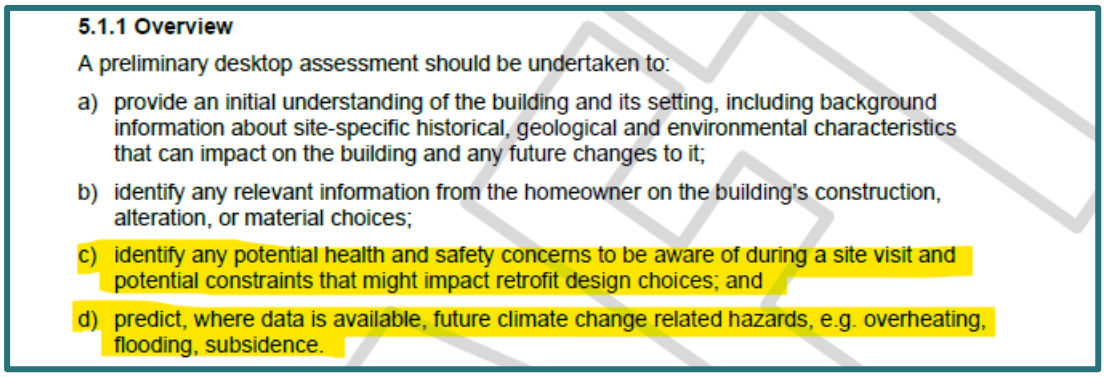
i) electronic moisture meter;
ii) camera;
iii) torch;
iv) measuring devices, for example tape measure or laser measure;
v) ladders to provide loft access;
vi) meter cupboard key in order to view meters/main fuse;
vii) compass;
viii) binoculars;
ix) hygrometer;
x) vane anemometer with hood; and
xi) crack gauge or ruler.

Elmhurst note that additional standard equipment has been identified for Retrofit Assessors. This includes a Moisture Meter, Hygrometer and Vane Anemometer with Hood. Elmhurst supports the inclusion of these new measures to enhance the Retrofit Assessor's ability to accurately record the property's condition on site.

However, we believe that clarification is needed regarding the necessity of calibrated equipment where applicable, as this could lead to additional costs for Retrofit Assessors.

Regarding the use of a Vane Anemometer, we recommend that such equipment be employed according to established measuring practices. Users should ideally have appropriate training and be part of a competency scheme, although we recognise this may also lead to increased costs.

Section 5.1.1 – Process, overview



5.1.1 Overview

A preliminary desktop assessment should be undertaken to:

a) provide an initial understanding of the building and its setting, including background information about site-specific historical, geological and environmental characteristics that can impact on the building and any future changes to it;

b) identify any relevant information from the homeowner on the building's construction, alteration, or material choices;

c) identify any potential health and safety concerns to be aware of during a site visit and potential constraints that might impact retrofit design choices; and

d) predict, where data is available, future climate change related hazards, e.g. overheating, flooding, subsidence.

Elmhurst believes a pragmatic solution would be that the desktop 'context' assessment does not need to be carried out by the Retrofit Assessor. We do however have some concerns with points C and D.

Point C requires further clarification regarding the expected amount of information that would need to be collected. Since this is a desktop study, acquiring detailed information without a site visit may be challenging.

As with point C, point D requires clarity over what level/amount of information is required.

We believe that the desktop study should be in place to highlight potential issues which would require further investigation, and believe that is the intention of this section based on Table B.2, but more clarity is needed.

Section 5.1.4 - Ground conditions and topography

5.1.4 Ground conditions and topography

The preliminary desktop assessment should determine any topographical or ground condition constraints that might impact on design decisions, e.g. access, subsidence, landslide risk, heave, foundation depths (if available on technical drawings and planning applications) and predicted water infiltration of the site.

The assessor should identify and record whether:

a) access to the site is sufficient for deliveries, equipment and heavy machinery;

b) there is adequate space to erect scaffolding or scissor lift for high-level works;

c) the existing access to the building or site is suitable for people; and

d) ground levels are high or raised.

Elmhurst has concerns about the level of information being asked within this section and believe it is unrealistic to expect the Retrofit Assessor to identify some of these issues such as subsidence, ground heave and water infiltration of the site.

If the intention is for the Assessor to simply identify known issues from the occupier/owner, this should be clarified in the text.

Section 6.1.1 - Condition rating

6.1.1 Condition rating

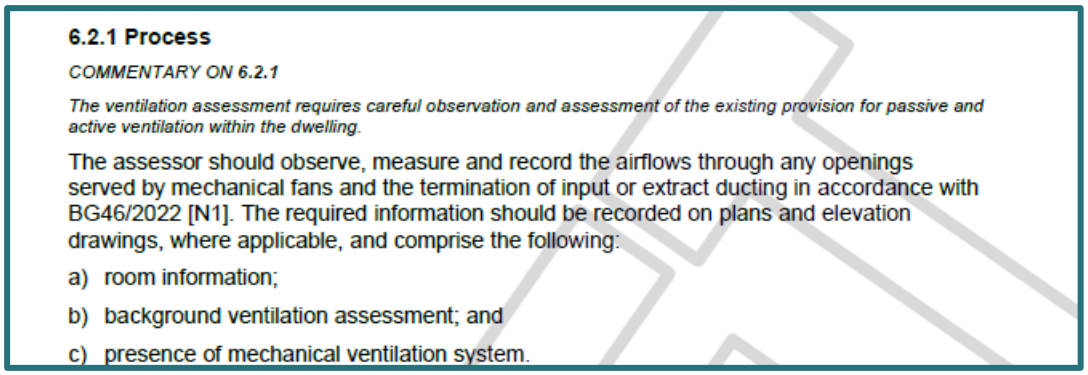
Condition ratings should be based on factual and/or a deduced amount of risk of the issue becoming a contribution to a non-successful retrofit. Notes should be provided to evidence defects and damage.

The trail of a defect should be followed, from the damage caused to the defect that is causing it.

Elmhurst believes that too much emphasis has been placed on the Retrofit Assessor to make the decision on whether a defect must be repaired rather than simply recording its location, and the severity of the defect.

We feel this responsibility should sit with the Retrofit Coordinator, who can also take into account the proposed Energy Efficiency Measures being installed (which would not be known by the Retrofit Assessor).

Section 6.2.1 - Ventilation assessment (Process)



6.2.1 Process

COMMENTARY ON 6.2.1

The ventilation assessment requires careful observation and assessment of the existing provision for passive and active ventilation within the dwelling.

The assessor should observe, measure and record the airflows through any openings served by mechanical fans and the termination of input or extract ducting in accordance with BG46/2022 [N1]. The required information should be recorded on plans and elevation drawings, where applicable, and comprise the following:

a) room information;

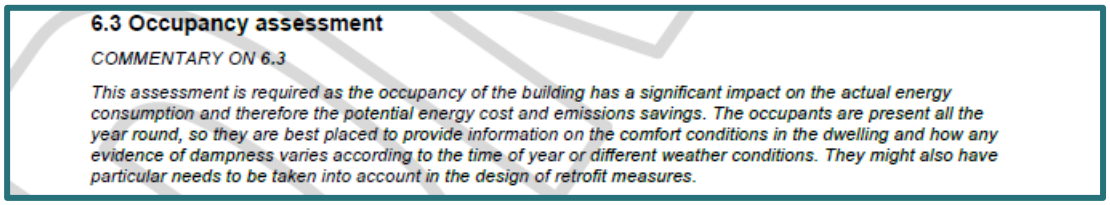
b) background ventilation assessment; and

c) presence of mechanical ventilation system.

Elmhurst note thar the airflow rates must be recorded.

In accordance with our observations in Section 4.2, should a Vane Anemometer be required, Elmhurst recommends that it be used in line with proper measuring practices. This would require the user to be adequately trained and ideally certified through a competency scheme. However, we are aware that adhering to these practices may result in increased costs.

Section 6.3 - Occupancy assessment



6.3 Occupancy assessment

COMMENTARY ON 6.3

This assessment is required as the occupancy of the building has a significant impact on the actual energy consumption and therefore the potential energy cost and emissions savings. The occupants are present all the year round, so they are best placed to provide information on the comfort conditions in the dwelling and how any evidence of dampness varies according to the time of year or different weather conditions. They might also have particular needs to be taken into account in the design of retrofit measures.

Elmhurst notes that there is currently no provision for a basic occupancy assessment. While RdSAP 9.94 includes a calculation method for using data from a full occupancy assessment, no such method exists for RdSAP 10. It is also unclear whether future versions of RdSAP, including the Home Energy Model, will incorporate this functionality

With no standardised calculation method, the industry risks variation, and disparity between software provider outputs if this data is used to alter the energy rating of the property.

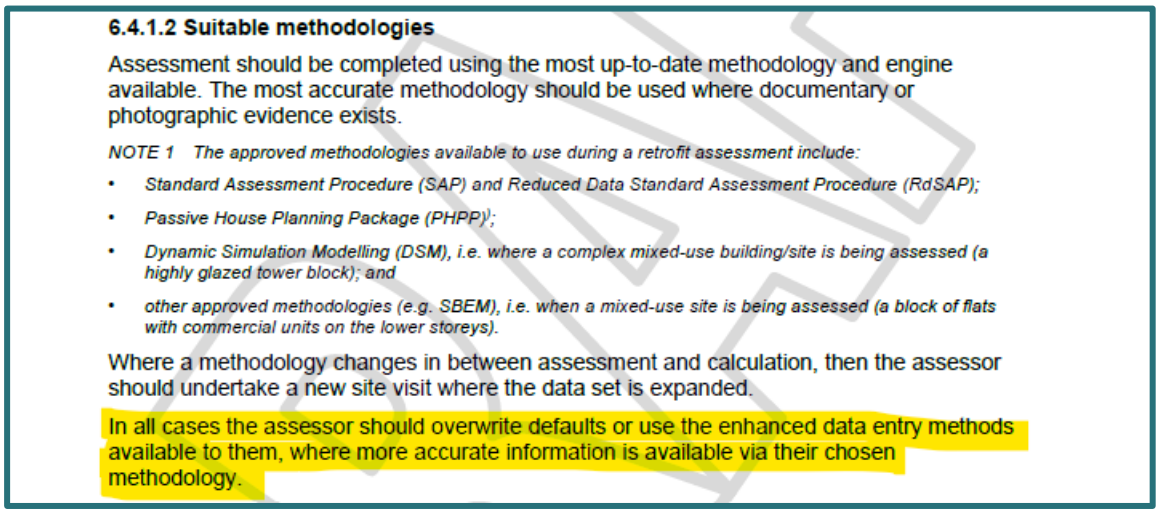
Where data is unavailable, e.g. a new tenant/owner, standardised values would need to be agreed and defined.

Section 6.3.2 - Occupancy assessment (Output)

As a standalone document, Elmhurst feel this section is well thought out. However, in the context of PAS 2035, we believe that data collection relating to occupant comfort, satisfaction, wellbeing and usability are already determined by the Retrofit Coordinator with the intended outcomes and this would duplicate some of the work.

We feel one or the other should gather this information, not both parties when applied to PAS 2035.

Section 6.4.1.2- Energy performance assessment (Suitable methodologies)



6.4.1.2 Suitable methodologies

Assessment should be completed using the most up-to-date methodology and engine available. The most accurate methodology should be used where documentary or photographic evidence exists.

NOTE 1 The approved methodologies available to use during a retrofit assessment include:

- *Standard Assessment Procedure (SAP) and Reduced Data Standard Assessment Procedure (RdSAP);*
- *Passive House Planning Package (PHPP)[1];*
- *Dynamic Simulation Modelling (DSM), i.e. where a complex mixed-use building/site is being assessed (a highly glazed tower block); and*
- *other approved methodologies (e.g. SBEM), i.e. when a mixed-use site is being assessed (a block of flats with commercial units on the lower storeys).*

Where a methodology changes in between assessment and calculation, then the assessor should undertake a new site visit where the data set is expanded.

In all cases the assessor should overwrite defaults or use the enhanced data entry methods available to them, where more accurate information is available via their chosen methodology.

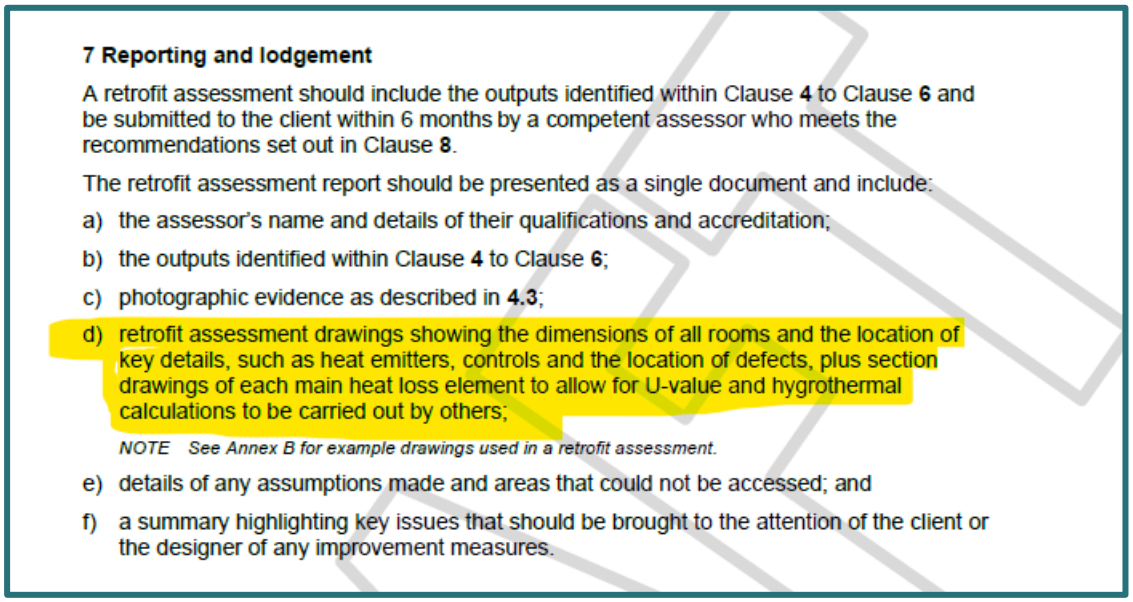
Elmhurst has concerns about the statement highlighted above.

There are many instances were evidence collected for RdSAP cannot be accepted. Clear guidance is needed to ensure that default values are only amended when industry-approved evidence is available.

Elmhurst would like to see 'measured performance data e.g. measured u-values' in the examples listed, as these are more indicative of the element when applied.

We also feel it's important to clarify, where appropriate, that a qualified or competent person is needed e.g u-values cannot be used unless calculated by a qualified or competent person.

Section 7 - Reporting and lodgement



7 Reporting and lodgement

A retrofit assessment should include the outputs identified within Clause **4** to Clause **6** and be submitted to the client within 6 months by a competent assessor who meets the recommendations set out in Clause **8**.

The retrofit assessment report should be presented as a single document and include:

a) the assessor's name and details of their qualifications and accreditation;

b) the outputs identified within Clause **4** to Clause **6**;

c) photographic evidence as described in **4.3**;

d) retrofit assessment drawings showing the dimensions of all rooms and the location of key details, such as heat emitters, controls and the location of defects, plus section drawings of each main heat loss element to allow for U-value and hygrothermal calculations to be carried out by others;

NOTE See Annex B for example drawings used in a retrofit assessment.

e) details of any assumptions made and areas that could not be accessed; and

f) a summary highlighting key issues that should be brought to the attention of the client or the designer of any improvement measures.

Elmhurst do have some concerns around point D in this section, which includes a requirement for 'section drawings'.

At present the retrofit assessment is a non-invasive survey, which would prevent any such section drawings from being provided in the majority of instances.

Annex A - Condition (Informative)

Elmhurst are concerned that providing such a long prescriptive list can lead to issues with Retrofit Assessors claiming data not identified within this list, that did not need to be gathered.

We feel it should be clearly identified that this list should not be viewed as exhaustive and there may be additional information to collect that sits outside of the list.

3. Closing Thoughts

As a stand alone document BS 40104 is a good standard, and offers clear guidance on how to do a thorough and exhaustive Retrofit Assessment for a property in readiness for whole house retrofit.

The data set is a step in the right direction as currently the assessment tools are varied and do not promote compatibility and completeness of dataset. This standard allows for that to happen

We accept that existing assessors would need a significant amount of additional competency training and skill development in order to cover many of the enhanced requirements in this standard. This is not to be seen as a criticism, but nonetheless it presents a challenge to the industry. The qualifications/competencies accepted for the role are now quite varied; which is understandable given the breadth of the potential assessment process associated with certain building types. Again, this should generally be welcomed as an assessment should be completed by a competent person(s). However, some of the areas noted in the above commentary would be very difficult to train across the entire retrofit work forces and this could result in dilution of resource and consumer confusion.

Over time, it is likely that 90% of Retrofit Assessors would be able to cover 90% of this standard, however a number of experts would still be required to fill in the gaps when it comes to complex property types or circumstances. This could lead to additional site visits.

However, when considering the standard in relation to PAS 2035, we have serious concerns about its adoption and the potential impact on large-scale projects and widespread implementation. This could significantly hinder the progress of PAS 2035 and lead to substantial cost increases in delivering retrofit projects, potentially harming the industry.

We feel that the impact this will have on the industry must be considered if the intention is to replace the Retrofit Assessor/Assessment element of PAS 2035 with the BS 40104 standard.

Contact Details

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