

Energy Performance Certificate Reform Consultation: Analysis of Responses to Consultation

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Executive Summary

The Scottish Government committed in the Heat in Buildings Strategy to bring forward proposals to reform Energy Performance Certificates (EPCs). This is in response to criticisms from key stakeholders such as the Climate Change Committee that certificates are not properly aligned with meeting net zero objectives. Feedback from an initial consultation on EPC reform in 2021 led to further policy development. It is now considered that a revised set of ratings¹ is likely to be needed on the certificates to improve the ability of EPCs to support net zero policies.

In July 2023, the Scottish Government launched a public consultation on EPC reform, which ended in October 2023. This sought views on wider reforms in domestic and non-domestic EPCs to ensure they are fit for purpose to support future heat in buildings regulations. The consultation gave all who wished to comment an opportunity to do so. However, given the self-selecting nature of this type of exercise, any figures quoted here cannot be extrapolated to a wider population outwith the respondent sample.

Respondent Profile

In total, there were 323 responses to the consultation paper, of which 122 were from organisations and 201 from individuals. A majority of organisation responses came from representative bodies, businesses in the construction sector and local authorities. A full breakdown of responses is provided in the respondent profile table on page 6; and a full breakdown for each question, by sub-group, in Appendix 1.

In general, organisations tended to be more positive about the suggested proposals than individuals. Those working within the EPC process, local authorities, in the construction sector and housing providers tended to be more positive than other organisation sub-groups.

General Comments

There was broad support from organisations for the principal elements of EPC reform set out in the consultation paper. These included a revised rating system; a shortened validity period; a digital and accessible format; and changes to the operational system.

Individuals were less supportive of EPC reform because of perceived concerns about affordability and the practicality of energy upgrades. Many individuals felt that a standardised EPC model is not suitable for certain types of property, including traditional stone-built properties, tenements and listed buildings. As such, there were some requests for more individualised EPCs for different types of property.

There were calls for EPCs to be presented clearly in a user-friendly and easy to understand format so that all users understand the information presented.

There were calls for funding packages and grants to be made available for people to undertake retrofit measures. The Scottish Government did not propose that a reformed EPC would force people into undertaking retrofit measures. However, there was also a

¹ For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

perception from many individuals that EPCs could be used to force people into undertaking retrofit measures or preventing house sales.

The Proposed Ratings (Metrics)

The proposed revised ratings for domestic and non-domestic EPCs were broadly welcomed by organisations. However, there were some concerns over the accuracy of EPC assessments in general. Over half the respondents felt the fabric rating should not include domestic hot water heat demand. There was general agreement with mapping the fabric rating against an A-G scale. There was majority agreement that more prominence should be given to the energy efficiency features of a home. However, views were split on whether the fabric rating A-G scale should be aligned to the current energy efficiency rating (EER), or for setting the bands independently of this. There were some calls from individuals and organisations for real life fabric, energy consumption and heating system data to be used, rather than standardised data.

A minority of respondents agreed with the set of ratings proposed to display on non-domestic EPCs. Organisations were more supportive of these proposed ratings than individuals. A view was expressed that revised non-domestic EPC ratings should help to counteract the perceived poor quality of data provided under the current ratings. Views, mainly from organisations, were positive on having a relative Energy Rating that would align with the rating system used in other parts of the UK. However, there were some comments that it can be difficult to set ratings for non-domestic buildings because of the variety of building types and uses across the country. There were some calls from organisations and individuals for consistency between domestic and non-domestic EPCs to help reduce complexity.

A number of respondents including individuals and organisations, thought that older housing stock would be disadvantaged or marked down by the new ratings. Concerns were expressed over the measurement and assessment process for these, given they were perceived as inherently less efficient and difficult or impossible to retrofit.

Purpose and Validity Period of EPCs

There was majority agreement that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to reconsider retrofit schemes. However, there was only minority support for the validity period of EPCs to be reduced from ten to five years. A key advantage in reducing the validity period is that it would allow for more up-to-date and accurate information. This was seen to be of use to policymakers and organisations rather than individuals. Both of these elements were supported by higher numbers of organisations than individuals.

There were some suggestions for variable validity periods, depending on the property type and whether any changes had been undertaken on a property. However, it was felt (mostly by individuals) that the decision to obtain a new EPC should be the choice of a property owner. That said, respondents identified specific trigger points, such as when retrofit work is undertaken, when a new EPC could be required. Some respondents – mainly individuals – felt EPCs should be required only for new homes and not older properties.

EPCs were perceived, mainly by organisations, to be useful across a range of policy areas. These included climate change, LHEES and heat networks, EESSH, the Heat in Buildings Strategy, fuel poverty and Just Transition targets. They were also perceived as allowing for better targeting of resources for schemes. The EPC is an energy report and

there were no proposals within the Scottish Government's consultation on EPC reform to require change of heating system to an electrical heating system. However, there appear to be some perceptions that this could be the case. As a result, there were some concerns that EPC reform could inadvertently lead to higher levels of fuel poverty. This was because electrical heating systems are more expensive to install and can have high running costs.

Digital and Accessible EPC Format and Content Proposals

Higher numbers of respondents (more organisations than individuals) supported the proposal that EPCs should move from PDF to webpage format. However, many respondents felt that a range of EPC format options should be offered. This would counteract any problems with internet access and / or a lack of digital understanding on the part of some consumers. Some respondents noted that a change to a webpage format would offer greater accessibility, flexibility and user-friendliness. This would also allow for access to updated and tailored data. This would also offer opportunities for data linkage, signposting users to sources of support and advice and for policymakers to use in meeting policy targets.

There was majority support from organisations and individuals for the proposal to improve signposting to further support and advice schemes on the EPC. This could help increase consumer awareness on energy savings and emission reductions. However, there were provisos that any signposting needs to be clear, independent, user-friendly and up-to-date. There were some suggestions that signposting should be to Home Energy Scotland (HES) advice rather than directly to service providers.

There was majority support for historical EPCs to be publicly accessible on the EPC register, (while clearly marked as historic). Just under half the respondents (more organisations than individuals) felt the EPC register should be accessible by Application Program Interface (API).

There were some concerns over the potential for data breaches and / or abuse of personal data by marketing companies wanting to cold call potential customers.

Quality Assurance and Approved Organisation Framework Proposals

There was support for the proposals to review and update the auditing and assurance requirements for EPCs in Scotland. This was supported more by organisations than individuals. There was support for the consistency of high standards and accuracy of information. The current system was seen by some as not producing consistency and there were some issues around quality. Respondents wanted to see good governance and administration of the system to gain consumers' trust.

Respondents noted concerns over a potential lack of qualified and skilled assessors if there is an increase in the number of EPCs that are requested. There were calls for assessors to undergo training to attain the required accreditations and skills. This would mean consistency across assessors in the way they produce EPCs.

Legislating for EPC Reform and Timeline

Views were mixed on the timeline for EPC reform. However, the most supported timeline was to align reform implementation with the launch of SAP 11 (now known as the Home Energy Model) in 2025. Some organisations felt the full implications of EPC reform cannot be understood until the legislation for the Heat in Buildings Bill is published. This led to

some requests for clarity on the forthcoming Heat in Buildings Bill and regulatory changes, given their potential impact on EPC reform.

Introduction

Background

Following the 2021 Heat in Buildings Strategy, which outlined the Scottish Government's plan to reach net zero and address the wider challenges of reducing emissions from buildings, the Scottish Government consulted on proposals for a Heat in Buildings Bill, and is currently considering its response to that consultation. The proposals consulted upon included powers to introduce regulations requiring domestic buildings to meet a minimum fabric energy efficiency standard and to prohibit the use of direct emissions heating systems in domestic and non-domestic buildings by 2045.

Energy Performance Certificates (EPCs) are a long-established element of the domestic and non-domestic property markets. They provide information about the energy efficiency of a building which allows for comparisons to be made between buildings under standard operating conditions. They also suggest any measures which could be taken by an owner to improve the energy efficiency of their building. The Scottish EPC register website can be used to find the EPC for a building if a valid EPC exists.

EPCs must be provided when a building is sold or let to a new tenant. They have also formed part of the Home Report since 2008. However, there are currently a number of criticisms about EPCs and it is widely accepted that EPCs need reform.

In 2021, an initial consultation on EPC reform took place. This focused on the introduction of a specific EPC rating – Energy Use – onto domestic EPCs and to rename the existing ratings. Following feedback from this consultation, and further policy development, it was considered that a set of ratings² will be needed to maximise the value of EPCs. This includes a fabric-focused rating which would be more appropriate to support policies intended to drive fabric improvement.

In July 2023, the Scottish Government launched a consultation on EPC reform, which ended in October 2023. This sought views on wider reforms in domestic and non-domestic EPCs to ensure they are fit for purpose to support proposed future Heat in Buildings regulations. A total of 323 responses were received to this consultation. Following this consultation, the Scottish Government intends to introduce revised Energy Performance of Buildings (Scotland) Regulations to the Scottish Parliament. This will be subject to the necessary legislative vehicle being in place. This would allow for revised EPCs to come into use shortly after regulations are introduced. However, the Scottish Government will also review the UK Government's timeline for development of the Home Energy Model (HEM). This may be a more appropriate time to introduce the reformed EPC.

Key elements proposed for the reformed EPCs are to:

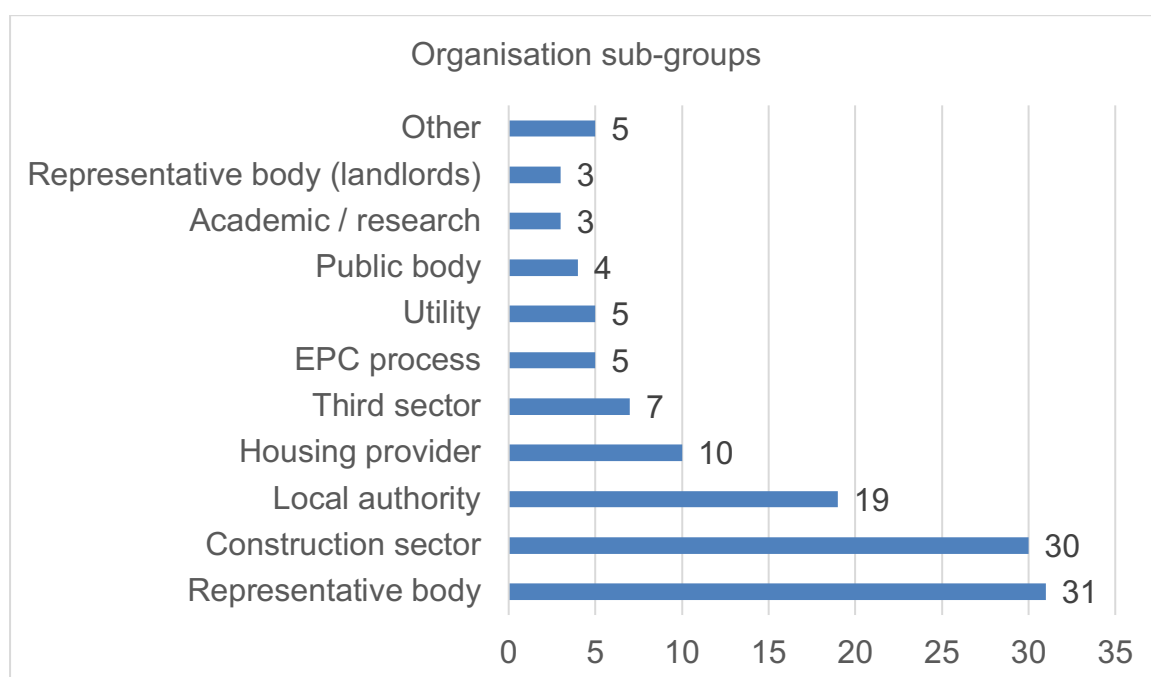
- Introduce a set of domestic EPC ratings to provide a holistic reflection of a building's performance.
- Introduce a set of non-domestic EPC ratings to provide appropriate information about non-domestic buildings.

² For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

- Make additional changes to the EPC system. This would mean EPCs provide clear and useful basic information about a building’s energy efficiency for current and prospective building owners and tenants, and other stakeholders. It would also reform the operational system for EPC assessors and the Approved Organisations who accredit them.

Respondent Profile

In total, after removing any blank and duplicate responses, there were 323 responses to the consultation. Of these, 122 were from organisations and 201 from individuals. A breakdown of organisation sub-groups is provided in the following chart. The highest number of organisation responses were submitted by representative bodies (31). This was followed by organisations within the construction sector (30), local authorities (19) and housing providers (10). A full breakdown of all organisation sub-groups responding to each question is provided in Appendix 1.



A list of all those organisations that submitted a response to the consultation is included in Appendix 2.

Methodology

Responses to the consultation were submitted using the Scottish Government consultation platform Citizen Space, by email or by post. Most respondents submitted their views via Citizen Space. Where responses were submitted in email or hard copy, these were entered manually onto the Citizen Space system to create a complete database of responses.

The Scottish Government also held a series of three workshops among a broad audience, but mostly among those working in areas around assessment. They also held seven one-to-one discussions looking at the impact on businesses. Reports from these workshops and discussions were provided to the researchers to include in their analysis. By and large, these attendees covered the same issues as those raised in responses to the

consultation. Where new or different issues were raised, these have been included in the reporting where relevant.

The number responding at each question is not always the same as the number presented in the respondent group table. This is because not all respondents addressed all questions. This report indicates the number of respondents who commented at each question.

The researchers examined all comments made by respondents and noted the range of issues mentioned in responses. This included reasons for opinions, specific examples or explanations, alternative suggestions or other comments. Grouping these issues together into similar themes allowed the researchers to identify whether any particular theme was specific to any particular respondent group or groups.

When referring to respondents who made particular comments, the terms 'a small minority', 'a significant minority' and so on have been used. While the analysis was qualitative in nature, as a very general rule of thumb it can be assumed that:

- 'a small minority' refers to less than 10% of the respondents
- 'a significant minority' indicates between around 10%-24% of respondents
- 'a large minority' indicates more than a quarter of respondents but less than half
- 'a majority' refers to more than half the respondents but less than three quarters
- 'a large majority' refers to three quarters or more of respondents, who commented at any question

In considering group differences, it must be recognised that where a specific opinion has been identified in relation to a particular group or groups, this does not indicate that other groups did not share this opinion. It means they simply did not comment on that particular point.

Analysis of Responses

The analysis of responses is presented in the following chapters which follow the order of the questions raised in the consultation paper. The consultation gave all who wished to comment an opportunity to do so. However, given the self-selecting nature of this type of exercise, any figures quoted here cannot be extrapolated to a wider population outwith the respondent sample.

The Citizen Space database was exported into Excel for detailed analysis. Where respondents requested anonymity and / or confidentiality, their views have been taken into account in the analysis, but direct quotations have not been used. Quotations have been included where they illustrate a point of view clearly and have been selected across the range of respondent sub-groups.

Some respondents provided commentary on a specific question in their response to another question. Where this has occurred, responses have been moved to the relevant question to avoid duplication.

One organisation conducted a survey among its membership and the results of this contributed to their submission.

Domestic Energy Performance Certificate Metric³ Reform Proposals

Key Findings

Across the questions asked in this section, many issues tended to emerge repeatedly. The main findings were as follows:

- Slightly greater numbers of respondents disagreed with the proposed set of ratings to display on the reformed EPC than agreed (Q1)
- Respondents requested more information on the costs and suitability of improvements as an addition to the ratings (Q2)
- A majority of respondents felt that the fabric rating should not include domestic hot water heat demand (Q3)
- General agreement with mapping the fabric rating against an 'A-G' scale (Q4)
- Majority agreement that more prominence should be given to the energy efficiency features of a home (Q5)

Key themes

- Supportive statements from organisations that the proposed set of ratings are sensible
- General agreement with the need to raise the profile of fabric efficiency, though difficult to quantify
- More disagreement than agreement with domestic hot water demand being included in the fabric rating. This was because of inconsistent data and the lack of a relationship to fabric heat losses
- Equal support for aligning the fabric rating A-G scale with the current energy efficiency rating (EER), and for setting the bands independently of the EER

Next most frequent themes

- General agreement with using a 0-100, A-G rating for the energy cost rating as monetary values will vary over time
- Requests for a rating to reflect the overall carbon emissions and embodied carbon
- Disagreements with including, or suggested amendments to, the heating system type, and requests for further detail regarding heating system classifications
- Concerns over the rating methodology and data accuracy, amid calls for real life fabric, energy consumption and heating system data
- Concerns over the accuracy of assessments (e.g. obtaining the correct information)

³ For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

Other themes

- More consideration needed of the type of home in setting ratings, in particular regarding 'hard to treat' properties
- Calls to make the ratings and EPCs clear and easy to understand for non-experts in how they are presented and assessed, along with greater information provision and publicity
- Concerns mainly from individuals over the affordability of energy-related upgrades and improvements

Agreement with the set of metrics to be displayed on the reformed EPC

Q1: Do you agree with the set of metrics⁴ that we propose to display on the reformed EPC?

Views were relatively equally split, although slightly greater numbers of respondents did not agree.

Opinions between organisations and individuals were polarised. A majority of organisations agreed with the proposed ratings compared with only a significant minority of individuals. Among organisations, the highest levels of agreement came from local authorities, those involved in the EPC process and in the construction sector, and utility organisations.

A total of 252 respondents went on to give reasons for their answer or to make further comments at this question. In line with responses at the first part of the question, fairly similar numbers of respondents gave reasons for agreeing and disagreeing with the proposed ratings. Among individuals, a large minority of reasons given for disagreeing with the ratings were unrelated to the question.

General Comments in Support

Most of the support for the ratings (from a significant minority of mainly organisations) was expressed in broad terms, commenting that they seemed sensible. A small minority mentioned perceived benefits from better quality information and extra information being available.

Respondents also thought the new ratings would help demonstrate how home improvements have reduced emissions and provide support for reaching net zero emissions. In agreeing with the proposed set of ratings, a small minority perceived that the current EPC ratings were unfit for purpose and out of date, particularly regarding climate objectives.

A significant minority stated their approval of the ratings so long as they were easily understood, clear and easy to interpret. A need was foreseen to explain any explanations of changes in terminology.

General Comments in Opposition

⁴ For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

A large minority of mostly individuals gave reasons for not agreeing with the proposed ratings. The main concern was over the accuracy of data and the methodology used to arrive at the ratings. Several different aspects to this were mentioned, as follows:

- Measurements being perceived to be insufficiently robust to support the reformed ratings
- Requests for measurements to be a 'real world' indication of performance
- Uncertainty as to how the new ratings will be calculated
- Criticisms of RdSAP methodology
- Perceived conflicts between cost rating and heating type

A small minority feared there would be extra costs arising from the surveying required to obtain the additional ratings. They noted a lack of information as to what the extra EPC costs to homeowners and house-sellers might be.

A small minority thought that the additional information on the EPC would be too complicated for the average homeowner or non-expert to understand.

A need to highlight information in specified areas was pinpointed by a small minority of mainly organisations. These included actual running costs, the effectiveness of thermostatic radiator valves, and options for retrofitting and other measures to improve home performance.

A variety of recommendations for alternative ratings or adjustments to the proposed metrics⁵ were offered, each by single respondents or very small numbers of mainly organisations. These included:

- The total cost of annual energy use of a property under standard conditions
- Total primary energy demand under standard conditions per m²
- Ratings based on operational carbon, embodied carbon or CO₂ emissions
- Alternative EPC methodology approaches

Comments about Fabric Rating

A significant minority (all organisations) commended the separating, or heightened profile of, fabric efficiency. It was felt this helps with identifying the correct remedial actions for construction types. There were a few comments that the new rating should be designed to be sufficiently robust to provide evidence of compliance with a regulatory fabric standard. Existing Homes Alliance Scotland advocated that this:

“should be set in terms of kWh/m²/year number for space heating demand that could be considered “zero emissions heating ready””.

A small minority of organisations supported the exclusion of domestic hot water demand from the fabric rating, saying it should cover space heating or fabric performance only. Conversely similar numbers advocated against having fabric rating as a main metric. Firstly, it was argued that affordability of energy or measurement of total energy use should be the main aim. Secondly, the presence of fabric rating will prejudice decision-

⁵ Some of these proposed metrics may not meet EPBD standards.

making in favour of fabric-heavy retrofit approaches, regarded as expensive and disruptive.

Similarly to comments for the proposed ratings overall, a small minority however had concerns over the accuracy of, and the calculation methodology used for, the fabric rating. The main problem was felt to be the number of factors needing to be taken into account. There was also a perception from a small minority that many homes will be unable to meet fabric standards or would have adverse unintended impacts if they attempted to do so.

Comments about Energy Cost Rating

A small minority of respondents voiced support for retaining the 0-100 rating index. The £/m²/yr indicator was seen as too technical for householders to understand as well as being too volatile due to being subject to changes in inflation and energy costs.

However, smaller numbers of respondents expressed concerns about the 0-100 index, reasoning that it cannot convey how good a property is for energy costs. They perceived a need for values to be presented in cost terms for proper comparability between properties. Alternative measures in the forms of kWh/m² and £/m²/yr were suggested, being seen by several local authorities as useful measures for themselves and for registered social landlords (RSLs).

Challenges were envisaged in assessing this rating because of the variety of different impacts on it. These included the property's energy tariff (e.g. fixed, variable, peak / off peak) and whether green taxes and standing charges are included.

A small minority had doubts over the rating's usefulness, citing energy price volatility, a lack of cohesion with 'real world' costs, and potential confusion over what remedial actions to take. A consultancy noted that:

“While a highly insulated property will achieve a high Fabric Rating, it may well achieve a lower Cost Rating if electrically heated via low carbon heating systems e.g. ASHPs. Currently, a cost rating would favour mains gas resultant from the cost per kWh of the SAP model.”

Comments about Heating System Type

Almost all comments about heating system type were critical in nature. A significant minority of mainly individuals cited specific concerns about heat pumps and encouraging moves towards these⁶. These concerns included the following:

- Practical challenges and expense of purchase and installation
- Perceived inefficiency
- 'Optimism bias', i.e. real world performance failing to match laboratory based performance
- Unsuitability for many houses

A small minority of mainly organisations noted a lack of mention or urged inclusion of specific heating systems in the classification.

A significant minority (again mainly organisations) expressed a variety of other concerns over the proposed heating system classification, as follows:

⁶ The Scottish Government was not specifically encouraging moves towards heat pumps within the consultation document.

- The placing of hydrogen under ‘zero direct emissions’, amid perceptions that this is an impractical domestic heating solution
- Prioritisation should be based on carbon intensity plus the efficiency of the system (not ‘responsiveness’ or access to an off-peak fuel tariff)
- Consideration needed of homes with no primary heating source (e.g. Passivhaus), and homes with more than one heating type
- The classification of biomass and biofuels
- A need for real usage data for classification purposes
- A need to reclassify hybrid heating systems

Small minorities maintained that a rating for heating system type was not required. It was argued that this was not relevant in assessing the energy performance of buildings or that many buildings cannot get efficient or appropriate heating solutions.

Comments on Proposed Secondary Metrics

Relatively small numbers of respondents (almost all were organisations) commented on the emissions rating and total energy use ratings.

A small minority thought the emissions rating should be a primary rating. This would give an indication of a property’s impact on the environment, that it would help address fuel poverty, and that this would align more closely with the Heat in Buildings Strategy. Additionally, it would facilitate the right environmental changes to help drive progress to net zero emissions.

There were a small minority of concerns over the accuracy of this rating. This was due to data becoming outdated because of shifting emissions factors and geographical factors affecting the carbon intensity of energy generation.

Similarly, there were requests to make the total energy use rating a primary rating. It was perceived that it could be used to calculate expected running costs. This was seen as a priority for consumers and would encourage homeowners to move towards more efficient systems.

There were again a small minority of concerns about the modelling of this rating being unrealistic as it relies on standardised rather than actual energy usage.

Other remarks

A significant minority (mostly individuals) expressed concerns about upgrades and improvements to property being unaffordable. A small number highlighted concerns about the effects on the most vulnerable in particular.

A small minority of respondents, all individuals, were critical of the policy in general. A small minority (almost all being individuals) highlighted worries about the policy leading to negative impacts on house prices and the ability to sell homes.

Q2: Are there additional metrics⁷ that you think should be included on the EPC, or metrics that you do not think should be included?

⁷ For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

A total of 198 respondents commented at this question. A significant minority of these noted their approval of the proposed ratings or did not see the need for additional ones. Conversely, small minorities wished to retain the current ratings, or voiced their opposition to any EPC scheme whatsoever.

Additional or Enhanced Metrics

The most frequently mentioned rating – by a significant minority of respondents – was an enhanced rating to reflect overall carbon emissions or carbon footprint. It was felt that this would help incentivise the switch to low carbon heating systems and reflect embodied carbon and net CO₂ emissions. Various breakdowns of this were suggested. These included by fabric, heating, hot water and / or lighting, and a whole life measure recommended in terms of kgCO₂.

There were a similar number of calls for enhancements to the total energy use rating, mainly by giving total actual consumption in kWh/yr rather than per m². It was also suggested that proportions of heating and hot water use should be added to the total energy use calculations. This would give households a clear indication of where they are likely to use energy.

Alterations and additions were also suggested for the energy cost rating, again by a significant minority. It was considered that account should be taken of heating controls, heating system efficiency and access to flexible time of use tariffs. A small minority wanted to see a separate rating to capture the annual running costs of heating the home. This should be in either £/yr or an A-G scale based on £/yr.

Slightly smaller minorities advocated alterations and additions to the fabric rating. This included consideration of fabric state of repair, external shading levels, presence of shutters, information on where heat loss occurs and the U-value of the dwelling. Slightly larger minorities (including several manufacturers and installers) wanted to see enhanced recognition for various elements of insulation. Factors to include were measures for air tightness, a draught indicator and amount of window glazing. It was thought this would be useful in assessing how suitable heat pumps might be as they were perceived to require a well-insulated building envelope. There were also requests to ensure the risks of mould and damp would be flagged.

Other suggestions concerning building fabric included the following:

- A rating for, or inclusion of, hot water provision or hot water demand
- Ventilation measures taken and ventilation performance
- A rating for, or added information about, heat loss

There were also a small minority of suggestions for alterations and additions to the heating system type. Factors specified for inclusion were age of system, maintenance and lifecycle schedules. Optionality for partial or seasonal clean heating systems was also recommended, as were classifications for LPG gas, oil or solid fuel burning in rural areas.

A small minority of respondents urged that onsite or microgeneration of energy (in cases where these are installed) should be included. An average annual generation figure was suggested as well as information on lifecycle schedule, age and maintenance.

General Factors to include or take account of in the metrics

A significant minority of respondents wanted to highlight other general factors, without specifically recommending a rating for these. The largest numbers – a significant minority – wanted information on the suitability of improvements. Indications of cost effectiveness and affordability, as well as influencing factors such as size and space limitations and weather conditions in the area. It was urged that these recommendations should be doable in practice, for instance not recommending double glazing on a listed building. Costs of upgrading were also requested.

It was also thought by a significant minority that account should be taken of the type of home or building. There was a perceived need to group construction types in terms of their suitability for types of improvements.

The other main theme expressed by respondents referred to a need to focus on better explanations to the public about the ratings and the EPC scheme. Explanations should be clear and easy to read, while providing as much useful information as possible.

Metrics that should not be included

This question was answered by 115 respondents. A significant minority reiterated that they did not want an EPC scheme at all. Smaller numbers simply reiterated their preference for retaining the current ratings, while a small minority cited approval of the proposed rating set as it is presented. There were also calls to slim down the number of ratings in general terms amid concerns that the ratings will become too complex.

The largest numbers of reservations (from a significant minority of mainly individuals) concerned either removing or altering the heating system rating. This was because it is seen to penalise non zero-direct emission systems.

A significant minority also saw issues with the energy cost rating, though generally without referring to its removal. These included problems with quantification in terms of monetary sums due to variability over time, location, type of tariff, and energy prices.

Only a few concerns were raised over the fabric rating. Most urged that cavity wall insulation should not be displayed as a feature, citing a lack of visibility to assessors and lack of suitability in some situations. Other worries centred on a lack of affordable options for improvements and that it made an understanding of home performance too complicated.

Fabric Rating

Q3: Considering our proposal to include a Fabric Rating on EPCs, do you think this metric should include domestic hot water heat demand?

A majority of the respondents thought the fabric rating should not include domestic hot water heat demand. This compared to only a significant minority who thought this should be included. More organisations felt this rating should not include hot water heat demand than supported its inclusion. This was more marked in the case of individual respondents. The types of organisation with the highest levels of disagreement included those involved in the EPC process, housing providers, local authorities and third sector organisations.

Reasons for including domestic hot water (DHW) heat demand in the Fabric Rating

The question then went on to ask respondents to give their reasons as to why the metric should include DHW heat demand. There were 105 responses.

The main theme, from a large minority of these respondents, was that domestic hot water demand is part of the overall energy use. As such, all heating should be included in this. It was pointed out that its inclusion would provide a truer picture as hot water is a significant proportion of some households' overall consumption. Additionally, a significant minority foresaw that this would be a growing proportion of all heating demand.

A significant minority supported inclusion on the basis that the more information available, the better to support decision-making about insulation and other fabric improvements. It was thought that inclusion would provide valuable information as to what would happen if a property changed to a zero-carbon system. It was also thought this would lead to less waste, better thermal storage, more water tank insulation and greater amounts of waste water heat recovery. Conversely, there was a perception that exclusion would deprioritise efficiency measures by limiting consumers' abilities to make informed choices.

Caveats and provisos

A significant minority of respondents cited caveats to supporting the inclusion of DHW heat demand in the fabric rating, as follows:

- As long as DHW heat demand is quoted separately from space heating demand
- As long as it is viable to estimate this accurately. Concerns were expressed over the accuracy and complexity of DHW heat demand ratings
- As long as savings in demand from microgeneration and energy storage solutions are allowed for

Reasons for not including DHW heat demand in the Fabric Rating

Respondents were also asked for their reasons for not including DHW heat demand in the fabric rating. Reflecting the greater numbers who answered 'no' in the first part of the question, 147 gave their views. Some of the reasons given reflected those stated in the consultation document. Most domestic workshop participants' comments agreed that the fabric rating should cover heating demand only, though opinions were split among the business interviewees. Two themes dominated the responses.

Firstly, a large minority voiced concerns about the complexity, confusion around and accuracy of DHW heat demand ratings. They felt these would not be based on actual operational usage and would be subject to consumer activity and number of property occupants.

Secondly, similar numbers saw hot water demand as having nothing to do with fabric or fabric losses. There were calls for DHW heat demand to be included under annual energy cost calculations or overall energy demand. Significant numbers saw a need to focus the fabric rating on improving energy efficiency related to wall, roof and floor insulation and draught-proofing. This would ensure fabric improvements without the complications of hot water usage, seen as reducing the incentives of fabric first measures.

A small minority of respondents reflected on the differing lifecycles between hot water systems and building fabric making comparability difficult if not impossible.

A significant minority, however, advocated that DHW heat demand should be stated, but separately from space heating demand. There was some support for DHW heat demand having its own category. This was seen as useful for households to understand how the

hot water system relates to overall energy demand. Alternatively, participants at a break-out group in the domestic workshop agreed that hot water should be in the heating rating.

Other Comments

There were a significant number of concerns reiterated over the costs involved in complying with the fabric rating and the EPCs. Concerns were again raised over upgrades resulting in worse EPC scores than previously. Similar numbers restated their opposition to having a fabric rating at all.

Proposed Approach to Scaling Fabric Metric

Q4: Do you have a view on the way that the Fabric Rating mapped against a scale, for example, how 'A' or 'G' rated performance is determined?

A total of 198 respondents commented at this question. A significant minority of these noted their agreement with the suggested A-G scale, stating this was sensible, familiar and well established. Respondents also noted that this would allow for continuity and comparability. It was also regarded as simple, straightforward and easily understood.

Alignment of the Scale with the current EER

There was significant support for the fabric rating to map consistently with the current EER. In particular there were calls to link the cut off for band C in the fabric rating to the cut off for band C in the EER. There were also views to align the bands as best as possible with the existing SAP bands. This would help to facilitate current policy as targets are based on this, and also not to penalise those already in band C for EER.

However, slightly greater numbers preferred the fabric bands to be set independently of the EER and EER band C. It was felt that this would give greater freedom and flexibility to set appropriate bands against the distribution of fabric values. It would also give greater emphasis to higher rated properties. It was also felt the two A-G scales would lack like-for-like correlation, with the labelling confusing the public.

Comments about the suggested bands

A small minority of respondents supported the suggestion that the highest rating should equate to Passivhaus standards. That said, there were some suggestions this should be given an 'A+' rating rather than an 'A'. A small minority agreed with the band B anchor on typical new build fabric performance.

Other alternative suggestions for band anchors and grading included the following:

- Anchoring bands B or C on new build Technical Compliance
- Making the lower bands correspond to less demanding fabric standards already in existence
- Aligning target bands with zero emission heating readiness or achieving net zero buildings

Additionally, there were a small minority of queries about how the scale will be determined, what the grades mean and what improvements would be needed to move up the grades.

Other comments about Fabric Rating Scales

A small minority supported displaying actual units of heat demand (kWh/m²/yr). This was regarded as being useful for professionals, local authorities and social landlords, and would help people visualise or understand the running of large properties. Furthermore, it

was perceived that the units can equate to A-G ratings or be used to determine the fabric rating. However, there were also concerns that this type of display may be difficult to understand for most.

There were also a small minority of positive comments about retaining or having a 0-100 rating scale. The advantages were that comparisons to averages across Scotland would be straightforward, and that this would be simple while informative. It would also make it easier to see the steps required to achieve the next band.

There were also calls for a consistent scale or approach with that of the UK or with international standards.

A small minority thought the fabric rating should incorporate other specified factors. These included the energy usage of Mechanical Ventilation with Heat Recovery (MVHR) systems, charging capability, and the presence of solar generation. Further recommendations were to use suitable U-values or to use the Heat Transfer Coefficient ratio to gauge fabric performance.

Concerns about Fabric Rating Scales

Without specifying any in particular, a significant minority were concerned that the scales and measures in general were too complicated for non-experts. Slightly fewer respondents revealed that they were not bothered about what scale was used, as long as it was easily understood. They also felt a need for clarity about what rating properties should try to achieve. To help with understanding, a significant minority sought clear explanations for interpreting each point on the scale and how they relate to occupants' homes.

There was scepticism voiced (by a significant minority) as to whether realistic and accurate ratings could be set. It was perceived this might be too complex as there are many different types of property with differing ages, conditions and variability of fabric.

There were also concerns that a change would mean some properties would no longer meet the required ratings, despite having done so previously.

A significant minority of respondents felt that the fabric rating was disadvantageous for older, rural and listed properties. Changes such as cavity wall and glass wool insulation were claimed not to be feasible and furthermore that thick walls retain heat well. It was also felt that it would be unrealistic for these properties to reach a C rating, and that EPCs should apply only to new builds. Participants at the domestic workshop suggested mapping the A-G scale specifically for older-type properties to help level the playing field.

Energy Efficiency Features

Q5: Do you agree with our proposal to give more prominence to the energy efficiency features of the home (such as the depth of loft insulation)?

A large minority of the respondents overall agreed with giving more prominence to the energy efficiency features of the home, while a smaller number, but still a large minority, disagreed. Almost all organisations who expressed an opinion agreed with this, but more individuals disagreed than agreed. Among organisations, those with the highest levels of agreement were EPC process, housing providers and local authorities' respondents.

Respondents were then asked to provide further details and 221 did so. The numbers of expressions of support and non-support roughly reflected the numbers of opinions given at the first part of the question.

Reasons for agreement

A significant minority of respondents were keen to see more information and detail on energy efficiency features. It was felt it is easier to see where the home may be lacking in energy efficiency and where there are opportunities to improve. Respondents wanted to see information on heating technologies, a list of the main fabric elements with their energy rating, and the input data generating the EPC. Slightly smaller numbers of respondents supported this view but held the proviso that the information provided should be accurate and reflect the thermal characteristics of all materials. Proper investigation of these was advocated with assessor skills being deemed important. It was also recommended that all information should be updated regularly and should reflect occupant numbers and lifestyles.

A significant minority cited their general approval of giving more prominence to the energy efficiency features of the home. They felt this was sensible and in keeping with a fabric first approach, while fabric improvements were the highest priority in increasing energy efficiency.

In particular, a significant minority wanted a focus on insulation. It was felt that the better the insulation, the lower the energy requirements. It was perceived this can also be installed relatively easily for most types of housing. It was thought more recognition of external and internal wall insulation might lead to better insulation opportunities.

In addition to insulation, similar numbers of respondents wanted more prominence to be given to other features regarded as important for action on energy efficiency.

There were requests for clear and easy to understand descriptions of information to be provided.

A significant minority again saw a need for information on energy efficiency features to be promoted and publicised properly to aid consumer engagement.

Reasons for Opposing Greater Prominence to Energy Efficiency Features

The most quoted reason for not supporting the measure was doubt over the accuracy of assessments. A variety of issues with accurate assessment were identified. It was felt that these can lead to misleading surveys and wrong recommendations. Related to this, a small minority of respondents thought there was no point in enhancing the prominence of energy efficiency features unless more detailed information and other factors are considered.

Similar numbers of respondents – a significant minority – viewed energy efficiency alterations and improvements as impossible or very difficult in many cases.

A small minority voiced specific issues over a perceived focus on lofts and depths of loft insulation. It was pointed out that many people do not have lofts and that this is only one source of heat loss. There were also comments that depth does not reflect the efficiency of materials used. Furthermore, loft insulation depth has a 'ceiling' limit in terms of performance benefit vs materials used. Additionally, loft insulation is the only insulation value that can be reasonably measured.

Other reasons for disagreeing with giving greater prominence to energy efficiency features were provided by a small minority, as follows:

- It would make no difference to householders' choices as they will focus on other information such as energy costs
- A desire to keep information and ratings simple for ease of understanding
- Concerns over specified extra expenses for homeowners
- The relevant information is already available

Other comments

A significant minority of respondents (mainly individuals) noted potential difficulties in relation to energy efficiency regarding older, rural and listed properties.

Non-Domestic Energy Performance Certificate Metric Reform Proposals

Key Findings

Across the questions asked in this chapter, the same issues tended to emerge repeatedly.

- Around one in three respondents agreed with the set of metrics⁸ proposed to display on non-domestic EPCs (Q6)

Key themes

- Advantages outlined for these ratings included the provision of a clear understanding of the ratings and how they feed into the EPC score. They are a good range of measures to improve building performance. It was also felt these would provide a good foundation for other workstreams and should help incentivise stakeholders to make buildings more energy efficient
- The current ratings are sufficient and no change is needed
- Views were positive on having a relative Energy Rating that would align with the rating system used in other parts of the UK
- There were some calls for consistency between domestic and non-domestic EPCs to help reduce complexity
- There were concerns over the potential costs of retrofit changes, with some requests for additional grant funding to be made available

Next most frequent themes

- The new non-domestic EPC ratings should help to counteract some of the perceived poor quality of data provided under the current ratings
- Some respondents preferred the use of real data rather than modelled data and felt this would provide a more accurate reflection of a building's performance. There were also some requests for the actual energy costs to be provided rather than being based on standard modelling
- There were some comments that it can be difficult to set ratings for non-domestic buildings because of the variety of building types and uses across the country
- A number of additional ratings for display were suggested by respondents
- There was some criticism over a 'one-size-fits-all' approach, as usage of buildings varies considerably. Additionally, it was felt that some listed buildings and older properties would need to be assessed on an individual basis

⁸ For consistency, all references to measures of energy performance shown on the EPC are described as ratings rather than metrics.

Agreement with the proposed set of metrics

Q6: Do you agree with the set of metrics that we propose to display on non-domestic EPCs?

Around one in three respondents overall agreed with the set of ratings proposed to display on non-domestic EPCs. In terms of sub-groups, higher proportions of organisations agreed with this proposed set of ratings than did individuals. In terms of organisation type specifically, highest levels of agreement came from organisations involved in the EPC process, local authorities, those in the construction sector and housing providers.

A total of 132 respondents, across all sub-groups, provided commentary in support of their initial response to this question. In general, less comments were provided in respect of non-domestic EPCs than for domestic EPCs, presumably reflecting that some respondents have a lack of experience of them. Some individuals participating in the face-to-face discussions noted this is not an area of concern for them.

Support for the proposed Non-Domestic EPC

To a large extent, many of the comments made by respondents echoed the reasoning provided in the consultation paper. Of those who supported these ratings, it was felt they would provide a clear understanding of the ratings and how they feed into the EPC score.

Also, that they are a good range of measures to improve building performance. It was also suggested they would provide a good foundation for other workstreams and they should help incentivise stakeholders to make buildings more energy efficient.

A significant number of organisations saw the introduction of a relative Energy Rating that would align with the rating system used in other parts of the UK as a useful element. This was particularly useful given that many buildings are owned or managed by UK-wide organisations.

A need to align domestic and non-domestic EPCs

A number of respondents across most sub-groups suggested that consistent EPCs for domestic and non-domestic buildings would be preferable. This would help to reduce complexity in that different measures can cause confusion. For example, the use of direct emissions for non-domestic properties but overall emissions for domestic properties could be confusing. As EDF commented:

“We support alignment of non-domestic EPC metrics with broader UK policy. This will give businesses a more reliable comparator to assess the energy efficiency of their properties in relation to others. While absolute emissions of a property are important, they do not tell the whole story as the nature of business itself is likely to impact energy requirements i.e. some businesses will naturally require more (or less energy) to run their business.”

However, a few respondents felt the non-domestic EPC needs to be separate from domestic EPC. This was because of the wide variety of non-domestic buildings and their differing uses, even within the same property type.

Views on the suggested metrics

There were some criticisms of the poor quality of data provided by the current ratings. There was a view that non-domestic EPCs need more data to obtain a full breakdown to

understand buildings better. For example, there is a need for more comprehensive modelling that includes heating, schedules, occupancy, controls and so on.

In terms of the suggested ratings, there was a small amount of criticism of the use of modelled energy. Respondents commented the use of real rather than modelled data would provide a more accurate reflection of a building's performance. This was particularly in the context of direct emissions. A representative body suggested if the non-domestic EPC is based on modelled energy, any reforms will limit the usefulness and accuracy of the data available. Attendees at workshops pointed out the need to highlight that any ratings provided are only indicative.

Some representative bodies and organisations within the construction sector asked for clarity over which rating will be used as the target when designing and assessing retrofit options. For example, while a cost rating may be convenient for consumers, it is more problematic for designers. In comparison, a fabric rating based on kWh/m²/yr provides a clearer performance target for design. Furthermore, the heating / fuel type might be problematic given that the availability of some fuels may be limited in some areas. Also, heating systems can be changed and improved, while fabric measures are more permanent and difficult to change.

There were also a few suggestions that the ratings should include total emissions as per domestic EPCs rather than direct emissions. This would provide an overall carbon footprint of non-domestic buildings. There were also some requests for the actual costs to be provided, rather than being based on standard modelling.

Concerns

There were some comments that it can be difficult to set ratings for non-domestic buildings in Scotland. This is because of the variety of building types and their uses across the country.

Q7: Are there any additional metrics that you think should be displayed, or any in the proposed set that should not be included?

A total of 120 respondents commented on this question, most of which commented on additional metrics that should be displayed, rather than those which should not.

Additional metrics that should be displayed

A number of additional ratings, or additional information, were suggested by respondents. These included:

- The fabric rating should provide more detail
- Heating system type and efficiency
- Total annual carbon emissions: direct and indirect
- Actual running costs and energy consumption
- Peak heating load
- Hot water demand
- Embodied carbon (kgCO₂/m²), although this would mean an embodied carbon calculation would need to be added to SAP calculations

- Whole life carbon (embodied and operational)

There were a number of comments that a 'one-size-fits-all' approach is not suitable for the varied uses of non-domestic buildings. As such, there were some requests for different buildings to be assessed on an individual basis. There were also a few comments on the need for any ratings to be clear and easy to understand for everyone likely to use an EPC. There were also concerns about the costs of any improvements made and the need for funding and grants to be made available.

Ratings that should not be included

Comments made in response to this question tended to be generic and some focused on domestic EPCs rather than non-domestic EPCs. They included comments that heat pumps are not suitable for some types of property or that the present system is adequate. Also, there was some disagreement with the proposals within the consultation.

Purpose and Validity Period of EPCs

Proposals

Key Findings

Across the questions asked in this chapter, the same issues tended to emerge repeatedly.

- There was majority agreement that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to consider retrofit schemes (Q8)
- There was minority support for the validity period of EPCs to be reduced from 10 to five years (Q10)

Key themes

- There were calls for funding packages and grants to be made available for people to undertake retrofit changes that might be suggested on an EPC
- Concerns that EPCs could be used to force people into undertaking retrofit measures or in preventing house sales (mainly noted by individuals) (the Scottish Government made no proposal to prevent house sales in the EPC consultation).
- There were some comments that the decision to obtain a new EPC should be the choice of a property owner. Conversely, some respondents felt there are specific points that would or should trigger the need for a new EPC
- The reduced validity period should only apply to new buildings. This was because some heating systems or generic retrofit recommendations are perceived to be inappropriate for some housing stock. Allied to this, there were views that EPCs should not provide retrofit options and advice that could contradict a full technical survey
- A key advantage to a reduction in the validity period of an EPC was that it allows for the provision of more up-to-date and accurate information. However, there were also some calls for EPCs to provide clear, good quality information and signposting to services

Next most frequent themes

- Suggestions for variable validity periods were suggested by some respondents, depending on the type of property and work already undertaken on a property
- Some respondents – primarily individuals – felt that EPCs are of limited usefulness and that specialist retrofit advice from other sources is more useful
- There were some concerns from organisations that changes could have an impact on the housing market in terms of reducing the number of available properties
- There were some queries over a potential lack of assessors to undertake the necessary work

Other themes

- EPCs were perceived to be useful for a range of policy areas as well as better targeting of resources for schemes. However, there were some concerns this could lead to higher levels of fuel poverty, given that electrical heating systems are more expensive
- Some organisations felt the full implications of EPC reform cannot be understood until the legislation for the proposed Heat in Buildings Bill is published
- Some respondents expressed views that the development of SAP 11 and the associated SBEM and RdSAP methodologies need to reflect the impact of market changes

Purpose of EPCs

Q8: Do you agree with us that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to consider retrofit options?

A majority of respondents agreed that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to consider retrofit options. Once again, there were higher levels of agreement from organisations than individuals. Among organisation sub-groups, those with highest levels of agreement were in construction, involved in the EPC process or housing providers. A total of 220 consultation respondents provided commentary in support of their initial response to this question.

A small minority of respondents across most sub-groups noted this was a sensible or logical proposal but provided little by way of additional information. A small minority of organisations agreed with the consultation paper and noted that:

- EPCs should not be used as a substitute for more detailed surveys or specialist technical surveys needed to obtain property-specific information and retrofit advice
- EPCs should not provide retrofit options and advice that could contradict a full technical survey.

Similarly, a minority of third sector organisations suggested an EPC should focus on providing basic information on the carbon emissions of heating systems and whether they are compliant with heat regulation standards. A small minority of representative bodies suggested that comments on an EPC should be limited to a description and what might be improvable. There were some comments that EPCs should not be used to prompt retrofit measures as RdSAP is too basic. South Lanarkshire Council commented:

“It is also important that Energy Performance Certificates remain a positive tool for gathering robust, credible and timely information about properties and should not become a mechanism that penalises homeowners who are unable to afford the installation of energy efficiency measures, even with the offer of grant subsidies to cover part of the cost.”

There were high levels of agreement from organisations that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to consider retrofit options. However, there were also some qualifying comments that EPCs are too generic to be able to provide retrofit advice specific to a particular property.

A small minority of organisations criticised the current perceived SAP methodology⁹. This included comments that it can create unreliable results or can lead to perverse recommendations for retrofit. An organisation providing heating control systems suggested there is a need for amendments to RdSAP to ensure householders are offered a wide range of options. A small minority of organisations also noted that the development of SAP 11¹⁰ and the associated SBEM and RdSAP methodologies need to reflect the impact of market changes.

A minority of respondents outlined a number of secondary roles they felt EPCs could adopt. These included:

- To provide evidence of compliance with current and future regulatory standards for the fabric efficiency of the property
- To inform key datasets used by local authorities
- To signpost information on how to decarbonise heating systems and how to make properties more resilient to climate impacts. Also, to provide signposting to sources of support for retrofit advice
- The provision of clear guidance and information to ensure that unnecessary retrofit interventions are not undertaken
- To provide links to competent installers who can undertake retrofit work
- To provide a realistic idea of the energy costs of a building and the likely levels of energy bills

A significant minority of respondents raised issues of concern. A negative impact on the housing market was noted by a small minority of organisations – mainly housing associations and local authorities. They felt if an EPC rating is lowered, a knock-on effect could be to reduce the number of properties available for rent and increase levels of homelessness. For a significant minority of individuals, there were concerns that an EPC could be used to force people into undertaking retrofit measures or that this could be used to prevent house sales.

A number of other issues were raised by respondents. These focused on the need:

- To have good quality information provided on an EPC.
- For EPCs to be simple, clear, concise, user-friendly and easy to understand across a range of interested audiences
- For an assessment approach for mixed-use and multi-owner buildings, with options for whole building assessment
- For homeowners to be offered financial support, grants and advice. These comments came primarily from individuals
- For skilled tradespeople to undertake the necessary work. That said, there were some concerns that there is a lack of suitably trained and skilled tradespeople at present. There were also a small minority of comments that there is a need for

⁹ the 'Recommended Measures' section on an EPC is not driven by the assessor, it is automatically generated by the software

¹⁰ UK Government subsequently confirmed that the successor to SAP will be called the Home Energy Model

retrofit professionals who can consider a holistic approach that will include advice on insulation, ventilation, heating provision etc

Other comments

A small minority of organisations referred to Building Performance Certificates or Passports (GBPs). Advantages included that they provide more detail than EPCs and focus on more than a fabric first approach. A combination of EPCs and GBPs could offer owners more bespoke advice about their property and provide homeowners with a clear roadmap to decarbonising their property.

While not related directly to the consultation question, a significant minority of respondents – primarily individuals but also some organisations – raised the issue of property type, with suggestions that this should only apply to new buildings and not older buildings.

A small minority of respondents – mostly individuals – noted that EPCs are of limited importance and usefulness in relation to property sales or purchases. There were references to the EPC being a necessary formality but many buyers or sellers placing little emphasis or priority on them.

Q9: If you disagree or have further comments about the role of the EPC, please provide your comments.

A total of 98 respondents provided commentary to this question, a number of whom reiterated comments made to the previous question.

A small number of organisations – primarily in the construction sector – felt there is a need for better information or tie in to other schemes. For example, to tie in with the Scottish Government's draft Heat in Buildings Strategy.

Attendees at a workshop suggested there should be health warnings provided to users to ensure EPCs are not used inappropriately.

Themes echoed from the previous question included:

- EPCs play an important role in measuring compliance with national policy targets
- The role of an EPC is to demonstrate to a property owner what can be done to improve the property and reduce emissions
- EPCs should not apply to some types of home
- Geographic location can be a restriction in terms of available heating systems and / or retrofit opportunities
- Dislike of EPCs in general or that they are of limited use
- EPCs should provide information on the flexibility of a property
- When providing information, EPCs should consider the full range of technologies available to help reduce emissions
- EPCs should not be used to enforce any changes to a property and should not be a prohibitive factor in the sale of a property. This was allied to concerns over the cost of retrofit recommendations and requests for a package of supports for homeowners and landlords, including grant funding

- An EPC needs to be simple, clear, concise and user-friendly

Validity Period of EPCs

Q10: Do you agree that the validity period of EPCs should be reduced from 10 to five years?

A large minority of respondents agreed that the validity period of EPCs should be reduced from 10 to five years. Support levels for the reduction in time period were higher among organisations than individuals. Across organisation sub-groups, highest levels of agreement came from organisations in the third sector and those involved in construction. A total of 234 respondents provided commentary in support of their initial response to this question.

A key theme – cited primarily by organisations across all sub-groups– was that a reduced validity period for EPCs would allow for more up to date and accurate information. This information could be used for a variety of reasons including being of benefit to retrofit programmes and Local Heat and Energy Efficiency Strategies (LHEES). More up-to-date information could also feed into data on housing stock. In turn, this would be useful for policy makers in terms of targeting resources and measures to meet climate change, achieve poverty targets and help future planning. Also, this would help to provide a more efficient assessment of existing buildings and data could be used to understand the condition of Scotland’s housing stock.

A small minority of respondents – mostly organisations – also referred to this as being a useful factor in moving towards net zero targets. Some third sector respondents felt this would give homeowners the information they need to start planning their transition to net zero and consider retrofit work.

A large minority of organisations across most sub-groups suggested there should be a mandatory requirement for a new EPC at specific trigger points. These triggers might include:

- The sale or lease of a property
- Upgrades that will affect a SAP rating
- Any changes such as a new heating system or improvements to the fabric of the building that impact on the energy performance of a building
- When there is a change in tenancy or compliance with EESSH2¹¹

There were also some suggestions from a small minority of respondents across sub-groups for an EPC to be required as part of a building warrant when work is undertaken in a property.

However, another key theme, cited primarily by a small minority of individuals, was that it should be a choice for building owners to opt for a new EPC. However, they noted that certain trigger points such as buying or selling a property or when there are material changes to a property would prompt a new EPC anyway. It would appear that some respondents were uncertain as to when a new EPC would be triggered. Some noted there is little benefit to obtaining a new EPC if no changes have been made to a property as this will not lead to improved outcomes.

¹¹ Now known as the ‘Social Housing Net Zero Standard’

Retaining the status quo was advocated by a small minority of respondents across a number of sub-groups. The reasoning behind this was that there is no need to reduce the validity period as certain triggers such as a new tenancy will require a new EPC.

A small minority of respondents noted that shortening the validity period could lead to a waste of resource. This is particularly if a property already meets the minimum EPC requirement and nothing has changed since the last EPC was undertaken.

A small minority of respondents gave suggestions for alternative time periods, although there was no consistency in these.

A key concern highlighted by a significant minority of respondents related to increased costs if the validity period of an EPC is reduced. There were comments this would bring in additional costs when cost of living increases have had a negative impact on many households, RSLs and council landlords. It was felt by some that these additional costs would not be justified unless changes had been made to a property. A housing association noted this would place a significant burden on staff resources and budgets without delivering any real outcomes. Linked to this, there were some concerns of a reduction of properties available for purchase or rental or increases in rents.

In line with concerns over costs, a small minority of respondents requested incentives and funding to be made available.

There were also some concerns from a small minority of respondents (mostly organisations), over a potential lack of assessors to carry out the additional workload that would be created. For example, a potential shortfall of assessors will limit the practical viability of a reduction in the validity period of an EPC.

Pre-empting a later question, a small minority of organisations felt that in the longer term, it would be useful to move to live digital EPCs so that records would be updated.

Alternative suggestions were made by small minorities of organisations. These included:

- Variable validity periods
- A longer time between assessments for properties that meet a particular energy efficiency level; or exemptions where a property has reached its maximum rating and has a decarbonised heating system; or a link to compliance with EESSH
- Exempted private properties where there has not been a change of ownership

Impact on other policy areas

Q11: We welcome any views on the usefulness of our proposals for other relevant policy areas, such as fuel poverty or the delivery of government schemes. Please provide any comments you wish to share.

A total of 205 respondents answered this question. A number of these focused on fuel poverty and / or the delivery of government schemes and echoed themes outlined in the consultation paper. A number of responses also appeared to have been based on the assumption that required ratings and any other changes would be implemented. This would mean the proposals would be useful to other policy areas. It was felt that a more accurate EPC would help to inform policy across a range of areas.

A significant number of respondents commented on the need for EPCs to provide more accurate and property-relevant information. There were also comments on the limitations currently presented by EPCs. These included that they can only provide a basic measure of a building's performance. Additionally, they do not provide an accurate picture of energy costs or likely carbon emissions.

Fuel poverty

A key impact – and concern – was identified by a small minority of respondents across most sub-groups. This was a perception amongst such respondents that the requirements of these proposals are likely to lead to higher levels of fuel poverty. This was because electrical heating systems are more expensive to install than some other heating systems and have high running costs. As such, they could increase fuel poverty rather than reduce it. Additionally, a small minority of mostly organisations felt that fuel poverty would not be addressed. This was because it is the result of a complex range of influences and not solely determined by the building that is lived in. However, there were also a few suggestions that EPCs could be used with smart meter systems and other demographic datasets. This would help identify and provide support to those at greatest risk of fuel poverty.

Local Heat and Energy Efficiency Strategies (LHEES) and heat networks

A small minority of respondents – primarily local authorities – referred to reformed EPCs as having more reliable and useful data across a range of policy areas.

The Energy Efficiency Standard for Social Housing (EESH)

A small minority of respondents referred to EESH2 and felt that EPC reform would have a direct impact on the ongoing review of EESH2. That said, there was a request for more clarity on this.

The Heat in Buildings Strategy

A small minority of organisations noted that a more accurate EPC would help to inform monitoring of progress against Heat in Buildings Strategy targets. This was because they would provide a more accurate picture of energy use.

Funding Schemes

Similar numbers of respondents also suggested that improved EPCs would allow for better targeting of resources for schemes. These included area-based schemes (ABS) or Energy Company Obligation (ECO) schemes.

Another key concern was that of the affordability of any recommended measures to reach net zero targets. A significant minority of respondents, particularly within representative bodies, local authorities and individuals requested funding and grants to be made available. These would help to incentivise property owners to undertake the necessary retrofit measures and installations required. There were also requests for funding to be available to all properties, including those with low EPC ratings. Many of these respondents perceived the Scottish Government to have a role in the provision of grants and funding, either directly or indirectly via specific schemes such as the Warmer Homes Scotland scheme administered by Home Energy Scotland.

Other comments

A number of comments were made that echoed themes that emerged at previous questions. These included that there is too much emphasis on the installation of heat pumps, which are not suitable for many properties. There were suggestions for a different approach to these types of property, particularly as many need an individualised assessment rather than an EPC based on standardised modelling. Allied to this latter point, there were some calls to consider all low carbon alternatives.

Pre-empting a later question, a significant minority of respondents called for the Scottish Government to provide signposting on EPCs. For example, to help homeowners access competent installers or to access guidance and advice on retrofit approaches and the benefits of different heating systems. This issue is covered in more detail in the following chapter.

Other references echoing responses to previous questions included the need for more trained assessors so that they can produce EPCs utilising the requested ratings.

Digital and Accessible EPC Format and Content Proposals

Key Findings

Across the questions asked in this chapter, the same issues tended to emerge repeatedly.

- Higher numbers of respondents supported the proposal that EPCs should move from PDF to webpage format (Q12)
- There was majority support for the proposal to improve signposting to further support and advice schemes on the EPC (Q13)
- There was majority support for historical EPCs to be publicly accessible on the EPC register (while clearly marked as historic) (Q14)
- A large minority of respondents felt the EPC register should be accessible by API (Q15)

Key themes

- Advantages of a webpage format are its accessibility and user-friendliness, greater flexibility and access to ongoing updated and tailored data. It also offers opportunities for data linkage, signposting users to sources of support and advice, and for policymakers to better meet policy targets
- Signposting to further support and advice schemes was perceived to be useful and could help to increase consumer awareness on energy savings and emissions reductions. There were some suggestions that signposting should be to the Home Energy Scotland advice service rather than directly to service providers. However, if signposting is provided to specific suppliers, this will need to be to independent, competent and reliable service providers
- However, there were calls for a range of options to meet all needs. This included a capacity to download a hard copy or PDF version, particularly for individuals who do not have internet access or digital skills. There were concerns about lack of internet access and / or digital knowledge for some individuals
- There some concerns over the potential for data breaches and / or abuse of personal data by marketing companies wanting to cold call potential customers

Next most frequent themes

- Some criteria were outlined for signposting. This included that it should be appropriate to a building's age and type of property, be up-to-date and clear, user-friendly, concise and unambiguous
- The provision of historic EPCs was seen to be useful for tracking progression towards net zero and energy savings. However, it was felt these would be more useful to organisations than individuals. It was also felt that changes to EPC ratings would reduce opportunities for direct comparison over time
- Accessibility by API was seen to be of use primarily for organisations

Webpage EPCs

Q12: Do you agree with our proposal that EPCs should move from PDF to webpage format?

A large minority of respondents agreed with the proposal that EPCs should move from PDF to webpage format. There were higher levels of support from organisations than from individuals. Across organisation sub-groups, there were higher levels of agreement from local authorities, utility companies and those involved in the construction sector.

A total of 188 respondents across all sub-groups provided commentary in support of their initial response to this question. Many of these – mostly organisations – tended to echo the reasons given in the consultation paper.

Support for a webpage format

Respondents outlined a number of key advantages. These included that a webpage would be more accessible and user-friendly, while offering greater flexibility and access to data. A small minority of organisations noted this would create a dynamic source of consumer advice and allow flexibility to be adapted over time. A live document was also seen to offer the opportunity to be updated on an ongoing basis. This would also offer opportunities for data linkage and provide access to a central register for research and policy purposes. It was also seen as providing opportunities to signpost users to sources of support and advice. Additionally, for policy makers to better target buildings for improvement measures and to help them meet policy targets. Additionally, a small minority of respondents noted that it would be useful to be able to carry out a bulk download in order to compare properties and obtain real time updates for these. This approach would also allow for different layers of information to be collated, depending on each audience accessing it.

Qualified support

While levels of support for this proposal were generally high, a large minority of respondents across all sub-groups noted some qualifications for their support.

A small minority of organisations noted the need for a capacity to download a hard copy or PDF version in a standard printable format. For example, RSLs and housing associations are required to display a copy of an EPC in each property they rent. It was also noted that there would be a need for webpages to display the same content consistently across browsers and formats, which could be costly.

Concerns over this approach

Higher numbers of individuals noted concerns than did organisations. However, there were instances where concerns were shared across both key sub-groups. A key theme, from a significant minority of respondents, was that a number of individuals do not have internet access or have a lack of digital understanding. As such, different options for these people need to be provided. It was felt that this proposal should not negatively impact on accessibility. Also that any system introduced needs to be easy to use for varying abilities to use.

On this basis, it is not surprising that a significant minority of individuals pointed to a need for a range of options that would meet all needs. Their suggestions included access to hard copy EPCs and EPCs in PDF format. Advantages noted for a PDF included:

- It is easier to download on more devices

- It is available to print and share with others
- Some people are more used to using PDF files
- They are easier to store and retain as a permanent document.

A significant number of individuals felt that the current system works well and that there is no need for changes to be made. Conversely, some a similar number felt EPCs should be presented in whatever format is most accessible and easy to use. Finally, there were a small minority of comments on the need to provide EPCs in whatever format is cheapest.

Signposting and Further Steps

Q13: Do you agree with our proposal to improve signposting to further support and advice schemes on the EPC?

A majority of respondents were supportive of the proposal to improve signposting to further support and advice schemes on the EPC. Once again, higher numbers of organisations were supportive of this proposal than individuals. In relation to organisation sub-groups, the highest levels of agreement came from housing providers and local authorities.

A total of 152 respondents provided commentary in support of their initial response to this question. Again, a number of these cited the advantages noted in the consultation paper. A small minority of organisations also felt that this would help to increase consumer awareness which they saw as key to delivery of energy savings and emissions reductions.

As at previous questions, there were some qualifying comments made by respondents. These included the need to signpost to independent, competent and reliable service providers who are suitably qualified and have the necessary professional expertise. It was also suggested there should be links to Trustmark installers or Competent Person Schemes. A small minority of respondents specifically referred to the Home Energy Scotland (HES) advice service. This service is seen as professional and offering a holistic approach to energy use in the home. There were also some references to Energy Company Obligation (ECO) schemes.

A small minority of respondents suggested that links should point homeowners to HES rather than linking in directly to information on grants. This was because HES is perceived to provide knowledgeable and consistent advice and support. However, some respondents called for signposting to relevant government funding and grant schemes. Also, for signposting to clearly defined eligibility for support schemes. Energy Systems Catapult, an academic / research organisation commented:

“The EPC should provide an accessible entry point for people to improve the energy performance of their property. It should be designed to enable informed decision-making, helping property owners to consider the options available and how these will achieve the outcomes they are interested in.”

There were also some references – mostly from a small minority of organisations – to a need for signposting to advice and support, appropriate to a building’s age and type of property. This was because it was felt that some types of heating scheme are not appropriate to all types of property. Again, heat pumps in particular were considered to be inappropriate for many older properties. A small minority of construction organisations also pointed to the need to emphasise that property developments can cause damage to the built fabric if incorrectly considered. A small minority of third sector organisations also

pointed to the need for signposting not only to advice on energy efficiency but also on climate resilience measures.

A significant minority of organisations across most sub-groups pointed to a need to keep any signposting up-to-date. For example, to provide alerts for new grant funding or so that it is responsive to new and innovative products and energy solutions. Up-to-date signposting would also allow for information on a proposed or planned heat network or Smart Local Energy System (SLES).

There were also comments on the need for any sources of support and advice schemes to be clear, concise and unambiguous. Also to offer signposting that is genuinely helpful and can offer tailored and affordable solutions for buildings. At a workshop, attendees noted the need to ensure there is a balance between giving people precise information and giving them too much information. They felt that if people are provided with too much information, this may overwhelm them and lead to no action.

A small minority of respondents – all organisations – referred to the potential for a portal to provide a one-stop-shop network of organisations.

Concerns over signposting

Once again, some concerns were noted over the need to have a suitably qualified and skilled workforce at both a national and local level.

A small minority of respondents also felt that the provision of signposting is not the purpose of an EPC. This was because EPCs only provide measures of a property's energy efficiency. Furthermore, any recommendations provided with an EPC may be unsuitable for a specific property, given their general nature. Additionally, EPCs are not a substitute for a full and detailed survey.

Data Access

Q14: Do you agree historical EPCs should be publicly accessible on the EPC register (while clearly marked as historic)?

There was majority agreement overall that historical EPCs should be publicly accessible on the EPC register. As at previous questions, support levels were higher among organisations than individuals. The organisation sub-groups with the highest levels of agreement were housing providers, those in the construction sector and those involved in the EPC process.

A total of 157 respondents provided commentary in support of their initial response to this question.

The advantages of historical EPCs being publicly accessible

A majority of respondents across all sub-groups outlined a range of advantages that making historical EPCs available would bring. These included that this would be a good way to track improvements. Also, to see what measures have been undertaken towards a progression of a move to net zero and energy savings.

A significant minority of organisations, particularly local authorities, noted the usefulness of having a public record of progress. Historical EPCs would allow for regular and transparent monitoring of progress as well as being able to ascertain the validity of any measures

undertaken. This also allows organisations to use this information as a baseline reference for future monitoring. As noted by the National Insulation Association:

“This proposal will also help local authorities to understand the common issues and solutions in housing in their local area. The effective use of data is vital to give local authorities an in-depth and detailed picture of their housing stock. This will allow them to plan more effectively for council-led retrofit programmes and create local decarbonisation strategies that are tailored to the local housing stock.”

A small minority of organisations noted the provision of historical EPCs would be of greater interest and use by organisations than individuals.

A similar number of respondents also noted that if there are changes to the ratings and methodology used for EPCs, there will be no potential for direct comparison.

The disadvantages of historical EPCs being publicly accessible

A key concern noted primarily by a small minority of individuals was that of privacy issues and the need to ensure that any changes will comply with GDPR (General Data Protection Regulations)

Accessibility by API

Q15: Do you agree that the EPC register should be accessible by API?

A large minority of respondents agreed that the EPC register should be accessible by API. A higher proportion of organisations were supportive than were individuals. A significant minority of respondents provided a ‘don’t know’ response at this question. Across organisation sub-groups, those offering the highest level of agreement were in the construction sector, housing providers, local authorities and those involved in the EPC process.

A total of 137 respondents across all sub-groups provided further commentary. A number of those responding to this question – mostly organisations – echoed the points noted in the consultation paper.

A large minority of organisations identified important benefits of this approach. These included:

- Benefits for whole system planning
- Help for local authorities which are developing and working towards completing LHEES
- Allowing analysis of trends and comparisons across building stock in real time
- Useful for modelling and analysis
- A useful source for research and policy and help to identify trends and opportunities for improvements

Two key concerns arose from respondents – often, although not solely, from individuals – in relation to this proposal. The first, from a significant minority, was concerns over data protection. There were queries as to how data would be anonymised and whether this would be compatible with GDPR. There was a perception from some of these respondents that this data could be hacked or that there would be a significant risk of cyber-crime.

A small minority of respondents also noted concerns that this information could be abused by organisations wanting to target properties for marketing or scams. Respondents did not want to see this database being used for cold calling purposes.

Q16: Do you have any further comments on our proposals to move to a digital and accessible EPC?

A total of 105 respondents provided comments to this question, a number of which echoed points raised at previous questions. These included:

- The need to provide signposting to services such as funding on the EPC
- It will be an advantage to have real time information
- This will allow for improved accuracy and quality of data analysis work
- It is important to have a capacity to download a printable version of an EPC
- Concerns over digital access and that this may exclude those lacking in digital knowledge or who do not have internet access
- Concerns over the safety of data and the need for safeguards to ensure that security breaches cannot occur
- Users will need to have training so they can understand how to use and work with the data
- The need for ratings on condition, material, energy performance and ownership of buildings so that holistic information can be accessed

Quality Assurance and Approved Organisation Framework proposals

Key Findings

- A large minority of respondents supported the proposals to review and update the auditing and assurance requirements for EPCs in Scotland (Q17)

Key themes

- Improvements to auditing and assurance requirements were broadly welcomed, with some comments that the current system does not produce consistency and there are some issues around quality
- Support for the consistency of high standards and accuracy of information, amid concerns about variations and discrepancies in EPC outcomes
- Smart auditing was broadly welcomed as being effective

Next most frequent themes

- Good governance and administration of the system was urged in order to gain consumers' trust
- On additional assurance activities, a better system to help ensure the consistency of EPC surveys and assessments was advocated, including better ways of flagging inconsistencies
- Allied to this there were recommendations for the collection of real performance data
- Calls were made to ensure that assessors undergo proper training to attain the requisite accreditations and skills

Other themes

- Support for allowances and flexibility to be provided for traditionally built buildings and for enabling stakeholders to be able to challenge assessments and EPCs
- Concerns were expressed about extra burdens, costs and regulation on consumers arising from extra assurance requirements
- Other concerns were a perceived lack of clarity and detail in the auditing and assurance proposals

Q17: Do you agree with our proposals to review and update the audit and assurance requirements for EPCs in Scotland?

A large minority of respondents to the consultation agreed with the proposals, while a significant minority disagreed. Almost all organisations who gave a definite response agreed, while individuals agreed and disagreed in almost equal numbers. Across organisation sub-groups, the highest levels of agreement came from those involved in the EPC process, those in the construction sector and local authorities.

Respondents were then asked to provide further details explaining their answer, with 149 choosing to comment. A majority of the comments were supportive in nature.

Comments supporting the proposal

General support was provided by a large minority of respondents who welcomed any improvements to auditing and assurance, commenting for example that these were sensible and overdue.

There was also some concern that the current system is unfit for purpose. For example, it was perceived as not producing consistency amid quality issues with EPCs and fraud concerns. A significant minority expanded on these issues. These included:

- Random variation
- EPCs with incorrect floor areas and construction areas
- Falsification around deflation of energy efficiency to gain access to the scheme
- Incorrect identification of primary heating sources
- Omissions of secondary heating sources

A significant minority thought improvements to auditing and assurance would help ensure the consistency of high survey standards, as well as the reliability of data and the competency and expertise of assessors. Accuracy of information in EPCs may also be improved, perhaps by providing a true reflection of energy efficiency to consumers and other stakeholders. Allied to this were a small minority of comments in favour of using actual or measured energy use in EPC calculations, perhaps alongside the SAP methodology.

The proposal to introduce a smart auditing process was welcomed by a significant minority. This was seen as effective, with support for automated triggering of audits when certain criteria are hit. Also, the ability to identify errors in assessments more systematically than random checks was praised. It was also noted that this would synchronise with auditing regimes in other jurisdictions, and that it resulted in improvements when implemented in England and Wales.

There were also a small minority of views that the improvements would help gain public trust, with the result that more attention would be paid to EPCs and subsequent signposting. Allied to this were requests to include routes for redress or complaints procedures for consumers if problems emerged with assessments.

Caveats to Support

A significant minority of respondents qualified their support, and did not want to see further burdens or costs placed on homeowners, occupants, businesses, or local authorities. A small minority each intimated they would be supportive if:

- The auditing and assurance system is well designed and works well in practice
- There are other checks independently of smart auditing
- There are sufficient numbers of assessors undergoing proper training and attaining suitable accreditations and skills
- The processes are in line with those in the rest of the UK

Comments opposing the proposal

Only a small minority of comments gave reasons for not agreeing with the proposal. The following reasons were mentioned:

- The current auditing and assurance system works well
- Concerns about increased bureaucracy, regulation and costs
- Scepticism as to whether the proposals will be administered properly, citing concerns over government impartiality and suspicions over unscrupulous use
- Lack of impact of smart or risk-based audits which are already being used in industry
- Scepticism as to whether the accuracy of basic input information and data produced by EPCs will improve

Additionally there were a small minority of concerns about a lack of detail as to what is intended.

Finally a significant minority reiterated their negative opinions about the EPC proposals overall.

Q18: Please detail any additional assurance activity that you think would be appropriate to enhance the accuracy and reliability of EPCs

This question elicited 129 responses, a large majority of which outlined a wide variety of additional assurance measures. Two themes however were the most frequently mentioned, each by a significant minority of respondents.

Additional Assurance Activities

Firstly, there was support for a better system to help ensure the consistency of EPC surveys and assessments. Current perceptions were that data can be inaccurate and unreliable. Respondents wanted to see better ways of flagging inconsistencies, and an energy assessor suggested increasing the Minimum Evidence Requirements. Allied to this, a significant minority of respondents again advocated the addition or collection of real performance data. It was suggested that predicted energy use was flawed, and that there should be a move away from 'assumed' input. The use of equipment to measure heat loss was recommended, along with letting assessors use their expertise to physically check installed insulation and building fabric.

Secondly, there were calls to ensure that assessors undergo proper training to attain the requisite accreditations and skills. It was perceived that different knowledge bases and specific qualifications would be needed for differently constructed buildings. Additionally, oversight of accreditation schemes was suggested as a further aid to help align consultants' standards. A small minority also sought more effective audits for energy assessors by way of annual checks or peer reviews.

Other extra assurance activities were proposed by a small minority as follows:

- Enforcing standards or taking action where issues are discovered
- Enabling consumers and third parties to challenge assessments and EPCs
- Making input data (e.g. for SAP) and assessors detailed calculations publicly available to property owners to allow for transparency and validation
- More frequent and regular audits allied to greater numbers of assessors

- More tailored or practical improvement measures included in an EPC

It was also suggested that assurance processes should be aligned with those in the rest of the UK. An efficient system for triggering audit alerts, automated tests or sanity checks on submitted EPC data was also proposed.

Other comments

There were also requests for allowances or flexibility to be shown in the cases of traditionally built (e.g. pre 1919) buildings and other non-standard homes and situations. It was recommended that assessors have specific accreditation for these. Also, that specific policy guidance or legislation is provided to ensure these properties are not unfairly penalised. Flexibility was also requested for other construction facets such as fabric condition, age and thermal bridging.

A small minority commented on the impact of SAP and RdSAP methodologies. There were suggestions that reforms to EPCs should wait until new versions of these have been published. There were also requests for regular SAP updates to reflect energy price changes. Also, procedures to verify that findings are accurate as these methodologies will have a large impact on the success of EPC reforms. There were perceptions that SAP training is based on English archetypes and therefore unsuitable for Scotland. It was also felt there can be inconsistencies where multiple heating controls are involved, with Passivhaus software (Passivhaus Planning Package - PHPP) being more accurate and reliable.

In the adoption of smart auditing, there were a small minority of comments about being aware of perceived unfair audit triggers and the importance of highlighting assessor-related inconsistencies.

Legislating for EPC Reform and Timeline

Key Findings

Key themes emerging across this question included:

- The most supported timeline, albeit by only a minority of respondents, was to align reform implementation with the launch of SAP 11 in 2025. This would help avoid confusion, avoid the possibility of further EPC reviews and allow time for the underlying calculation methodology to be adapted for the new ratings
- However, there were also calls for the reform implementation to take place as soon as possible. This was because of the need to reduce carbon emissions, introducing the proposed Heat in Buildings regulations and promoting growth in the electric heating sector
- A small minority of respondents suggested dates later than 2025 to allow more time to understand all the potential implications. There were concerns that the proposed timeline options were too soon
- There were calls for the implementation to be streamlined with the introduction or reform of other strategies for easier integration

Q19: Do you have a view on our timeline for reform implementation?

The table below has been based on verbatim data and should be treated with a degree of caution. The largest number of respondents who gave an opinion on a specified timeline opted for aligning reform implementation with the launch of SAP 11 in 2025. A significant minority of respondents overall desired this option, including a large minority of organisations. A smaller minority of respondents (mainly organisations) supported the proposed timeline of shortly after the amended Energy Performance of Buildings Regulations introduction in Winter 2023-24. However, a significant minority (almost all being individuals) either specified a timeline of later than 2025 or indicated that the suggested timelines were too soon.

Q19 Number*	As proposed / ASAP / Winter 2023/24 / After EPBR	Align with SAP11 / 2025	Later than 2025 (specified)	Timeframes too soon (generally)	Not answered / no timeframe indicated
Organisations - 122	22	44	1	3	52
Total individuals - 201	13	12	21	39	116

Percentages may not add to 100% due to rounding *NB. Numbers are approximate, being generated from the open-ended part of the question.

Comments about Suggested Timelines

Detailed responses to this question were received from 237 respondents. The most popular specified option of aligning reform implementation with the launch of SAP 11¹² in 2025 was seen to be advantageous in helping avoid confusion. It would also

¹² Now known as the Home Energy Model.

allow time for the underlying calculation methodology to be adapted for new ratings. It would also help to reduce the bureaucratic burden.

A small minority said implementation should align with the UK government's changes to SAP or RdSAP whenever they were to happen. Uncertainty around transition times for software that is needed to reflect the advanced technologies was also raised as a concern. Similar numbers wanted implementation to be done in conjunction with the rest of the UK in order for consistency.

Of the respondents who supported the proposed timeline, it was seen as sufficient time for building managers to implement improvements based on previous EPC recommendations. This would also allow time to bring in training for assessors. These respondents also said that:

- This would give more time to get used to changes
- There is an urgent need to reduce carbon emissions
- Delays would restrict growth in the electric heating sector

Additionally, there were views on a pressing need to introduce proposed HiB regulations. There were also comments that there were already too many delays to buildings' regulatory changes. However, a significant minority of mainly individuals considered this to be too soon. It was felt that individuals needed more time to cope with and understand the new system, given other pressing concerns such as the cost of living crisis.

Of those suggesting dates later than 2025 for implementation, 2025 was viewed as unachievable. There was a perceived need for more time to understand all the potential implications. It was inferred a later date would allow for the natural replacement of older heating systems and enable future proofing of EPCs. Dates suggested were 2026, 2028, 2030, after 2030 or after the next Scottish election.

Other Comments about Timings

A significant minority voiced concerns over unrealistic timelines more generally. They felt sufficient time was needed to facilitate the transition and for implementation to fulfil full compliance. Additionally, that time was needed for professionals such as assessors to become trained, and for other stakeholders to adjust. There were also a few calls for transitional arrangements. Also, the phasing in of some measures to accommodate capacity issues for EPC provision; and of a need to run a concurrent publicity campaign. There were a small minority of calls for the implementation to be streamlined with the introduction or reform of other strategies for easier integration.

Unrelated Comments

A small minority of respondents reiterated points made previously. These included:

- The need for public funding and support to be available to those for whom the cost of change is prohibitive
- Any change should apply to new builds only rather than existing homes.

The problems of retrofitting some properties were mentioned along with a view that properties were unlikely to meet EPC requirements without greater decarbonisation of the grid.

A significant minority reiterated arguments against the proposals and EPC ratings in general, amid criticisms of the government.

Concluding Comments

A number of those responding to this consultation provided their views on EPC reform. Some also provided background information to help put their response into context. These views will help the Scottish Government in taking forward plans for EPC reform. Many responses echoed points raised in the consultation paper.

Overall, responses to this consultation show broad support for EPC reform, albeit there were a number of caveats made by respondents. If changes are to be introduced, they will need to take account of the concerns outlined by respondents. For example, it will be necessary to provide EPCs in a range of different formats to ensure they are fully inclusive for all potential users.

There appears to be a degree of resistance to EPC reform from some respondents. As such, it will be important for the Scottish Government to ensure the reasons for reform are communicated effectively to the Scottish public and other users of EPCs. This will also help to bring about a more positive attitudes towards EPC reform. Increased consumer awareness may be key to the delivery of energy savings and emissions reductions. It will be important to ensure there are adequate numbers of trained assessors with the requisite skills if there is an increase in the number of EPCs produced.

It may be worthwhile for the Scottish Government to consider variable validity periods for EPCs to allow for the different uses of domestic and non-domestic buildings. It will be also be important to consider the timing of reform implementation to streamline with the launch of SAP 11 and other intersecting initiatives.

As is typical with consultation responses, many respondents raised issues not directly related to the consultation questions. However, these issues were clearly seen as important to significant numbers of respondents. Many respondents – mainly individuals but also some housing providers and local authorities – were concerned that a reformed EPC might force them into making unsuitable retrofit changes in order to achieve a desired EPC rating. Allied to this, many had concerns about the potential costs associated with any retrofit work, particularly in more traditional stone-built buildings. Perhaps not surprisingly, many of these respondents also focused on a need for additional funding and grants to be made available to allow for retrofit work to be undertaken. Individuals, local authorities, housing associations and Registered Social Landlords (RSLs) in particular had concerns over the costs of improvement measures.

Throughout responses, a small minority of mainly individuals noted they did not agree with this consultation being undertaken, that they did not agree with EPC reform or that there is no need for EPC reform. There were also some respondents who felt that EPCs are of less importance than building warrants or other technical surveys and that EPCs are of limited overall value.

Appendix 1: Full breakdown of organisation sub-group data

Q1: Do you agree with the set of metrics that we propose to display on the reformed EPC?

Q1 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	82 (67%)	19 (16%)	10 (8%)	11 (9%)
Academic / Research - 3	1 (33%)	1 (33%)	1 (33%)	-
Construction - 30	20 (67%)	7 (23%)	1 (3%)	2 (7%)
EPC process - 5	4 (80%)	1 (20%)	-	-
Housing provider - 10	7 (70%)	-	3 (30%)	-
Local authority - 19	17 (89%)	1 (5%)	1 (5%)	-
Public body - 4	2 (50%)	-	1 (25%)	1 (25%)
Representative body - 31	18 (58%)	6 (19%)	2 (6%)	5 (16%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	4 (57%)	2 (29%)	-	1 (14%)
Utility - 5	4 (80%)	-	-	1 (20%)
Other - 5	4 (80%)	-	1 (20%)	-
Total individuals - 201	49 (24%)	130 (65%)	18 (9%)	4 (2%)
Total respondents - 323	131 (41%)	149 (46%)	28 (9%)	15 (5%)

Percentages may not add to 100% due to rounding

Q3: Considering our proposal to include a Fabric Rating on EPCs, do you think this metric should include domestic hot water heat demand?

Q3 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	36 (30%)	53 (43%)	11 (9%)	22 (18%)
Academic / Research - 3	1 (33%)	1 (33%)	-	1 (33%)
Construction - 30	8 (27%)	13 (43%)	3 (10%)	6 (20%)
EPC process - 5	2 (40%)	3 (60%)	-	-
Housing provider - 10	2 (20%)	5 (50%)	3 (30%)	-
Local authority - 19	4 (21%)	9 (47%)	2 (11%)	4 (21%)
Public body - 4	2 (50%)	1 (25%)	-	1 (25%)
Representative body - 31	10 (32%)	11 (35%)	3 (10%)	7 (23%)
Representative body: landlords - 3	-	2 (67%)	-	1 (33%)
Third sector - 7	2 (29%)	5 (71%)	-	-
Utility - 5	2 (40%)	2 (40%)	-	1 (20%)
Other - 5	3 (60%)	1 (20%)	-	1 (20%)
Total individuals - 201	42 (21%)	131 (65%)	21 (10%)	7 (3%)
Total respondents - 323	78 (24%)	184 (57%)	32 (10%)	28 (9%)

Percentages may not add to 100% due to rounding

Q5: Do you agree with our proposal to give more prominence to the energy efficiency features of the home (such as the depth of loft insulation)?

Q5 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	85 (70%)	9 (7%)	7 (6%)	21 (17%)
Academic / Research - 3	1 (33%)	-	1 (33%)	1 (33%)
Construction - 30	21 (70%)	3 (10%)	1 (3%)	5 (17%)
EPC process - 5	4 (80%)	1 (20%)	-	-
Housing provider - 10	8 (80%)	1 (10%)	1 (10%)	-
Local authority - 19	16 (84%)	1 (5%)	-	2 (11%)
Public body - 4	2 (50%)	-	1 (25%)	1 (25%)
Representative body - 31	20 (65%)	2 (6%)	2 (6%)	7 (23%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	7 (100%)	-	-	-
Utility - 5	3 (60%)	-	-	2 (40%)
Other - 5	2 (40%)	-	1 (20%)	2 (40%)
Total individuals - 201	76 (38%)	97 (48%)	22 (11%)	6 (3%)
Total respondents - 323	161 (50%)	106 (33%)	29 (9%)	27 (8%)

Percentages may not add to 100% due to rounding

Q6: Do you agree with the set of metrics that we propose to display on non-domestic EPCs?

Q6 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	62 (51%)	11 (9%)	19 (16%)	30 (25%)
Academic / Research - 3	1 (33%)	-	-	2 (67%)
Construction - 30	19 (63%)	1 (3%)	6 (20%)	4 (13%)
EPC process - 5	4 (80%)	-	-	1 (20%)
Housing provider - 10	6 (60%)	1 (10%)	2 (20%)	1 (10%)
Local authority - 19	14 (74%)	1 (5%)	2 (11%)	2 (11%)
Public body - 4	2 (50%)	1 (25%)	-	1 (25%)
Representative body - 31	9 (29%)	6 (19%)	5 (16%)	11 (35%)
Representative body: landlords - 3	-	1 (33%)	-	2 (67%)
Third sector - 7	1 (14%)	-	3 (43%)	3 (43%)
Utility - 5	2 (40%)	-	-	3 (60%)
Other - 5	4 (80%)	-	1 (20%)	-
Total individuals - 201	40 (20%)	74 (37%)	66 (33%)	21 (10%)
Total respondents - 323	102 (32%)	85 (26%)	85 (26%)	51 (16%)

Percentages may not add to 100% due to rounding

Q8: Do you agree with us that the primary role of the EPC should be to provide basic energy efficiency information for the purpose of comparison and act as a prompt to consider retrofit options?

Q8 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	98 (80%)	11 (8%)	3 (2%)	10 (8%)
Academic / Research - 3	2 (67%)	1 (33%)	-	-
Construction - 30	28 (93%)	2 (7%)	-	-
EPC process - 5	5 (100%)	-	-	-
Housing provider - 10	10 (100%)	-	-	-
Local authority - 19	13 (68%)	2 (11%)	3 (16%)	1 (5%)
Public body - 4	2 (50%)	-	-	2 (50%)
Representative body - 31	22 (71%)	4 (13%)	-	5 (16%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	6 (86%)	-	-	1 (14%)
Utility - 5	5 (100%)	-	-	-
Other - 5	4 (80%)	1 (20%)	-	-
Total individuals - 201	100 (50%)	85 (42%)	9 (4%)	7 (3%)
Total respondents - 323	198 (61%)	96 (30%)	12 (4%)	17 (5%)

Percentages may not add to 100% due to rounding

Q10: Do you agree that the validity period of EPCs should be reduced from 10 to five years?

Q10 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	56 (46%)	36 (30%)	12 (10%)	18 (15%)
Academic / Research - 3	3 (100%)	-	-	-
Construction - 30	20 (67%)	6 (20%)	3 (10%)	1 (3%)
EPC process - 5	1 (20%)	3 (60%)	1 (20%)	-
Housing provider - 10	1 (10%)	8 (80%)	1 (10%)	-
Local authority - 19	6 (32%)	6 (32%)	5 (26%)	2 (11%)
Public body - 4	1 (25%)	-	1 (25%)	2 (50%)
Representative body - 31	15 (48%)	7 (23%)	1 (3%)	8 (26%)
Representative body: landlords - 3	-	2 (67%)	-	1 (33%)
Third sector - 7	5 (71%)	2 (29%)	-	-
Utility - 5	2 (40%)	-	-	3 (60%)
Other - 5	2 (40%)	2 (40%)	-	1 (20%)
Total individuals - 201	37 (18%)	143 (71%)	16 (8%)	5 (2%)
Total respondents - 323	93 (29%)	179 (55%)	29 (8%)	23 (7%)

Percentages may not add to 100% due to rounding

Q12: Do you agree with our proposal that EPCs should move from PDF to webpage format?

Q12 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	88 (72%)	7 (6%)	14 (11%)	13 (11%)
Academic / Research - 3	3 (100%)	-	-	-
Construction - 30	23 (77%)	2 (7%)	4 (13%)	13 (11%)
EPC process - 5	3 (60%)	1 (20%)	1 (20%)	-
Housing provider - 10	7 (70%)	1 (10%)	2 (20%)	-
Local authority - 19	16 (84%)	-	1 (5%)	2 (11%)
Public body - 4	3 (75%)	-	-	1 (25%)
Representative body - 31	20 (65%)	2 (6%)	3 (10%)	6 (10%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	5 (71%)	-	1 (14%)	1 (14%)
Utility - 5	4 (80%)	-	-	1 (20%)
Other - 5	3 (60%)	-	2 (40%)	-
Total individuals - 201	54 (27%)	95 (47%)	48 (24%)	4 (2%)
Total respondents - 323	142 (44%)	102 (32%)	62 (19%)	17 (5%)

Percentages may not add to 100% due to rounding

Q13: Do you agree with our proposal to improve signposting to further support and advice schemes on the EPC?

Q13 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	101 (83%)	4 (3%)	3 (2%)	14 (11%)
Academic / Research - 3	2 (67%)	1 (33%)	-	-
Construction - 30	24 (80%)	2 (7%)	2 (7%)	2 (7%)
EPC process - 5	5 (100%)	-	-	-
Housing provider - 10	9 (90%)	-	1 (10%)	-
Local authority - 19	18 (95%)	-	-	1 (5%)
Public body - 4	3 (75%)	-	-	1 (25%)
Representative body - 31	25 (81%)	-	-	6 (19%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	5 (71%)	-	-	2 (29%)
Utility - 5	4 (80%)	-	-	1 (20%)
Other - 5	5 (100%)	-	-	-
Total individuals - 201	111 (55%)	55 (27%)	31 (15%)	4 (2%)
Total respondents - 323	212 (66%)	59 (18%)	34 (11%)	18 (6%)

Percentages may not add to 100% due to rounding

Q14: Do you agree historical EPCs should be publicly accessible on the EPC register (while clearly marked as historic)?

Q14 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	91 (75%)	9 (7%)	10 (8%)	12 (10%)
Academic / Research - 3	2 (67%)	-	1 (33%)	-
Construction - 30	25 (83%)	2 (7%)	3 (10%)	-
EPC process - 5	4 (80%)	1 (20%)	-	-
Housing provider - 10	9 (90%)	-	1 (10%)	-
Local authority - 19	15 (79%)	1 (5%)	1 (5%)	2 (11%)
Public body - 4	2 (50%)	-	-	2 (50%)
Representative body - 31	19 (61%)	2 (6%)	4 (13%)	6 (19%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	5 (71%)	2 (29%)	-	-
Utility - 5	4 (80%)	-	-	1 (20%)
Other - 5	5 (100%)	-	-	-
Total individuals - 201	85 (42%)	79 (39%)	32 (16%)	5 (2%)
Total respondents - 323	176 (54%)	88 (27%)	42 (13%)	17 (5%)

Percentages may not add to 100% due to rounding

Q15: Do you agree that the EPC register should be accessible by API?

Q15 Number (%)	Agree	Disagree	Don't know	Not answered
Organisations - 122	91 (75%)	6 (5%)	10 (8%)	15 (12%)
Academic / Research - 3	2 (67%)	-	-	1 (33%)
Construction - 30	24 (80%)	2 (7%)	4 (13%)	-
EPC process - 5	4 (80%)	1 (20%)	-	-
Housing provider - 10	8 (80%)	1 (10%)	1 (10%)	-
Local authority - 19	15 (79%)	-	2 (11%)	2 (11%)
Public body - 4	2 (50%)	-	-	2 (50%)
Representative body - 31	21 (68%)	1 (3%)	2 (6%)	7 (23%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	6 (86%)	-	-	1 (14%)
Utility - 5	4 (80%)	-	-	1 (20%)
Other - 5	4 (80%)	-	1 (20%)	-
Total individuals - 201	58 (29%)	72 (36%)	64 (32%)	7 (3%)
Total respondents - 323	149 (46%)	78 (24%)	74 (23%)	22 (7%)

Percentages may not add to 100% due to rounding

Q17: Do you agree with our proposals to review and update the audit and assurance requirements for EPCs in Scotland?

Q17 Number (%)	Agree	Disagree	Don't Know	Not answered
Organisations - 122	82 (67%)	5 (4%)	13 (11%)	22 (18%)
Academic / Research - 3	2 (67%)	1 (33%)	-	-
Construction - 30	24 (80%)	-	3 (10%)	3 (10%)
EPC process - 5	5 (100%)	-	-	-
Housing provider - 10	5 (50%)	1 (10%)	3 (30%)	1 (10%)
Local authority - 19	15 (79%)	1 (5%)	2 (11%)	1 (5%)
Public body - 4	3 (75%)	-	-	1 (25%)
Representative body - 31	16 (52%)	1 (3%)	3 (10%)	11 (35%)
Representative body: landlords - 3	1 (33%)	1 (33%)	-	1 (33%)
Third sector - 7	5 (71%)	-	-	2 (29%)
Utility - 5	3 (60%)	-	-	2 (40%)
Other - 5	3 (60%)	-	2 (40%)	-
Total individuals - 201	74 (37%)	71 (35%)	45 (22%)	11 (5%)
Total respondents - 323	156 (48%)	76 (24%)	58 (18%)	33 (10%)

Percentages may not add to 100% due to rounding

Appendix 2: Respondent Organisations

Academic / Research
Centre for Future Infrastructure, University of Edinburgh
Energy Systems Catapult
The Energy Poverty Research initiative; Built Environment Asset Management (BEAM) Centre, Glasgow Caledonian University; Common Weal; Atkins Architecture; & Net Zero Associates Ltd
Construction sector
Baxi Heating UK
Bellway Homes
Build Test Solutions
Cala Group Ltd.
Carbon Futures
Changeworks
Coast2Coast Architects
Dunster Biomass Heating (Scotland) Ltd
Energy Saving Trust
IES Ltd
KJ Tait
Knauf Insulation
MAAC Studio
Mineral Wool Insulation Manufacturers Association (MIMA)
NIBE
Parity Projects
Persimmon Homes North Scotland
Recoup Energy Solutions Ltd
Robertson Homes
Rubia Tincto Investment Ltd
Smart DCC Ltd
Solar Energy Scotland
Stewart Milne Group
Tepeo
The Electric Heating Company
The Kensa Group
Vaillant Group UK
Velux Company Ltd.
Worcester Bosch Group
Xburo UK Ltd

EPC Process
Bacra
Elmhurst Energy
MCS Foundation
nextGenergy
Sustainable Estate Solutions (SES) Ltd.

Housing Provider
Grampian Housing Association Ltd
Hjaltland Housing Association Ltd
Kildermorie Partnership
Ore Valley Housing Association
Osprey Housing
Places for People
Rubha Mor Self Catering
Sanctuary Housing Association
Wheatley Group

Local Authorities
Aberdeen City Council
Aberdeenshire Council
Argyll and Bute Council
Dundee City Council
East Dunbartonshire Council
East Lothian Council
Falkirk Council
Fife Council
Inverclyde Council
Moray Council
North Ayrshire Council
North Lanarkshire Council
Perth and Kinross Council
Scottish Borders Council
Shetland Islands Council
South Lanarkshire Council
Stirling Council
West Dunbartonshire Council
West Lothian Council

Other
Drayton by Schneider Electric
Gillespie Macandrew LLP
Intergas heating Lvd.
King James VI Hospital
Nationwide Building Society
Heineken/Star Pubs & Bars

Public Body
Danish Energy Agency
Historic Environment Scotland
Ofgem
The Scottish Fire and Rescue Service

Representative Body (Landlords)
Association of Scotland's Self-Caterers
Landlords Rights and abolition of EPCs group
Scottish Association of Landlords

Third Sector
Age Scotland
Energy Action Scotland
Existing Homes Alliance Scotland
Islay Energy Trust
National Trust for Scotland
Power Circle
WWF Scotland

Utility
Calor Gas
EDF
E.ON UK
ScottishPower
SGN

Representative Body
Association for Decentralised Energy
Bankers for Net Zero
BEAMA
Built Environment Forum Scotland (BEFS)
Central Association of Agricultural Valuers (CAAV); Scottish Association of Agricultural Arbiters and Valuers (SAAVA)
Chartered Institute of Housing Scotland
CIBSE (Chartered Institution of Building Services Engineers)
Fife Communities Climate Action Network
GMB Scotland
Ground Source Heat Pump Association
Heat Pump Association
Heating and Hotwater Industry Council
Historic Houses Scotland
Homes for Scotland
Liquid Gas UK
Listed Property Owners Club
National Insulation Association
OFTEC
Property Energy Professionals Association
Propertymark
Scottish Ecological Design Association
Scottish Federation of Housing Associations
Scottish Grocers' Federation
Scottish Land & Estates
SPF
The Architectural Heritage Society of Scotland (AHSS)
The Association for Renewable Energy and Clean Technology (REA)
The Law Society of Scotland
The Royal Incorporation of Architects in Scotland
Thermal Storage UK
UK Green Building Council (UKGBC)

Index of Abbreviations

ABS	Area-based Schemes
AECB	Association for Environment Conscious Building
CCC	UK Climate Change Committee
CPD	Continued Professional Development
DMEV	Decentralised Mechanical Extract Ventilation
DHW	Domestic Hot Water
ECO	Energy Company Obligation
EER	Energy Efficiency Rating
EESHS	Energy Efficiency Standard for Social Housing
EPCs	Energy Performance Certificates
GDPR	General Data Protection Regulations
HES	Home Energy Scotland
HiB	Heat in Buildings Strategy
HTC	Heat Transfer Coefficient
LAEP	Local Area Energy Planning
LETI	Low Energy Transformation Initiative
LHEES	Local Heat and Energy Efficiency Strategies
MVHR	Mechanical Ventilation with Heat Recovery
PHPP	Passivhaus Planning Package
RdSAP	Reduced Data Standard Assessment Procedure
RIBA	Royal Institute of British Architects
RSL	Registered Social Landlord
SAP	Standard Assessment Procedure
Solar PV	Solar photovoltaics
ZDEH	Zero Direct Emissions Heating System



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