



SUSTAINABLE TRADITIONAL  
BUILDINGS ALLIANCE

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MHCLG

c/o FutureBuildingsStandardConsultation@communities.gov.uk

12<sup>th</sup> April 2021

Dear MHCLG,

**Reference: Future Buildings Standard consultation**

Thankyou for the opportunity to respond to the proposed standard. As way of an introduction to the STBA we have itemised some key points about us as an organisation.

1. The Sustainable Traditional Buildings Alliance (STBA) is a UK-wide collaboration of sustainability, heritage and construction industry organisations that acts as a forum for sustaining and improving [traditional buildings](#). We work together to minimise risks and maximise benefits to traditional buildings and their occupiers. We combine technical expertise with a holistic approach promoting quality of life.
2. STBA has produced [research reports](#) and [guidance](#) for DECC and BEIS. Our 2012 [Responsible Retrofit](#) report for DECC led to it commissioning the [BRE Solid Wall Study](#). This identified approximately 35% of dwellings in the UK as heritage buildings. Historic England has published STBA's [Gap Analysis in the Energy Efficiency of Traditional Buildings](#). Our work has changed awareness of performance of solid wall buildings, and of [moisture](#) in them, prompting the formation of the [UK Centre for Moisture in Buildings](#).
3. STBA pioneered the Whole-House approach to retrofit. This was embraced in the Each Home Counts report which led on to PAS 2035. We are acting as technical advisor to BEIS for the new Social Housing Decarbonisation Demonstrator Fund, which takes a Whole House approach. We are piloting a large-scale Whole-House retrofit project under the [BEIS Thermal Innovation Fund](#), in partnership with Melin Homes.
4. STBA contributed to development of [PAS 2035:2019](#) which sets the standard for domestic retrofit, and is mandatory for publicly funded projects. In this, STBA was instrumental in getting the health of buildings and occupants, and heritage considerations into energy efficiency guidance. We were commissioned by BSI to draft supporting guidance for the PAS on Significance assessment for non-protected buildings. We are contributing to PAS 2038 for non-domestic buildings, which is currently under development.
5. In contrast to the costly Government guidance (PAS 2035 etc) which is only available from the British Standards Institute, STBA has produced freely-available web-based guidance including the [Retrofit Guidance Wheel](#) and the [whole house approach](#).

6. STBA is independent, inclusive and not aligned to any pressure group or commercial entity.

7. STBA is contributing to the work of the international Climate Heritage Network in the lead up to COP 26.

8. While STBA's technical work has focused on individual buildings, our approach is holistic, and our research and collective experience have prompted reflection and review at a much broader scale. This includes places as well as buildings, and the value (or lack of it) given to the heritage and quality of life in solutions being promoted for tackling climate change.

9. We are particularly mindful of the need for a whole-life approach which takes account of embodied carbon in existing buildings, and of the carbon and financial costs of retrofit measures.

10. We are also very aware that the public and political focus has been on actions by individual building owners, when the real game-changers may be large scale initiatives such as decarbonisation of the grid. We highlighted these balances in our 2019 event '[Deep Retrofit vs Decarbonisation](#)'.

Please find comments below as per requirements of the consultation process. We have addressed those questions that are aimed at the retrofit of existing buildings, therefore our responses are purely focused on the questions Q9 and post Q104.

Q9.

In terms of retrofit there is a need to look at the embodied energy of any existing building and compare it to the option of replacement with new. Also the issue around sequestered carbon is important as any work will induce a positive CO2 output and this needs to be negated as much as possible.

Q104.

No

The guidelines for Passive House recommends all thermal envelope elements to be around 0.1 to 0.15. Given England temperate climate it would seem logical to have 0.15 for all elements. There are a number of windows and doors that can achieve 1.2 with double glazing and so this should be the standard for these elements. The issue is more around interfaces of elements and thermal bridging at this point.

Q105.

No

Any improvements to a building must not adversely affect ventilation, but also there needs to be an emphasis on creating the correct level of ventilation as a building may have very poor ventilation and hence 'not making it worse' leaves it with poor ventilation. So there should be reference to meeting Part F. This then requires a whole house approach rather than just dealing with the new elements. PAS 2035 may be able to assist with this. BS7913 is also a key document to reference here as it too examines the need for adequate ventilation in traditional buildings.

Q106.

No

EUI might be a better metric. Extensions will then improve EUI as a kW/sqm/annum figure. Standards on U values and thermal bridges are also important to ensure fabric efficiency.

Q107.

Either as long as they equate to 1.2 requirements of windows/doors.

Q108.

Yes

Q109.

No.

Note that thermal bridging is the key issue between elements and this needs to be controlled so that we avoid the unintended consequences associated with this. Having a common figure for roofs is useful. There is a need to take into account PAS2035 here with threshold figures. Wording is important here as there needs to be a stress placed on the 'special considerations' for moisture open / protected buildings so that traditional fabrics are not taken into a situation where they are unable to comply without facing unintended consequences. Non-protected buildings may not be able to achieve the 'Threshold values' without the use of inappropriate materials and hence the exercise becomes counter-productive. It is important therefore that 'special considerations' are mentioned in this section for the relevant stock so that designers are aware that there is some leeway for them to make a building as good as it can be in a safe and low risk manner. 0.7 may be achievable, but careful wording to facilitate the necessary rigours of PAS2035, BS7913 and compliance with the 4 C's is important in some instances. This is especially true for the 25% of stock that is traditionally built.

Q110.

C

This would then need to be re-calculated to equate to the 40% improvements as set out in Q10.

Q111.

No.

It is vital that this Part L is aligned to PAS2035, the new BS5250, BS7913 and Part F. It is also important the Special Considerations are flagged in the relevant sections so that people can explicitly see where these apply to decision making. Adherence to the Whole House Approach that embraces the wider sustainability agenda of heritage and health via a risk assessments approach is important to stress and make reference to. BS7913 already holds the information required to work on traditional buildings (and Historic England also provide advice via their website <https://historicengland.org.uk/images-books/publications/energy-efficiency-historic-buildings-ptl/heag014-energy-efficiency-partll/> that should be referenced.

Q112.

A

Q113.

No

Mostly replacement elements will be better performing than their predecessors and so like for like should in theory become more efficient, however this will not necessarily drive for the energy shift that we need to achieve. There should be some encouragement to look / investigate the use of lower carbon options. So rather than replacing an oil boiler for another it may be appropriate to install a heat pump. Rather than an energy metric should it be a carbon metric as this would then encourage choice of lower carbon options and this is the ultimate basis of the new standard.

Q114.

Yes

Q115.

Yes

Q116.

Yes

Q117.

No

There should be more emphasis on servicing so that efficiencies are maintained over the life of the products / services.

Q121.

No

The issue of thermal bridging is key as systems will not perform as expected if good advice, guidance and standards are not applied. Standard detailing can assist but is not always

appropriate in ABIS situations, so pressure should be applied to ensure that solutions are found by designers for any bespoke situations rather than relying on potentially inappropriate solutions.

Q123.

No

3.1.b ... should be made to be sufficient / acceptable at the end of the works.

Note: Ventilation through infiltration should be removed wherever possible and practical and controlled ventilation introduced to provide sufficient ventilation in line with the requirements of this standard. This must take account of 0.5 'Reasonable provision for historic and traditional buildings'.

0.5c states that permeable fabric includes a number of materials, but it should also include solid brick and traditional timber frame. Given that PAS2035 will see cement render and mortars being replaced by lime again it should be written to state that any buildings that were originally designed / able to breathe that these should have enhanced ventilation based on automatic controls. All buildings should have minimum levels of ventilation, but these levels may need an expert if there is a need for traditionally built walls to actively dry to the inside. This would apply to very few buildings. Reference to BS7913 would be useful here to guide designers and specifiers to the relevant standards.

Agree all new extensions should comply.

Q124.

Yes

Q125.

Yes

Q126.

No.

3.30 Not insisting on refurbished wet rooms or kitchens having ventilation (if there was none existing) seems wrong. Removal of moisture at source is vital and so this should be a condition of refurbishment.

Simplified Method (p.36) note. 'Advantageous infiltration' as a term should be removed. There should be a drive towards the removal of uncontrolled infiltration for controlled ventilation. Excepting 0.5 'Reasonable provision for historic and traditional buildings'. Not sure how you measure 'advantageous infiltration' as a concept let alone trying to marry this up to other rates that are set down in the standard.

Q127.

No

There is no space for listing any infiltration sources  
Nothing regarding prevailing winds and extract routes

Q128.

C

3.14 This uses 'no worse'. The situation should be that the ventilation meets the standard at the completion of the measure. No need for 'no worse'.

There should be no situation where there is no technically feasible solution. So no need for the Note.

Trickle vents are not a reliable ventilation strategy as curtains, blinds etc reduce their efficacy.

Q129.

C

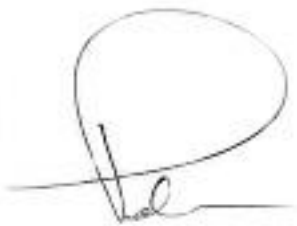
3.30 Not insisting on refurbished wet rooms or kitchens having ventilation (if there was none existing) seems wrong. Removal of moisture at source is vital and so this should be a condition of refurbishment. Wording needs to change to read something like 'it is necessary to provide...' If this is impossible then additional ventilation must be undertaken through an acceptable route that is as close as possible to the main source of moisture. Refer to relevant parts of standard for undercuts, venting through rooms etc.

Q130.

Yes

As the UK's leading organisation for retrofit in traditionally built dwellings the STBA would like to extend an offer of its' willingness to work collaboratively with MHCLG in the future around any number of issues that affect this significant proportion of the UK's housing stock.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter Draper', written over a horizontal line.

Peter Draper – Director  
On behalf of the STBA