

## Response ID ANON-W5Y6-WY5Q-H

Submitted to **Energy Performance Certificates for buildings: call for evidence**

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### About you

#### What is your name?

**Name:**

Nigel Griffiths

#### What is your email address?

**Email:**

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#### What is your organisation?

**Organisation:**

Sustainable Traditional Buildings Alliance

**Please select your organisation type:**

Other (please specify)

**Other (please specify):**

Not-for-profit Alliance of Industry, Heritage and Sustainability organisations

**Please provide any further details about your organisation that you feel are relevant, where applicable:**

The Sustainable Traditional Buildings Alliance (STBA) is a collaboration of not-for-profit organisations that acts as a forum for sustaining and improving traditional buildings.

Founded in 2011, the Alliance draws its support from 3 main sectors – Heritage, Industry and Sustainability. Our remit is not just historic and listed buildings, but more broadly any traditionally constructed building – generally pre 1919, mostly solid wall, comprising approximately 25% of the UK building stock.

The STBA aims to promote and deliver a more sustainable traditional built environment in the UK through high-quality research, education, training and policy.

#### Are you happy for your response to be published?

Yes

#### Would you like to be contacted when the consultation response is published?

Yes

#### How did you hear about this consultation?

**Where did you hear of this consultation?:**

Email from BEIS

**Other (please specify):**

### Introduction to the Call for Evidence

### Navigating and responding to the Call for Evidence

### Aims, uses and key attributes of EPCs

#### 1 Have we captured all of the current uses of EPCs?

No

**Please provide details here:**

1. The "Original EPC purpose set out above does not appear accurate.

- Many of the improvements suggested on a typical EPC are far from "cost-effective"
- You state that the EPC "is also used for adherence to Part L of the Building Regulations."
- Using the EPC to "advise" on improvements risks turning the EPC into a design tool, which it is not.

The EPC may have uses as a benchmark but it is not a substitute for a proper retrofit survey with recommendations which reflect the condition and context of a

building, and which take into account ventilation, health and interactions between measures. This approach is recommended in Each Home Counts and forms the basis of PAS2035.

2. "Eligibility criteria for RHI" - the wording is similar to the wording for FiT above but the role is different. While there may be an eligibility requirement in both schemes, in the domestic RHI (for biomass and heat pumps), the actual payment is based on the space heating and hot water demand figures estimated on an EPC, so the estimate has a direct bearing on public expenditure. This should be reflected in the table. Suggest:

Left column: Payments made to householders under the RHI

Right column: The EPC estimate of heat use determines how much householders receive in subsidy.

## 2 Do you agree that we have identified the key attributes for EPCs?

No

### Please add details here:

Under "Encouraging action", the document states: "EPCs should encourage building owners to make appropriate improvements to the energy performance of the building, which is mainly achieved through the recommendations."

The EU's own report on the EPBD (CA EPBD 2016) states that 'The detailed energy audit is not regarded as part of the EPC scheme, but as a necessary next step after having completed the EPC. This distinction is necessary for clients' acceptance: an EPC cannot substitute for detailed refurbishment planning, nor has it been designed to do so.'

On that basis the fundamental purpose of EPCs may have been misinterpreted by UK government.

To encourage action, we need detailed bespoke audits - every property is different. This is the whole house approach recommended in Each Home Counts and used in PAS2035 - the new standard for retrofit. We need to recognise that the whole house approach now supersedes EPCs, and that we should decide how to incorporate EPC data within a more robust and useful approach to retrofit. We recognise that such surveys would be more expensive, but also that many properties which require an EPC may not require retrofit and therefore not need such a detailed survey.

### 2c importance of attributes - Reliability:

Important

### 2c importance of attributes - Accuracy:

Important

### 2c importance of attributes - Up to date:

Somewhat important

### 2c importance of attributes - Improves energy performance:

Not important

### 2c importance of attributes - Influences property decisions:

Not important

### 2c importance of attributes - Access to data:

Important

### 2c importance of attributes - Coverage:

Important

### 2c importance of attributes - Simple and low cost:

Not important

### Please provide any details to explain your answer:

"Not important" has been ticked for "Improves energy performance" as this is not the stated purpose of the EPC according to the EPBD.

"Not important" has been ticked for "influences property decisions" - if this relates to decisions to alter property, but it could be a different answer for decisions on purchase.

"Not important" has been ticked for simple and low cost because a proper retrofit survey will cost more. However, if the EPC is to be just a benchmark tool without recommendations, then simple and low cost is high priority.

## 3 Which attributes are important for which uses?

### 3a Attributes for uses - Providing information to consumers:

Reliability, Accuracy

### 3a Attributes for uses - Minimum standards for rental properties:

Reliability, Accuracy, Access to data

### 3a Attributes for uses - Eligibility criteria for FiTs/RHI:

Reliability, Accuracy

**3a Attributes for uses - Eligibility criteria for ECO funding:**

Reliability, Accuracy, Up to date

**3a Attributes for uses - Use by 3rd parties for research etc:**

Reliability, Accuracy, Access to data

**3a Attributes for uses - Green mortgages and green finance:**

Reliability, Accuracy, Up to date, Access to data

**3a Attributes for uses - Target setting for government policies:**

Reliability, Accuracy, Access to data

**Please provide any details to explain your answer:**

The EPC is not the ideal tool for most of these uses.

A more wide-ranging indication of sustainability, including moisture, ventilation and heritage, taking into account the condition of the building, will deliver safer and more robust results. Green mortgages, minimum standards for rental properties, and government targets (if retained) all need to look at all aspects of sustainability, not just carbon emissions. A whole house approach as recommended in Each Home Counts and required by PAS2035 could deliver such an appraisal.

It is also essential to consider the impact of retrofit work itself and the materials used - the first thing that happens upon retrofit is that environmental impact is increased. There is strong evidence that condition plays a significant role in actual energy use - a well maintained building uses less energy than one in poor condition to maintain the same level of comfort temperatures.

**EPC data quality: Reliability**

**4 What evidence do you have relating to the reliability of EPC assessments?**

**Please provide evidence where applicable. It would be helpful to indicate how recent this is. :**

**Please provide evidence where applicable. It would be helpful to indicate how recent this is. :**

**5 Which of the suggestions below do you think would be effective in improving the reliability of EPC ratings?**

**5a reliability feedback - Apps and smart defaults:**

**5a reliability feedback - Better measurement technologies:**

**5a reliability feedback - Ability to use survey data from previous EPC:**

**5a reliability feedback - Access to additional sources of data about the building:**

**5a reliability feedback - Strengthened quality assurance:**

**5a reliability feedback - Other suggestion (please give details below):**

**Please give details of any other suggestion you may have to improve EPC reliability:**

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

**EPC data quality: Accuracy**

**6 What evidence do you have of the accuracy of the models used to produce EPCs in comparison to other methods such as the co-heating test?**

**Please provide evidence where applicable. It would be helpful to indicate how recent this is.:**

The default u-value for solid brick walls has been reduced from 2.1W/m2K to 1.7W/m2K. Evidence suggests that it should be 1.5W/m2K. Stone walls are still at 2.1W/m2K and this should be addressed as a matter of urgency.

The UCL 2014 report "Solid wall U-values: heat flux measurements compared with standard assumptions" derives a mean value of 1.3W/m2K and the distribution graphs in this report very clearly point to a measured value well below 1.5W/m2K for 9-inch solid brick walls, lime plastered and constructed with lime mortar.

As you will be aware, many solid walled buildings are of much thicker construction and have significantly lower u-values - for example see Historic Environment Scotland Technical Paper 10 (P30 bullet 3) quoting 0.9 - 1.1W/m2K and the many case studies on their website produce results consistent with these figures. HES Technical Paper 19 gives a range of 1.3-1.4W/m2K measured for common sandstone walls (P44).

**7 Are you developing any kind of tool for measuring the energy performance of buildings (controlling for the effects of occupant behaviour) using smart meter data or other data, which could be relevant for EPCs?**

Yes

**Please provide further details where applicable:**

We are supporting a bid from Passiv Systems to improve understanding of HTC through SMETER

**8 What evidence do you have on how EPC accuracy could be improved using the tools and data sources outlined above, or through any other means?**

**Please provide any evidence you have on how EPC accuracy might be improved using such tools or other methods:**

**Please provide details:**

**EPC data quality: Up to date**

**9 What evidence do you have on how frequently people are likely to make updates to their properties which would change the EPC score?**

**Please provide evidence where applicable:**

**10 Which of the suggestions below do you think would be effective in ensuring that the information on EPCs is up to date?**

**10a Up to date feedback - Reduce validity period (3 or 5 years):**

Counterproductive

**10a Up to date feedback - New EPC required for extensions and major renovations:**

Somewhat effective

**10a Up to date feedback - New EPC required for other changes affecting EPC:**

Somewhat effective

**10a Up to date feedback - Trigger point specific to HMOs:**

Effective

**10a Up to date feedback - New EPC required for Green Mortgage:**

Counterproductive

**Do you have any other suggestions for ensuring EPCs remain up to date?:**

No

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

As recorded in earlier responses in more detail, UK government is mandating much a whole house approach with a much broader set of aims than simply reducing energy use. This is also consistent with the policy landscape in Wales, where the Wellbeing of Future Generations Act obliges government to take a wider view of sustainability. A more in-depth assessment of a dwelling will be more expensive and thus should not be carried out any more often than is required of EPCs at present, perhaps less often.

**11 Would you support introducing new EPC trigger points at any of the stages listed above (or any other stages)?**

**11a Support trigger points - Extensions and major renovations:**

No

**11a Support trigger points - Other works to the building affecting the EPC rating:**

No

**11a Support trigger points - Where an HMO doesn't already have an EPC and a room is rented out:**

No

**11a Support trigger points - For applying for a 'green mortgage' or green finance:**

No

**Please provide evidence where applicable:**

Further triggers should not be introduced to extend the use of a system which the government itself recognises (via Each Home Counts and PAS2035) has already been superseded.

**Encouraging action: Improving energy performance**

**12 What evidence do you have on how useful the EPC recommendations are to consumers when they are considering making changes to a property?**

**Please provide evidence where applicable:**

The EU's own report on the EPBD (CA EPBD 2016) states that 'The detailed energy audit is not regarded as part of the EPC scheme, but as a necessary next step after having completed the EPC. This distinction is necessary for clients' acceptance: an EPC cannot substitute for detailed refurbishment planning, nor has it been designed to do so.'

The Each Home Counts report demands a whole house approach to retrofit planning. The new PAS2035 follows this approach, and requires detailed bespoke

survey, which is far in advance of the EPC. The EPC fails to consider heritage or health - and by reducing natural ventilation any measures to reduce heat losses run the risk of poor indoor air quality with associated health risks.

**How effective are the recommendations at encouraging consumers to take action?:**

As recognised by the EU, this is not the function of an EPC. A detailed energy audit is required which includes moisture, ventilation and heritage and takes into account the condition of the building. This is the approach mandated by PAS2035.

**13 Which of the suggestions provided below do you think would be effective in encouraging building owners to make appropriate energy performance improvements to their property?**

13a Improving performance effectiveness - Directing people to the digitally led energy advice service:

13a Improving performance effectiveness - Changing the way recommendations are presented:

13a Improving performance effectiveness - Allowing innovation in EPC formats:

13a Improving performance effectiveness - Enhanced role for assessors in providing information:

13a Improving performance effectiveness - EPC app:

13a Improving performance effectiveness - Including operational rating and/or occupancy data:

13a Improving performance effectiveness - Make recommendations more tailored:

13a Improving performance effectiveness - Additional information relevant to homeowners:

13a Improving performance effectiveness - 'Nudge points' that prompt people to look at EPC:

**Please give details of any other suggestion you may have to improve EPCs' effectiveness in encouraging building owners to improve the energy performance of their property:**

As recognised by the EU, this is not the function of an EPC. A detailed energy audit is required which includes moisture, ventilation and heritage and takes into account the condition of the building. This is the approach mandated by PAS2035. The EPC may or may not be the first step in this process but it is essential that the EPC is not used as a design tool to inform decisions on making changes because this is not its purpose and it lacks much key data.

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

As currently constituted, the digital ESAS service is not an appropriate source of retrofit advice, particularly for owners of traditional buildings (at least 25% of the UK stock). We will provide more detailed feedback on ESAS in due course.

**14 What are your views on introducing operational performance ratings for non-domestic buildings, either on the EPC or separately?**

**Please provide details:**

The STBA supports the use of real data on energy use, wherever it is available, as opposed to modelled (estimated) data.

**Encouraging action: Influencing property decisions**

**15 What evidence do you have on how useful the EPC rating and cost information are to consumers when purchasing or renting a property?**

**Please provide evidence where applicable:**

Are consumers using information on the EPC to negotiate property prices or rents?:

**16 Do you have any evidence on consumers' understanding of the energy efficiency rating used in EPCs?**

**Please provide evidence where applicable:**

Not Answered

**17 Which of the suggestions provided below do you think would enable prospective buyers and tenants to make more effective decisions based on the information on the EPC?**

17a Influencing decisions effectiveness - Providing more of the information on the EPC in adverts:

Counterproductive

17a Influencing decisions effectiveness - Requiring a link to the digitally led advice service:

Counterproductive

17a Influencing decisions effectiveness - Including EPC rating on mortgage statements:

Counterproductive

17a Influencing decisions effectiveness - Better visibility of EPC data on property comparison sites:

Somewhat effective

**17a Influencing decisions effectiveness - Providing EPC cost information on adverts:**

Counterproductive

**17a Influencing decisions effectiveness - Clearer data on ventilation:**

Very effective

**17a Influencing decisions effectiveness - Present energy costs as annual costs instead of over 3 years:**

Very effective

**17a Influencing decisions effectiveness - Provide better information on heat networks:**

Somewhat effective

**17a Influencing decisions effectiveness - Adding information about future direction of government policy:**

Counterproductive

**Please give details of any other suggestion you may have to improve EPCs' effectiveness in influencing property decisions:**

Prospective buyers and tenants could make much more informed decisions if the EPC (or rather the Whole House Certificate) contained more information. For example, if the certificate recorded the condition of key elements, whether walls were damp, whether draughts were effectively sealed etc then this would aid an assessment of the costs of running a property.

You have mentioned "clearer data on ventilation". The STBA would of course welcome data on ventilation as an adequate supply of fresh air is essential to health, but we were unaware of data on ventilation being currently on the EPC.

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

As currently constituted, the digital ESAS service has limitations as a source of retrofit advice, particularly for owners of traditional buildings (at least 25% of the UK stock). We will provide more detailed feedback on ESAS in due course. This is why we have ticked "counterproductive" on the chart for the question relating to ESAS.

**EPC availability: Access to data**

**18 What evidence do you have on how easy it is to access EPC data, either through the Energy Performance of Buildings registers or Open Data? Is there any additional information that would be valuable? Please explain why.**

Please provide evidence where applicable:

Please provide details where applicable:

Please provide details where applicable:

**19 Which of the suggestions provided below do you think would improve the ability of building owners and other stakeholders to make effective use of EPC data?**

**19a Data access effectiveness - Allowing building owners access to EPC survey data:**

Effective

**19a Data access effectiveness - Facility for building owners to share survey data with 3rd parties:**

Somewhat effective

**19a Data access effectiveness - Data warehouse and building log book:**

Very effective

**19a Data access effectiveness - Green building passport:**

Effective

**Please give details of any other suggestion you may have to improve access to EPC data:**

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

The STBA supports the use of a building log book as important changes can then be recorded and retained for future reference. This would include data such as age of boiler, when windows were upgraded or secondary glazing added, when any cavity wall insulation was installed - and what type and by whom, etc. All this would be valuable data and reduce the cost of retrofit survey. A building log book would also be the best method to record significance (according to BS7913) and this would apply to the 25% of the UK housing stock which is of traditional construction.

**20 Do you think a 'data warehouse', 'building log book' and/or 'green building passport' would be useful in increasing take up of energy efficiency improvements or supporting existing initiatives?**

Building log book, Green building passport

**Please providing any supporting details for your answer above:**

The STBA supports the use of a building log book as important changes can then be recorded and retained for future reference. This would include data such as age of boiler, when windows were upgraded or secondary glazing added, when any cavity wall insulation was installed - and what type and by whom, etc. All this would be valuable data and reduce the cost of retrofit survey. A building log book would also be the best method to record significance (according to BS7913) and

this would apply to the 25% of the UK housing stock which is of traditional construction.

**Please provide details:**

To be consistent with Each Home Counts and PAS2035, the EPC has to be completely overhauled (and Brexit provides an opportunity to do this). We have an opportunity here to deliver a wide-ranging and much more effective assessment of a building's future sustainability. It is after all a sustainable built environment we need to deliver to future generations, not just one that is cheap to heat. True sustainability buildings includes health and heritage, and should include water use and sustainable drainage as well.

Of course it will be more expensive to produce a Whole House survey rather than an EPC, but this will be more use to owners, prospective purchasers and tenants. It is also much cheaper than having to rectify problems introduced by retrofit carried out with narrow goals - for example insulation which reduces ventilation and leads to damp, mould and poor indoor air quality with associated health problems.

The STBA is developing templates for Whole House Assessment under its TEIF-funded trials in Wales, and developing training for surveyors.

**Please provide details here:**

A more comprehensive assessment is recommended by Each Home Counts and mandated by PAS2035. This would not currently apply to homeowners unless the property is rented and therefore covered by the MEES. Once the value of a more comprehensive survey is understood, this may become more attractive to owner-occupiers.

**EPC availability: Coverage**

**21 What evidence do you have on levels of compliance with the requirement for providing an EPC when purchasing/letting a property, and/or the requirement to display the EPC rating in property listings?**

Please provide evidence on levels of compliance where applicable:

Please provide details where appropriate:

Please provide evidence where applicable:

**22 Do you have any evidence on what enforcement work is currently being done to ensure that EPCs are being produced?**

Please provide evidence where applicable:

**23 Which of the suggestions provided below do you think would be effective in improving compliance with the requirement for an EPC, bearing in mind the other changes to EPCs being considered in this Call for Evidence?**

23a coverage effectiveness - Align enforcement authorities for EPCs and PRS:

23a coverage effectiveness - Putting greater obligation on estate/letting agents:

23a coverage effectiveness - More formal role for accreditation schemes in identifying non-compliance:

23a coverage effectiveness - Providing better information to landlords:

23a coverage effectiveness - Providing better information to tenants:

23a coverage effectiveness - Linking EPCs to other requirements on landlords:

23a coverage effectiveness - Increased role for property comparison sites:

Please give details of any other suggestion you may have to improve EPC coverage:

Please provide reasoning and any evidence you have to support the responses provided to this question:

**EPC availability: Simple and low cost**

**24 What information do you have on costs of EPCs, how easy it is to procure an EPC or on consumer attitudes about EPC costs?**

Please provide evidence where applicable:

**25 Which of the suggestions provided above do you think would be effective making the process of procuring EPCs easier or more affordable, bearing in mind the other changes to EPCs being considered in this Call for Evidence?**

25a Low cost effectiveness - Allowing an EPC assessor to use previous survey data:

25a Low cost effectiveness - Drawing in additional data sets:

25a Low cost effectiveness - EPC assessor apps with smart defaults:

Please give details of any other suggestion you may have to reduce the cost of EPCs or make the process simpler:

**Please provide reasoning and any evidence you have to support the responses provided to this question:**

The STBA believes that if the EPC is to be retained it should be expanded and upgraded so the opposite will be the case - it will become more expensive to deliver, but much more useful.

**26 This Call for Evidence has outlined a number of options for making improvements to EPCs. Of the suggestions discussed in this document or which you have put forward, is there one or more you think is particularly important, or are there any other suggestions you have or comments you want to make about EPCs?**

**Please provide any suggestions, views or comments here where applicable:**

Energy Performance Certificates (EPCs) were originally introduced as a benchmarking and compliance tool. However, they are now being used in government policy and programmes to drive improvements in the energy efficiency performance of buildings, including the recently introduced minimum energy efficiency standards for the private rented sector. As a result, EPCs are increasingly being used as retrofit design tools - a purpose for which they were not intended and for which they are inadequate.

There are particular concerns relating to the use of EPCs in traditionally-constructed dwellings - which constitute 25% of the UK's housing stock. While most traditional dwellings should be able to reach band E with relatively safe measures, the Clean Growth Strategy contains an 'aspiration' for all dwellings to reach EPC band C by 2035, 'where practical, cost effective and affordable'. There is a danger that this could drive the installation of measures which are inappropriate to the context, which damage building fabric, heritage and health, and which are ultimately both costly and ineffective.

The Each Home Counts report recommends a 'Whole House' approach to domestic retrofit. The ensuing (draft) 'Specification for the energy retrofit of domestic buildings' (PAS 2035), which will initially apply to ECO-funded work, takes the same approach. This new industry-led standard includes consideration of moisture risk, ventilation and heritage in addition to a building's energy performance, in order to avoid unintended consequences. The narrow metrics of EPCs are at odds with this approach, so we need to consider the potential for domestic EPCs to be improved or to become one aspect of a wider energy or sustainability assessment.

There are significant opportunities in the short term to improve clarity and understanding about the nature and limitations of EPCs. For example, they are not a measure of energy performance but an estimation of energy cost, so even the title may be misleading. There needs to be a clear recognition that the EPC is not a substitute for an energy audit. Changes to presentation and the inclusion of key caveats concerning moisture, ventilation and heritage would also help to reduce the risks of misunderstanding and misuse.

In the longer term, it is becoming increasingly recognised that we need to deliver a sustainable built environment and not just a low carbon one, so a broader assessment is needed which has a wider set of goals. A Whole House assessment which covers these other critical factors will mean investing in additional training for assessors, but this is the only way to prevent unintended consequences and it will be more cost-effective in the medium term. An EPC can, however, inform this wider assessment and contains much of the basic data required.

The full text of the STBA's 2018 study on EPCs, endorsed by National Trust and Historic England, can be downloaded here:  
<http://files.site-fusion.co.uk/5a/80/5a80ceaa-eeb8-4a0a-92e3-1778d1022a59.pdf>

**Next steps**