

Consultation Title	Energy Performance Certificates for Buildings
Date	19th October 2018
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Scottish Land & Estates is the voice of rural businesses throughout Scotland. We are a membership-based organisation representing a wide range of rural businesses, including farmers, foresters, tourism operators, housing providers, leisure companies, and renewable energy providers.

Our members provide a wide range of economic, environmental and social benefits which are vital to the success and survival of communities throughout rural Scotland. They play a critical role in ensuring sustainable, healthy and empowered rural communities, providing housing, employment and a wide range of economic, environmental and social benefits. Our members let the majority of the privately rented homes in rural Scotland.

Scottish Land and Estates does not have facts and figures and does not have technical expertise on the EPC system but it is hoped our contribution based on our members' experiences will help to make improvements.

While the territorial extent of this consultation has been noted as England and Wales, as stakeholders in Scotland lobbying for improvements to EPCs, we are told these improvements must be made at UK level. The Scottish Government commissioned research to examine the current EPC methodology prior to introducing minimum energy efficiency standards in the private sector. We urge BEIS to take the, as yet unpublished, findings of this report into account.

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- 1. Have we captured all of the current uses of the EPCs? Are there any existing or emerging uses we should be aware of?**

No response

- 2. Do you agree that we have identified the key attributes for EPCs? Are there other important attributes we have not listed? Please indicate below how important you consider each attribute and provide details to explain your answer.**

No response

- 3. Which attributes are important for which uses and why?**

No response

- 4. What evidence do you have relating to the reliability of EPC assessments? Do you have any information on how reliability varies across different properties, and/or the likely sources of variation in assessments? It would be helpful to indicate how recent this is.**

The current EPC baselines for traditionally-built, stone-walled buildings do not reflect their real-world performance. There is therefore a risk of making unneeded and/or inappropriate interventions based on inaccurate data.

The Citizens Advice Scotland Report – ‘Energy Efficiency in Edinburgh and Jedburgh’ 2014 reported a mistrust of EPCs as they are based on assumptions and not accurate. Our members’ experiences confirm this conclusion.

The RdSAP struggles to cope most with this building type. We think the RdSAP/EPC system -

- Lacks transparency. It is difficult to trace back how elements are scored or how improvement recommendations are made,
- Are based on systems, companies and organisations that are not accountable and not all data, analysis and reports are published publicly,
- Is not proportionate, in that UK average improvement measures for average archetypes and average costs are being applied to a sub-set of archetypes, some of which that are known to be technically difficult and expensive to treat.
- Is not consistent, for example lower in-situ stone wall U values have not been included, in the RdSAP/EPC software, which also disproportionately affects rural houses, and there are wide variations in the approach and quality of EPC surveyors and no mechanisms for the customer to challenge a decision.

If the weaknesses in the RdSAP and support systems could be addressed, it would help to improve the credibility of the policies based on it and make them more likely to succeed with fewer unintended negative consequences.

There are a number of weaknesses in the RdSAP/EPC system:

- The Product Characteristics Data File (PCDF) within the RdSAP/EPCs system that generates a range of the indicative costs for energy efficiency improvements is based on historic data and may give inappropriate signals to the market. There is no robust and transparent system for updating these costs.

The PCDF was also used by the Scottish Government for all the calculations supporting (Scottish Government Social Market Research, 2015 Developing Regulation of Energy Efficiency of Private Sector Housing: Modelling Improvements to the Target Stock). The consultants also said that the information on the costs of energy efficiency improvements was last updated in 2011 and made the following comments about the PCDF system.

“This PCDF is built into SAP and RdSAP software, and contains the costs that appear on EPCs and in Green Deal Advice Reports. Notionally, these costs are updated annually.” As noted above the costs have not been updated for a significant period of time.

“All the published figures supplied were intended as indicative ranges to encompass the majority of household types and circumstances, to give an indicative estimation of the range of costs householders could expect. With a lot of energy efficiency measures, it was recognised that costs are highly variable and influenced by property circumstances such as construction type, installation methods, location, thickness, material etc.”

“BRE staff responsible for overseeing SAP and RdSAP confirmed the price ranges in the PCDF come from the EST.”

“What emerges from the EST data is that again there are a wide range of costs, and no consistency, across the different dwelling types for the different insulation measures.”

“As already noted above, the PCDF improvement cost figures were intended to provide an indicative range of cost for different energy efficiency measures within the energy advice report of the EPC, covering the broad majority of household types and circumstances,”

“decision to use the Product Characteristics Database File (PCDF) costs for improvement measures, in the absence of a robust, comprehensive, nationally recognised, evidence based, alternative.”

- Dependence on a backward looking system to support forward looking long term investment for example as electricity generation is de-carbonised, electric heating systems will become greener and more attractive options and with innovation and economies of scale, renewables will also become cheaper, so the reliance on RdSAP may mean that better long term options will be missed.
- A general lack of transparency of the input data and information analysis. The system, including inputs are controlled by commercial companies e.g. Elmhurst, BRE, Sutherland Tables. It should be easy for consumers / end-users to drill down through the RdSAP system to find out exactly what the raw data inputs are for all parts of the system. It is currently not easy or transparent.
- Lack of transparent fuel cost inputs. This could lead to inappropriate decisions being made on which fuel type to choose for a heating system in a particular situation.
- Assumed fuel costs, at the date the EPC is generated are not shown on the EPC report. The householder is therefore unable to check and compare local current fuel prices with the EPC report.
- Lack of accuracy and transparency on cost of measures and inappropriate averaging. The RdSAP/EPC system links information from the survey to the PCDF database of costs of

measures. However, these do not relate to the reality found during insulation installation projects for traditional buildings and some costs e.g. solid wall insulation cost the same if you are in a 5 room or 6 room house, which cannot be correct. A member reports to have received an EPC which states the cost of installing a wind turbine for a property as £1,500 which is a gross underestimate.

- Difficulty of entering complex building shapes into the system and no link to the cost of measures. Inaccurate costs of measures for complex building shapes e.g. coom ceilings and room-in-the-roof.
- Practical issues with measures highlighted in Scottish Government consultation:
 - Loft insulation – Many Pre-1919 rural houses have little loft space and rafter depth is often only 150mm. This means that often cannot achieve 300mm flat loft insulation that covers a reasonable proportion of the roof area in a “cold roof” option, nor is it possible to install sufficient depth between the rafters in a “warm roof” option. For the “warm roof” option to provide adequate ventilation above the insulation layer an air gap of 50mm is required by building regulations. This means that a maximum of 100mm of insulation can easily be fitted into the existing structure. Any further depth of insulation starts to reduce the room size and this can be significant when 300mm is installed.
 - Room in the roof insulation: Have to apply “warm roof” solution of insulating between rafters in the cooms. Coom depth is typically 120mm, which means that often only c. 80mm of insulation can be installed. RdSAP only counts insulation depths in increments of 50mm, so 30mm of insulation benefit is ignored in this situation.
 - Secondary heating - for many households in rural areas the secondary heating is a wood burning stove. Modern wood burning stoves can be of high efficiency but it is not clear that all manufacturers have registered their products on the Product Characteristics Database (PCDB). Also the cost of ancillary works, often chimney lining, necessary to ensure safety and efficient burning of wood is not included. These can often amount to £1,500 per installation.
 - Cavity wall insulation - many rural houses do not have a cavity to fill. Some encouraging research has been done on the use of vapour open blown materials to fill the gap between lathe and plaster and the outside wall. Members remember when techniques such as these were used in the past and caused serious damp issues so are understandably nervous of new technology to treat solid walls.
 - Low energy lighting – now standard, no issues.
- The RdSAP system does not handle the thermal bridging issue well e.g. window reveals. Also, if solid wall insulation is installed window reveals (also known as in-goes) can lose a disproportionate amount of heat and if the windows are also not improved with double

glazing then both the window and the window reveal become a high risk area for condensation.

- The system ignores some window enhancements such as Ventrolla draught proofing for traditional sash and case windows.
- The system ignores unheated external porches despite these drastically cutting down draughts.
- The system database does not account for all boiler sizes. For example, a member has fitted a 70kW woodchip boiler to heat a number of properties but the software does not feature this so defaults to the lowest efficiency for the boiler. The EPC therefore does not reflect reality.
- The system ignores shutters which are a fixture in many traditional properties and provide a high degree of thermal comfort when it is most needed as the temperature drops at night. Historic Environment Scotland carried out research on this as reported in Technical Paper 1: Thermal Performance of Traditional Windows, prepared for Historic Scotland by Dr Paul Baker of Glasgow Caledonian University, October 2008.
- Use of 3 year rolling average historic fuel costs. Investment appraisal is a forward looking process. All key assumptions like this should be transparently stated, in a form the end-user can understand easily.
- Assumed occupier comfort levels are not stated on the EPC report. A user therefore has no means of comparing what they know about their own heat use, heating system and insulation etc with the comfort/heat level it can create, compared to the cost.
- Poor structure of the EPC approved software, in that separate reports have to be generated each time a slight change to the input data is made. The process of doing cost/benefit analysis is an iterative one. The lack of core data retention and the inability to respond flexibly to changes severely restricts the usability of the system.
- Standardised assumed levels of comfort may affect investment decisions by over-stating savings that could be made from investment in insulation or heating system options. This could mean that households may invest more than the potential savings from improved energy efficiency.
- Lack of warnings that inappropriate insulation and lack of appropriate ventilation can quickly cause condensation and damp problems. Additional of ventilation, while technically the correct thing to do, may pull the EPC result down.
- In our experience, EPCs generally cost around £50 - £80 each in urban areas and £80 - £120 per house in rural areas, which is a significant additional economic burden for rural landlords and tenants. There is a high possibility these costs will rise as the costs of registering EPCs rise.

- An EPC becomes out-of-date as soon as any additional measure is done and it seems that the only way to have the improvement registered is to have a totally new EPC. This costs more, and creates cost/benefit questions in the minds of end-users. We believe the RdSAP/EPC system needs to be made more flexible to hold core data for each house, that can be referred back to as additional improvements are made, without incurring the full cost of a complete re-survey and new EPC.
- There is some doubt over the accuracy of some of the surveys done to date. Due to auditing concerns surveyors only record what they can see, as the surveys are non-intrusive. However, surveyors do not ask occupiers if any insulation or other energy efficiency measure have been done or ask for evidence. When this evidence is offered – in the terms of photographs or receipts – surveyors advise that it cannot be considered. The system therefore needs to include a mechanism for householders to state what has been done to their house and provide evidence so the surveyor can take this into account.
- It is difficult for a landlord to correct poor data gathering by the surveyor. Also, the quality assurance systems that are run by the software companies do not appear to do a check back with a proportion of clients or their houses but rely on photographs taken by the surveyor. This may ignore improvements that are behind the plasterboard. It also creates a closed loop between surveyor and software company, ignoring the most important person in this system – those who have detailed knowledge of the building.
- The assumed U value of stone walls (2.5) is higher (worse) than in-situ measurements indicating an average stone wall U value of 1.2 (Baker, P, 2008, Historic Scotland Technical Paper 2 *In situ* U-value measurements in traditional buildings – preliminary results) and there is no easy way e.g. lookup table, for assessors to get agreed U values for different wall thicknesses. This is an extremely important issue for rural properties because of the high proportion of detached Pre-1919 properties, with stone walls.

As a tool for the mass market RdSAP/EPC is not a good product. At the moment it is a product that can only be understood by trained assessors and even then they often cannot explain the output. The RdSAP/EPC system needs to be made more accurate, visible, transparent and user-friendly. There is potential to use a variety of innovative communication methods, including: website, FAQs, helpline virtual reality houses, etc. that can be used to improve understanding of the RdSAP/EPC system.

The level of training and qualification of the surveyors is very limited and a lot of issues are left to the owners of the complex software to sort out e.g. Elmhurst. The system as a whole seems to struggle with pre-1919 houses, which require specialist knowledge and skills right through the supply chain.

Each house owner and tenant in the PRS will likely want to be able to manage their finances and situation. They will want to be able to do a cost / benefit appraisal either formally or informally of a variety of options. As such they will want to cost the options in capital and revenue terms, taking into account aesthetic and amenity issues such as impact on decoration, security, mess and hassle, as well as the energy saving, before they make their decision.

As the principal measure of the EPC is based on running costs they are unreliable as a measure of “energy efficiency” in off-gas grid areas. The system grades houses by their notional cost of providing energy for heating and hot water per square metre. As all energies used to heat properties in off-gas grid areas (heating oil, electricity, solid fuel and LPG) are more expensive than natural gas then it follows that any buildings’ EPCs will automatically score lower grades – typically at least one if not two grades lower i.e. an ‘F’ (rural) rather than a ‘D’ (urban).

- 5. Which of the suggestions provided above do you think would be effective in improving the reliability of EPC ratings? Do you have any other suggestions for improving EPC reliability? Please provide reasoning and any evidence you have to support your response.**

We support measures which improve reliability through better training and experience of the assessors. For example, those carrying out EPCs for traditional buildings should understand what measures would be appropriate.

We do not believe gaming occurs frequently for retrofitting traditional buildings in Scotland. However, members have expressed frustration where an EPC assessor will not take reality into account and therefore the property is awarded an inaccurate EPC rating.

- 6. What evidence do you have on the accuracy of the models used to produce EPCs (SAP, RdSAP, SBEM, DSM) in comparison to other methods such as the co-heating test?**

No response

- 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?**

No

- 8. What evidence do you have on how the accuracy of EPCs could be improved using the tools and data sources outlined above, or through any other means? Do you have any views as to how these approaches could best be incorporated into the current EPC framework?**

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

This varies between landlords and properties but most of our members will have a running improvement programme which will include works which would improve the EPC score.

10. Which of the suggestions provided above do you think would be effective in ensuring that the information on EPCs is up to date? Do you have any other suggestions for ensuring EPCs remain up to date? Please provide reasoning and any evidence you have to support your response.

No response.

11. Would you support introducing new EPC trigger points at any of the stages listed above (or any other stages)? What evidence do you have relating to the advantages and disadvantages of any of these trigger points?

While suggestions such as extra trigger points would improve the reliability of EPCs it adds cost and bureaucracy to the system. It would rely on building owners to voluntarily seek a new EPC if they have carried out work and would therefore be difficult to enforce. While the requirement to meet minimum standards will encourage owners to get new EPCs in the short term, once the standard has been met, there is no incentive to seeking a new EPC when improvements are carried out.

12. What evidence do you have on how useful the EPC recommendations are to consumers when they are considering making changes to a property? How effective are they at encouraging consumers to take action?

The recommendations are not useful as they do not take the specific property into account. For example, the recommendation of a wind turbine is often wholly inappropriate.

We hope the EPC recommended works will be drastically improved so would ensure works would not be recommended if the below situations would arise.

- If installation on measures would cause dampness including condensation.
- If indoor air quality will be compromised.
- If energy efficiency would be improved by the measures but lead to a poorer Environmental Impact rating.
- Where measures such as internal wall insulation makes rooms too small to be practical. Other measures could be used but the standard may not be fully met.
- Where measures would damage the aesthetics of a property such as intricate corning or stonework. Other measures could be used but the standard may not be fully met.
- Where irregular pressure due to a private water supply results in the installation of a combi boiler being inappropriate.
- Where the landscape setting makes certain measures such as wind turbines inappropriate.
- Where a landlord chooses not to transfer from electric to oil heating systems. Oil scores more highly for EPCs but oil central heating is not 'greener' and can bring multiple issues. There are often disputes with tenants about how much oil was supplied at the commencement of the tenancy and tenants can often not be traced leaving behind a significant debt in oil. There have also been issues experienced of oil pipes freezing in the winter which can lead to significant issues for both the landlord and the tenant. Finally, the installation of oil needs a suitable space for the tank to be situated and a suitable access for

the tanker to reach it. This is not always possible and must be considered in the recommendations.

- 13. Which of the suggestions provided above do you think would be effective in encouraging building owners to make appropriate energy performance improvements to their property? Do you have any other suggestions? Please provide reasoning and any evidence you have to support your response.**

Improving consumer confidence that their EPC rating and recommendations are reliable and appropriate will encourage more uptake of measures. We support trained assessors having more flexibility in producing recommendations.

The presentation of recommendations, their costs, and the effect on the EPC rating needs to be much clearer.

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

No response

- 15. What evidence do you have on how useful the EPC rating and cost information are to consumers when purchasing or renting a property? Are consumers using information on the EPC to negotiate property prices or rents?**

Our understanding from members is that prospective tenants are disinterested in the EPC score and instead value recently decorated properties and those with modern kitchens and bathrooms. Property location, space and rent are also seen to be the predominate characters tenants will look for rather than EPC rating.

- 16. Do you have any evidence on consumers' understanding of the energy efficiency rating used in EPCs? Do you think a different rating such as carbon emissions or primary energy would have a better impact for consumers?**

No response

- 17. Which of the suggestions provided above do you think would enable prospective buyers and tenants to make more effective decisions based on the information on the EPC? Do you have any other suggestions? Please provide reasoning and any evidence you have to support your response.**

No response

18. What evidence do you have on how easy it is to access EPC data or Open Data? If you are currently a user of the Open Data Communities website, what do you use the information for and how valuable is this website as a source of data?

In Scotland anybody can search for an EPC on the EPC Register, but it is impossible for all EPC data to be downloaded for analysis as it can be in England.

19. Which of the suggestions provided above do you think would improve the ability of building owners and other stakeholders to make effective use of EPC data? Do you have any other suggestions? Please provide reasoning and any evidence you have to support your response.

Consumer awareness and confidence is vital. We believe the following changes would be welcomed:

- Change to the methodology so the EPC rating is not altered by changing fuel prices.
- Signposting to expert advice such as Historic Environment Scotland is required for certain building types.
- An easy to use toolkit which allows consumers to see the impact on their EPC if they installed different measures would be welcomed. This should also flag up issues such as the need for repairs first, and ventilation if certain measures in certain types of homes are installed.
- It could also link to skilled/approved contractors in the local area and have information about funding support.
- Funding sources should be available to find in a single place and presented in an accessible manner.
- It would be good if this could link to the existing EPC allowing the EPC data to be automatically inserted for the particular property. This would allow for tailored information rather than generic advice which may be unsuitable for that particular property.

20. How useful do you think a 'data warehouse', 'building log book' and/or 'green building passport' would be in increasing take up of energy efficiency improvements or supporting existing initiatives? What kinds of data might usefully be included in addition to EPC data and how could these proposals best be implemented? How might more comprehensive assessments be encouraged without making them a requirement for homeowners?

No response

21. What evidence do you have on compliance with the requirement for providing an EPC when purchasing/letting a property, or the requirement to display the EPC rating in property listings. Does this differ by tenure type or by any other subset of the building stock? What evidence do you have on the reasons for lack of compliance with the requirement for an EPC?

From experience we believe the majority of lettings will include the EPC in advertisement. Where it is not included this will likely be from a lack of knowledge that it should be included.

22. What evidence do you have on what enforcement work is currently being done to ensure that EPCs are being produced?

No response

23. Which of the suggestions provided above 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. Do you have any other suggestions? Please provide reasoning and any evidence you have to support your response

No response

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

Although there is a useful search on the EPC register, being based in rural Scotland, some of our most remote members find it difficult to find an EPC assessor. Costs appear to be variable and at the moment it is often the lowest price wins. We hope as EPCs become more than a tick box for landlords that the value of a quality EPC will be appreciated.

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. Do you have any other suggestions? Please provide reasoning and any evidence you have to support your response

No response

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?

The EPC does not include a general property inspection. We would like to see a whole house approach where requirement for repairs and ventilation measures were also included.
