

# Which?

## Reforming EPCs to support households in the energy transition

This publication reflects the view of Which?.

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## Executive summary

Energy Performance Certificates (EPCs) provide consumers and policy makers with information about the energy efficiency of properties and advice on how they can be made more efficient.

With millions of households across the UK [concerned about how to keep their homes warm in winter and worried about high energy bills](#), an EPC should be a valuable source of information. And as the UK gets closer to the legal requirement to reach Net Zero in 2050, EPCs should be an important tool in helping households to understand the changes that will be required to the way we heat our homes.

With home heating accounting for 17% of UK carbon emissions, there is an urgent need for households to move from fossil fuel heating to low carbon heating. The UK and Scottish governments have targets for banning the installation of new fossil fuel heating systems, but awareness of these targets and the implications for households is very low. EPCs could help to fill this gap and point consumers towards the information they need.

Yet a recent [government survey](#) showed that only 36% of the UK population know or have a sense of what their EPC rating is, and only 29% of those that were aware of their EPC said they had seen the section with advice on how to improve their EPC rating.

This report takes a consumer view of EPCs – a perspective that is often neglected in the debate about EPCs. Typically consumers will use an EPC when buying or renting a home, when looking for information about the changes they could make to improve the energy efficiency of their home, and to access grants and financial products related to their home. In addition EPCs have an indirect impact on consumers as they are an important tool for delivering and evaluating government policy on housing and energy.

For EPCs to be effective in supporting consumers, they will need to have relevant, accessible and accurate information and advice. EPCs were introduced in 2007, and although the government has been reforming EPCs since their inception, efforts have failed to keep pace with the change that is required.

There is now considerable evidence that too many EPCs do not provide an accurate assessment of the energy efficiency of a home, the metrics that are used are confusing for consumers, and there is a need to provide new information that would support consumers in the decisions they need to make. The presentation of EPCs also needs to be improved to make them more accessible and useful to consumers.

In order to make EPCs work better for consumers we are calling on the UK and Scottish governments to take action in the following three areas:

### Better information and advice

- **EPCs should have more than one headline or primary metric** in order to support consumers' understanding of energy use in the property and the choices they can make. The choice of metrics should be tested with consumers, but could include the property's energy use, its cost, the heating system and the environmental impact.
- EPCs should include **more information to support consumers in the transition from fossil fuel heating to new low carbon heating systems** including:
  - the environmental impact of their current heating system and when it is likely to need updating,
  - the ability of the building and heating system to benefit from flexible tariffs,
  - the ability of the building to generate energy through solar thermal or PV panels,
  - information about potential heat networks, drawn from the Local Energy Action Plans that all Local Authorities are now required to develop.
- The **advice in an EPC should be relevant to the type of property** and provide an accessible gateway to sources of further information and advice.
- The **EPC should link to a Building Passport or Log Book** that contains more detailed information about the building and plans.

### Improved accessibility

- More **accessible presentations of EPC data** should be developed for different points in the property purchase and rental process, and action taken to ensure the information is made available to consumers when purchasing or renting a new home.
- **The development of apps and online services** which provide a more accessible presentation of the information in an EPC should be supported and encouraged.
- **These apps and online services should include interactive elements** that enable consumers to input their own information to get more detailed estimates and advice, apply real time prices to get a better sense of the cost of heating a property and making improvements, investigate the impact that different measures will have, and access further information and advice through links to reliable home energy assessors, financial support and databases of certified installers.
- **Services that are already being developed by third parties** can be supported by enabling these services to access more of the information that is collected through an EPC assessment and updating data in real time so that the services can be used from the day the EPC is lodged.
- **Non-digital formats should be maintained and improved** for those consumers that want or need one.

### Improved accuracy and reliability

- **Promote high standards amongst assessors** by reviewing the training requirements for Domestic Energy Assessors (DEAs), improving the auditing of EPCs and making it easier for consumers to review assessors and access a complaint process.
- The new software model, called Home Energy Model that will be used to generate EPC ratings should include location data and be regularly updated with data about new heating technologies and models.

- **EPCs should be kept up to date** by requiring that every property that is sold or let has an EPC that is less than five years old and introducing a simplified process for consumers to update their EPC when they have had insulation or heating work done by a certified installer.
- **The transition to using actual performance data** should be supported by requiring a staged increase in the use of sensors in government and ECO funded programmes and when new heating systems are installed.

# Introduction

Energy Performance Certificates were introduced in 2007 and were initially intended to give policy makers and homeowners information about the energy running costs of homes. Since their introduction, the purposes for which EPCs are used has grown. In 2020 the UK government's [Action Plan](#) described the purpose of EPCs as:

- provide a trusted, accurate and reliable measure of a building's energy performance,
- engage consumers and support action to reduce energy use in buildings,
- enable consumers and third parties to access the data they need to make decisions.

This is reflected in the different processes for which EPCs are now used. These include:

- Informing new homeowners and tenants about the comparative energy efficiency of homes for sale or rental.
- Providing information and advice about the changes homeowners, landlords and tenants can make to improve the energy efficiency of the property.
- Verifying that rented properties meet the Minimum Energy Efficiency Standard of EPC E.
- Demonstrating eligibility for government energy efficiency grants, the Boiler Upgrade scheme, the ECO funding schemes, and financial products such as green mortgages and loans.
- Underpinning government policy and targets in relation to energy efficiency, low carbon heating and fuel poverty, as well as reporting targets for financial providers.

EPCs provide estimated performance ratings for properties based on measurements and observations made by a Domestic Energy Assessor (DEA), and advice on possible improvements to insulation or windows and changes to the heating system or lighting.

There are several steps in the EPC process:<sup>1</sup>

- The property owner identifies an EPC provider and books an assessment. Assessments vary in price and are generally available from £35 to £100.
- A DEA makes an assessment including measurements of the floor area and observations about the construction and insulation of the home, the heating system and the lighting.
- These measurements and observations are entered into a software package (called RdSAP) that generates a rating for the cost of heating the home and the carbon emissions from the home.
- The EPC is registered, it is lodged on the register where it is publicly available (unless the property owner requests otherwise) and a link is sent to the property owner.<sup>2</sup>

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1 This is the process for an existing building. EPCs for new buildings are based on the building plan so there is no need for measurements to be taken or assumptions made about construction materials and insulation.

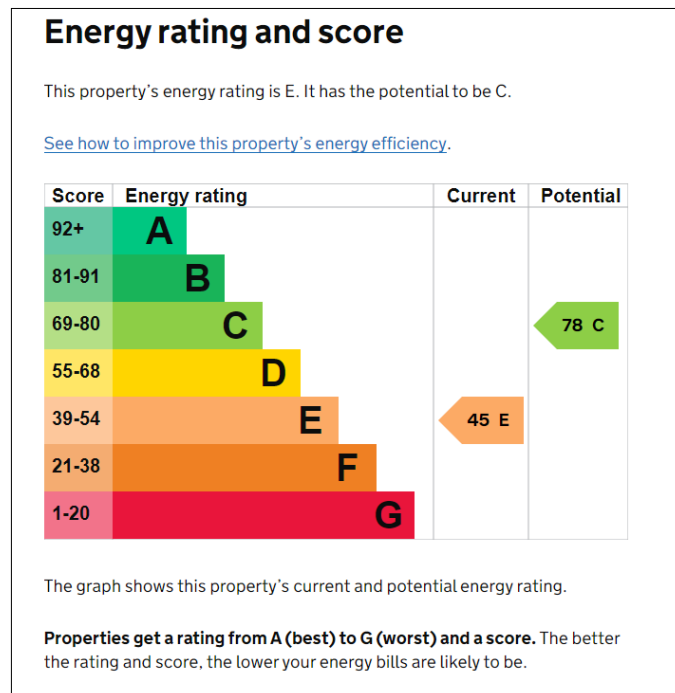
2 Joint letter to Secretary of State for Levelling Up, Housing and Communities, *De-risking Government energy security, Net Zero and fuel poverty initiatives through reforming Energy Performance Certificates*, EEIG, MCS Foundation, UKGBC, Building Performance Network, Good Homes Alliance, Electrify Heat.

### What information do EPCs currently include?

In England and Wales an EPC gives an estimation of the annual energy costs for the property and provides an energy rating based on the relative cost of heating the property (£/m<sup>2</sup>/yr) with a coloured bar chart. The rating is measured on a scale that is divided into 100 units. The scale is divided between five ratings marked A to G with a colour range from deep green for the highest score to bright red for the lowest score. The chart gives a rating for current performance and potential performance. There is also a section called ‘Impact on the Environment’ that describes the rating and carbon emissions.

In Scotland the EPC gives an estimation of the energy costs for the property for three years and provides consumers with coloured bar charts for the energy rating (£/m<sup>2</sup>/yr) and the Environmental Impact Rating which is based on the carbon emissions from energy use.

Currently the key metrics that are used in an EPC show the current performance of the property as well as an indication of the performance that could be achieved with the proposed changes.



**The energy rating currently used in an EPC in England and Wales showing current and potential performance.**



Feature	Description	Rating
Wall	Solid brick, as built, no insulation (assumed)	Very poor
Roof	Pitched, no insulation (assumed)	Very poor
Roof	Flat, no insulation (assumed)	Very poor
Window	Single glazed	Very poor
Main heating	Boiler and radiator, mains gas	Good
Main heating control	Programmer, room thermostat and TRVs	Good
Hot water	From main system	Average
Lighting	Low energy lighting in 67% of fixed outlets	Good
Floor	Suspended, no insulation (assumed)	n/a
Floor	Solid, no insulation (assumed)	n/a
Secondary heating	None	n/a

**The features in a property as they currently appear in an EPC.**

The ratings are based on measurements made at the property (e.g. floor space) and observations and assumptions about the fabric of the building (including insulation levels), its heating system and lighting.

It is important to note that an EPC doesn't reflect *the actual performance* of the property as it is based on assumptions, and performance will vary depending on the actual construction of the property, how well the heating and any insulation measures have been installed and other factors such as the location of the property.

An EPC is also based on delivery of a defined level of comfort and service provision, with the number of occupants based on the size of the property. It doesn't account for differences in the number of occupants or differences between households in their use of heating and hot water. It also doesn't account for the energy used by appliances. Together these can have a significant impact on the amount of energy used.

The EPC also includes advice on the changes that the property owner can make to improve the EPC rating.

**Potential for reform**

EPC reform is a devolved issue with the Scottish government able to define some elements of the EPCs that are used in Scotland. In the UK government, EPC reform is the responsibility of the Department for Levelling Up, Housing and Communities (DLUHC), however the Department for Energy Security and Net Zero (DESNZ) also takes a close interest as EPCs are a very relevant tool in supporting consumers in the transition to net zero and measuring the progress of government policy on net zero and energy security.

The UK government launched an [EPC Action Plan](#) in Sept 2020 based on a consultation in 2018. It recognised that reforms to make EPCs “trusted, accurate and reliable” were needed. The government’s 2021 [Progress Report](#) said that it had completed 11 of the 35 actions and

was making progress on the others. Some legislative change will be required. However a group including UK Green Building Council, the Energy Efficiency Infrastructure Group and E3G have said there is no “concrete plan or timeline to achieve [the plan]”.<sup>3</sup>

Three consultations have either been launched, or are expected, that relate to different aspects of EPCs.

- **Pay for performance (ECO).** This DESNZ consultation is expected to propose more effective approaches for measuring improvements in energy efficiency delivered under the Energy Company Obligation scheme, including opportunities to boost the use of new technology that can measure the actual energy performance of buildings. As the technology matures this could become more widely used in EPC assessments.
- **Future Home Standard.** This DLUCH consultation on the Future Home Standard makes proposals for changes to the model used to generate an EPC for a new home which is called the Standard Assessment Procedure (SAP). Existing buildings use a model based on a ‘reduced’ version of the SAP and is therefore called RdSAP.
- **Design of EPCs.** This consultation is expected to cover many of the issues most relevant to consumers including the information that is included in an EPC and how it should be presented.

There is also [a consultation on EPC reform in Scotland](#) that closed in October 2023.

The consultation includes proposals on the purpose and validity period of EPCs, the EPC format, and quality assurance procedures.

The EU is also in the process of reforming EPCs as part of the review of the Energy Performance of Buildings Directive; a process that has raised a number of proposals that the UK and Scottish governments may find useful.

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3 Joint letter to Secretary of State (DLUCH). See footnote 2.

## Why EPCs are a consumer issue

Since their introduction, EPCs have grown in importance for consumers as a result of their increased use in property purchases, lettings, finance and policy making. The dramatic increase in energy prices since 2021 has also led consumers to take more notice of EPCs when buying or renting a new home or when considering changes they could make their own home.

There is [evidence](#) that many home buyers are already thinking about the energy efficiency of their home. On average [the energy bill for a home that has an EPC of D is likely to be £300 more than for a household with an EPC of C](#). EPC ratings and advice can also impact on eligibility for a grant or green finance. Until recently, if a homebuyer in England or Wales is thinking of applying for the Boiler Upgrade Scheme to install a heat pump they would have needed their home not to have had any outstanding recommendations for loft or cavity wall insulation, however the government has announced that this requirement will not apply in future. Equally, if the property is not well insulated, and the homeowner meets income related requirements then they will need an EPC to demonstrate that their home is not yet meeting good standards of energy efficiency.

### Why EPCs matter to consumers:

- **Government policy.** EPCs are used to ensure interventions are based on accurate information and are well targeted.
- **Home improvements.** EPCs are used by homeowners and landlords to inform decisions on energy efficiency and heating improvements
- **Access to finance.** EPCs are used to demonstrate eligibility for grants and other financial products.
- **Property purchases and rentals.** EPCs are used by home buyers and tenants can make informed choices when choosing a new property

### The use of EPCs to deliver and monitor policy

Currently there are a number of government plans and targets that require the use of EPCs. In the owner occupied sector, the UK government's Heat in Buildings strategy set an ambition for all homes in the UK to be EPC C by 2035 where practical, cost effective and affordable. This is not currently a requirement in the UK, but the Scottish government is consulting on a new Heat In Buildings Standard that would place a requirement on households in Scotland to reach EPC C (or equivalent) by 2033. [The target for fuel poor households is 2030 in the UK.](#)

The UK government recently dropped proposals for properties in the Private Rental Sector to meet EPC C by 2028, however the Minimum Energy Efficiency Standard of EPC E still applies.

The UK government is committed to ban the installation of new gas or oil boilers from 2035, with some flexibility for properties where this is particularly difficult. The Scottish government is also proposing an absolute ban on fossil fuel heating by 2045. These bans are relevant to EPC ratings as a household's choice of low carbon heating system, and the

associated running costs, could be influenced by ratings and advice in the EPC. As we get closer to 2050, regulatory requirements on energy efficiency and heating may become more common as governments' strive to reach their net zero commitments.

### **Consumer awareness of EPCs**

Despite the growing importance of EPCs, evidence about consumers' awareness varies. The date when research was conducted may be critical in understanding the differences in consumers' responses as the energy crisis is likely to have increased consumer interest in issues related to energy efficiency.

The government's [Public Attitudes Tracker 2023](#) showed that only 36% of the UK population know or have a sense of what their EPC rating is, and only 29% of those that were aware of their EPC said they had seen the section with advice on how to improve their EPC rating. Other research has found that two-thirds of homeowners are unaware of what the EPC rating of their home is, and a further 57% unsure what EPC means.

[Research by Consumers Scotland](#) illustrates that low awareness and engagement with EPCs is part of a wider issue. The Consumers Scotland research shows that engagement with EPCs is taking place in a context in which consumers have relatively low awareness of energy efficiency issues and, in most cases, see it as separate from the cost of heating their home. However respondents also showed scepticism about the accuracy and value of EPCs, which suggests progress could be made by addressing issues with EPCs.

### **Interest in EPCs and energy efficiency amongst homebuyers and renters**

Homeowners and landlords are required to provide an EPC when selling their home or renting out a property, and there is some evidence that awareness of EPCs increases amongst consumers that are thinking of purchasing or renting a property. This is important as EPCs have the potential to influence buying and renting decisions, creating value for property owners that have invested in energy efficiency measures. Consumers are also more likely to make changes to a property soon after moving into a new property so this is also a convenient time to make improvements to the insulation or heating of their new home.

[A survey of prospective homebuyers](#) looking to purchase a property in the next 10 years found that amongst this group two-in-five (39%) stated that a property's Energy Performance Certificate (EPC) rating was a 'very important' factor to consider. This was marginally lower than the 41% recorded a year earlier. Cost remained the most important factor (68%), followed by property location (63%) and internet speed (51%).

[A survey of RICS members](#) in 2022 suggested that there were signs of increased interest in energy efficiency with around 40% of survey respondents seeing greater interest from buyers in homes that are more energy efficient, although this was outweighed by 60% who said they do not see this trend. Sellers may also be paying more attention to the energy efficiency of their property with 41% of respondents noting that sellers were attempting to attach a price premium on homes with a high energy efficiency rating.

# Relevant and useful information and advice

This chapter looks at the information and advice that consumers need in order to understand energy use in their home.

- What information do consumers need to have about a property's energy use?
- Information to support consumers make the transition to low carbon heating
- Improvements to measuring environmental impact
- Relevant and actionable advice.

EPCs have an important role in providing consumers with information about a property's energy use, and advice about the measures that can be taken to make it more efficient and reduce environmental impact. However there is relatively little publicly available research as to what consumers understand and need from an EPC, though DLUCH does test any changes to the content and design of the EPC with a consumer panel.

In addition to supporting consumers, EPCs also need to include the information that the government, local authorities and financial institutions need in order to monitor the delivery of policies. However, unless consumers need this data, or find this data useful, it should be included in the body of the document in order not to overwhelm consumers with too much information.

There is an understandable temptation to include a lot more information in EPCs, however it is important that they continue to be accessible and affordable. As noted above EPCs are primarily an entry point, and more detailed home energy assessments are available for those households that want or need them.

## What information do consumers need?

In order to understand the information that EPCs should include it is important to consider the different needs of consumers including:

- information consumers want to have about properties that are for sale or for rent,
- information consumers need if they are beginning to think about the changes that they might want to make to the insulation or the heating system of the property,
- information consumers need in order to apply for grants or to understand the position of their property in relation to upcoming requirements.

In addition, EPCs should support consumers in navigating some of the significant changes that will be required as a result of the transition to net zero, including the ban on the installation of new fossil fuel heating and more flexible use of energy.

## Total energy cost:

The total cost of energy to provide heating, lighting and hot water in a property is presented as a figure and is based on 'average' need. 'Total cost' takes account of the energy efficiency, the type of energy used and the size of a property, but doesn't take account of appliances.

This information can be used to compare energy costs in different properties, however actual costs will vary based on the number of occupants and their use of energy.

**Relative energy cost:**

The relative cost of heating a property is the current headline metric in EPCs and is based on the cost of energy required to heat the home to a defined level of comfort measured per metre squared. The relative energy metric takes account of the energy efficiency of the property and the type of fuel used, but it does not take account of the size of the property. This metric is currently used to assess energy efficiency when measuring fuel poverty.

**Total energy use:**

The total amount of energy used in a property to provide heating, hot water and lighting based on ‘average’ use. This metric excludes the impact of fuel prices. This may be a more useful way to compare properties if energy prices are likely to change or if the householder is planning to move from gas to electricity.

**Relative energy use:**

The relative amount of energy used in a property to provide heating, hot water and lighting per metre squared. This measure doesn’t include energy prices or the size of the property.

**Fabric efficiency:**

The relative amount of energy used to heat a property, excluding the efficiency of the heating system. This is the clearest indicator of the ability of the property to retain heat or how well insulated the property is.

**Carbon emissions:**

This metric is based on the estimated carbon emissions from heating, lighting and providing hot water in the property over a set period of time. It uses the total energy use and the energy type to estimate the carbon emissions from the property. Improving insulation and energy efficiency and switching to low carbon heating will reduce emissions.

**Additional information to support consumers in the transition to low carbon heat**

Over the next two decades households will face some new and complex decisions about how they heat their homes. Nearly 90% of households in the UK currently use fossil fuel heating systems and under government plans the vast majority of these households will need to start switching to low carbon heating from 2035 in England and Wales and 2028 in Scotland. In many cases this will also require changes to radiators and water storage, and improvements to the insulation of the home. In addition, the transition to greater use of renewable energy sources will usher in new demand response tariffs that will incentivise householders to use energy at times when there is less demand, often assisted by smart controls that work out the most efficient way to use energy either in heating, appliances and if the household has one, an electric charger. Given these major changes it is increasingly likely that consumers will want information to support these decisions.

**Information about the heating system:**

The government has a target to ban *the installation* of fossil fuel boilers after 2035. In the future, EPCs should include more information about the heating system in most homes to support consumers' transition to low carbon heating. This could be displayed as a rating or as a description. It should be presented alongside information about government targets to phase out fossil fuel systems and how this will affect availability.

The information should include when the current heating system was installed and the expected lifespan of that type of heating system. This could be displayed alongside colour coding (red, amber, green) to quickly indicate how soon the system is likely to need updating so households can plan ahead and avoid distress purchases.

This will support householders and landlords to plan ahead for the type of heating system they want in the future. This is important as switching to a low carbon heating system can take longer due to the need to research the different options that may be appropriate to the property and any other changes that may be needed to the insulation, water storage and radiators to ensure the new system works efficiently.

**Smart building / flexibility rating:**

The ability of a household to be flexible in their use of energy will become increasingly important as the energy system transitions to renewables. Greater flexibility will also deliver savings for consumers.

EPCs should give property owners information about the ability of the property to respond to flexible energy demand tariffs. This will include different elements including a smart metre, the insulation of the property, the heating system and whether it has a hot water cylinder, smart controls and if they have a home charger for an EV. [This could be presented as a metric](#) and / or as a section in the EPC.

The transition to net zero will require consumers to be much more flexible in their demand for energy with customers reducing usage during periods of peak demand in order to reduce pressure on the grid. The ability of households to manage demand in this way will help them save money and reduce the need for additional investment in energy infrastructure.

**Information from Local Energy Action Plans (LEAPs):**

For some households the most effective way to make the switch to low carbon heating will be to join a heat network that links several properties to a shared low carbon heating system. Households will not be required to join a heat network and they will only be available in some areas, but it will be an important option to consider where they are available. Information about potential heat network zones will be included in Local Energy Actions Plans which all local authorities are now required to develop and this information should be included in the EPC.

**Onsite generation:**

Onsite generation can reduce energy bills and at a national level it can also improve energy security. The usefulness of onsite generation is greatly increased with the use of a battery.

Depending on the property type and roofing, many properties have the potential to generate their own energy using solar PVs or solar thermal. An EPC should include information about

any onsite generation that is already installed, but could also include information about the property's potential based on location, roof area and orientation.

### **Building renovation passports**

Finally in the future EPCs could be linked to new [Building Renovation Passports](#) (or logbooks) that hold information about the property, any changes that have been made, and plans for future improvements. BRPs compile all the technical, financial and administrative information about a building in one place to provide a clear renovation roadmap to transform the property into a zero emission building by 2050. The EPC should be consistent with the BRP and all the data from the EPC assessment (including the raw data) should feed into the BRP avoiding duplication and additional cost.

### **Better information on environmental impact**

A well publicised complaint about the current EPC model is that EPCs are more likely to recommend the installation of a combi gas boiler rather than low carbon heating and EPCs can give a lower rating to households that replace gas boilers with low carbon heating systems. This contradicts government policies on net zero and effectively penalises householders that are trying to choose the more environmentally sustainable option by switching to a low carbon heating system.

[It has been estimated](#) that if EPCs continue to recommend installation of new gas boilers at their current rate until 2035 it could lock in excess carbon emissions that cost the UK economy between £19 billion and £57 billion.

The tendency of EPCs to recommend gas boilers is partly a result of the cost based energy efficiency metric that is used and partly a result of the way that gas and electricity prices are set in the UK. Currently the unit price of electricity is significantly higher than the unit price of gas. This is for a number of reasons, including the price of renewables being set by the marginal price of energy and outdated decisions on how social and environmental levies are applied. As a result, even though air source heat pumps (which are likely to be the main form of low carbon heating used in the UK) are often up to three times more efficient than gas boilers this is still not enough to make them cheaper to run in every case. This means that prices are sending consumers the opposite signal than they were intended to.

Reforming gas and electricity prices cannot be addressed through EPC reform, however there are changes that could be made to EPCs that could mitigate the impact of the skewed pricing, whilst still ensuring consumers receive information about the cost of different heating options. These include incorporating an environmental metric in the headline metrics that a consumer sees, using more up to date energy prices and accounting for the improved energy efficiency of modern low carbon heating systems (see below).

Emissions are also based on the current carbon intensity of energy production. As the carbon intensity of electricity is predicted to continue falling with the increased use of renewables, the emissions recorded for the use of electricity at the point the EPC is registered will be higher than the figure that will apply over the duration for which an EPC is valid. The calculation of emissions should take this into account.



## Which headline metrics will be most useful to consumers?

Headline or primary metrics are important as they are what the consumer will often see first and they are usually used in official processes to determine whether a property meets eligibility requirements for financial support, or meets regulatory requirements.

Currently there is a single headline metric that is based on the cost of heating a property (£/m<sup>2</sup>/yr). This was primarily chosen to inform policy on fuel policy, but energy costs are also an important consideration for many consumers. This metric combines several aspects including the efficiency of the heating system, the cost of the fuel used, and the ability of the building to retain heat. As such these individual aspects are hidden from the consumer when the single metric is used. This metric can also lead to perverse incentives that are not aligned with governments' climate commitments. For example a home with an EPC A rating is not necessarily a net zero home, and as noted above, a property owner that installs a heat pump can sometimes see their EPC rating fall as a result.

In order to address these gaps, there is a growing consensus that EPCs should have three or more headline metrics, rather than one as is currently the case.<sup>4</sup> Proposals include headline metrics for energy cost, energy use, fabric efficiency, the heating system and the environmental impact.

Another option is for an EPC to have an energy out / energy loss metric, and an energy in / energy use metric. The energy out metric would include the building fabric and insulation including ratings for the walls, floors, windows and roof. The energy in metric would include the heating and hot water system as well as any micro generation. A third metric could cover energy cost or environmental impact.

It is important to test different options with consumers in order to understand their preferences for the number of headline metrics (particularly in situations where there is a lot of other information available) and the extent to which consumers understand the metrics that are proposed.

If more metrics are used, colour coding and an appropriate symbol may help to provide an easily understood picture of how well the property performs in each area.

## Relevant and actionable advice

EPCs should include advice about the changes that a property owner can make to improve the energy efficiency of the home. A balance needs to be found between providing consumers with the information they need, but not overwhelming them, or taking the place of other more detailed sources of information such as a home energy assessment. EPCs should be seen as the first step in a journey and provide an accessible gateway for consumers to find more information and advice.

Where relevant, information and advice in EPCs should be tailored to the type of building. For example the advice that is included in an EPC for a flat in a multi unit property should

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<sup>4</sup> [Reform of domestic EPC rating metrics to support delivery of Net Zero](#), Climate Change Committee, Feb 2023. [Decarbonising UK real estate Recommendations for policy reform](#) RICS November 2022. [Energy Performance Certificate \(EPC\) reform: consultation](#), Scottish Government, July 2023. [Making Energy Performance Certificates Work for Net Zero](#), Energy Systems Catapult, Dec 2023.

include information and links that are relevant to living in a shared property where there can be additional challenges in getting work done. There are also differences in the advice that may be useful for homeowners, landlords and tenants, however as the tenancy of properties can change relatively frequently this may be better addressed in additional online services that enable consumers to interact with the information in an EPC and add their own data, rather than in the EPC itself.

Home renovation can be expensive so EPCs should include a range of options including low cost options where relevant. The information should include the likely cost and the potential cost savings for the consumer, but also note the benefits in terms of health, warmth and comfort. The EPC should also signal the environmental impact of changes as this is important to many consumers.

The EPC should include links to trusted independent organisations that can support consumers through the next steps in the journey of improving the energy efficiency of their home. This could include government services, local advice centres and how to contact a certified home energy assessor that can provide a more detailed home assessment; grant eligibility tools and databases for certified installers.

## More accessible designs and language

This chapter looks at how more accessible language and design could help consumers to engage with the information in an EPC.

- Making it easier to access EPC information when buying or renting a home
- More interactive formats for EPCs

It is important that the information in EPCs is clear and accessible. In order to address the multiple challenges in improving home insulation and heating it is likely that in the future EPCs will need to include more information. This will make the use of accessible formats and language even more important so that consumers can easily navigate and access the information they need.

Previous [Which? research on energy bills](#) has illustrated the importance of accessible language and design in documents that are conveying technical data. In relation to EPCs, consumers are also much more likely to understand and engage with non-technical terms that they are more familiar with. For example consumers may understand terms such as home insulation or home heating better than relatively abstract terms such as home energy efficiency.

A balance also needs to be found between the use of ratings that summarise different aspects of energy use, and providing more specific information. There is often value in having an ‘at a glance’ rating that provides a measure of how well a property performs, but some consumers might find information about the level of insulation or the type of heating system, or advice about what can be done, easier to understand. This information is included in an EPC, but is in a table that appears below the ratings. Interestingly, the Scottish Government in their consultation on a Heat in Buildings bill has proposed a ‘straightforward list of measures’ that could be used in place of an EPC rating when communicating with households.

### At a glance information

For many consumers that are in the process of buying or renting a new home, an EPC will simply be a means to understand the energy use of one property compared to another, but even in these cases an EPC has the potential to be an entry point for understanding the changes they could make to the property.

There is evidence that a significant proportion of consumers looking to buy or rent a home are already interested in the EPC ratings of properties (see page 9 above). For these consumers, and for others who may be interested to see the information that is in an EPC, more could be done to engage them by considering points when information from an EPC is shared with consumers as part of the buying and renting process.

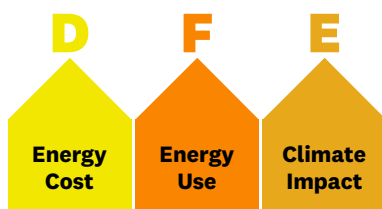
Currently, [government guidance](#) requires an EPC must be made available to the buyer or renter of a property, and estate agents are required to include the EPC rating of a property

in advertisements for properties that are for sale or rent. There is a fine of £200 if EPC information is not made available and Trading Standards are responsible for enforcement. The information in advertisements is often provided as text or using the graph that shows the current and potential EPC rating of the property. On property comparison websites, users can sometimes click through to an explanation of what an EPC is.

It should not be assumed that consumers will click through to the full EPC that is available on the EPC registry, therefore more attention should be paid to the information that is provided at these points, and how it is presented, in order to improve engagement.

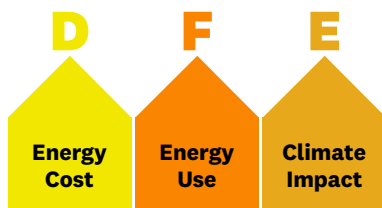
Given the complexity of the information that an EPC is trying to convey and the different ways in which consumers could interact with an EPC, such as in a property advert, in property details or on a property comparison site, the government could look at other examples where similarly complex information is shared with consumers in a concise and accessible design. Examples could include the traffic light nutrition labelling scheme that highlights levels of fat, sugar and salt on food packaging, or the Key Information Sheets that are used in financial services. Which? ratings that are available online provide a percentage score and a short list of pros and cons for each model, before getting into the more detailed scoring and description.

Where space is very limited, for example in a property advert, it may be possible to display three metrics in place of the single metric, but it is likely to require a simplified design that just uses a heading and a letter for each metric.



**Possible design for three metrics for use where space is limited (based on an example from Energy Systems Catapult).**

However, with many more property details available online, many more consumers are likely to access information through a property website. The advantage of property details being made available online is that it allows more space to include information from the EPC. This creates the possibility of also including a small number of recommended actions alongside the three metrics. This design could also be used in property details that are given to homebuyers and tenants when visiting a property. If these designs are used online it should also be possible for the consumer to click through to the full EPC which is held on the public registry.



**Recommended actions**

- Upgrade loft insulation
- Install cavity wall insulation
- Renew heating system in next 5 years

### **A more interactive format**

EPCs are available online and as a PDF. Changes have been made over the years to improve the way that the data is communicated, but more could be done to make the information and advice in the full EPC more accessible and relevant.

Given the variety of issues that households may be interested in, a more interactive format would improve the ability of households to get an overview, select the topic they are interested in, and access the information and advice related to that topic.

A more interactive format should also allow householders to input their own data or make adjustments to the data to get more specific information and advice. This could include increasing the number of people in the household and their preferences in terms of how they heat their home. An online service could also use more up to date prices to give more accurate guidance on the costs of adding insulation measures, micro generation or changing a heating system, as well as the impact these changes will have on energy bills. It could also allow a link to a household's smart metre so data about their actual energy use can be analysed.

Several third parties have already developed online energy efficiency advice tools using an API that gives them access to EPC data. Currently the API is only updated every three months and as a result the data can be out of date or unavailable. This means people that have just received an EPC and who are most likely to be interested in using an online service to understand their options are unlikely to be able to access it. A digital format would also support direct links to reputable websites that provide further information or connected services such as finance or certified installers.

Digitised EPCs could also hold more of the underlying data which can provide further information about a property and richer insights. Considerably more data is collected through an EPC assessment than appears in the EPC ratings. This additional data is collected on the apps that the assessors use, but it is not transferred to the EPC database and is not available through the API. Making this data available to apps and online services (on the basis of a consent agreement) could significantly improve the accuracy and usefulness of these services.

Part of the challenge will be facilitating consumer access to this data in a way that meets customer needs for accessibility and flexibility whilst ensuring robust data management. As EPCs collect more data and potentially become more interactive, it is important that consumers feel assured about the security and privacy of the data that is collected and any additional data that they enter.

Alongside new digital formats – non-digital formats should be improved and continue to be available for any consumer that needs one or would prefer one.

## Improving reliability and accuracy

This chapter examines the steps that can be taken to make EPCs more accurate and reliable including:

- Improvements to EPC assessments and the auditing of assessments
- Improvements to the assessment model
- Keeping EPCs up to date
- Moving from modelled performance to actual performance

A fundamental requirement of EPCs is that the ratings they provide are a fair reflection of the property's energy efficiency and carbon emissions, and the information they include is accurate. However, unfortunately there is substantial evidence that the metrics and information in many EPCs may be misleading and homeowners, tenants, landlords and policy makers could be making decisions based on inaccurate information.

Under the current EPC process accuracy is dependent on a number of factors including the measurements and observations that the EPC assessor makes, the software model that translates these measurements and observations into a rating, and how up-to-date the EPC is and whether it reflects recent changes that have been made to the property.

### Better assessments

There are a growing number of studies that suggest a significant number of EPCs are inaccurate:

- Octopus Energy has seen up to a 40% variance in the total energy requirement for heating and hot water from one assessor to another.
- Research has also found that at least 27% of all EPCs lodged between 2008 and 2016 have a discrepancy that suggests an error was made.<sup>5</sup>
- A recent Which? survey found that 1 in 5 respondents questioned the accuracy of the survey results.<sup>6</sup>
- A study that looked at the EPC data for properties where at least two EPCs exist showed that up to 62% of EPCs may have some sort of error (where a feature that was very unlikely to have changed eg end of terrace / semi detached or solid wall / cavity wall) was recorded differently.<sup>7</sup>
- Another study conducted a mystery shop of a small number of properties. Using four companies in each property they found inconsistencies between the assessments with the most common being roof efficiency and total floor area.<sup>8</sup>

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5 An analysis of errors in the Energy Performance certificate database, Leeds Beckett University 2019.

6 Insulate against soaring bills, Which? Magazine 2022 – based on a survey of 1,253 Which? members

7 Hardy, A., and Glew, D. “An analysis of errors in the Energy Performance certificate database.” Energy policy 129 (2019): 1168–1178. Cited in [Examining the opportunities for improving residential buildings in London using EPCs and a fully disaggregated stock model](#), UCL 2020.

8 Jenkins, D., et al. “Investigating the consistency and quality of EPC ratings and assessments.” Energy 138 (2017): 480–489. Cited in [Examining the opportunities for improving residential buildings in London using EPCs and a fully disaggregated stock model](#), UCL 2020.

- There is evidence that where a property has two EPCs, the highest ranking properties (A and B) are ranked lower the second time, suggesting assessors don't recognise measures taken to achieve high levels of energy efficiency and thereby devaluing the investment that households have made.<sup>9</sup> A study of EPCs for 1.6 million dwellings that had at least two lodged EPCs, suggests the margin of error decreases for more energy efficient homes, but as many as 24% of homes that should be rated D are rated C.<sup>10</sup>

An EPC assessment is carried out by an accredited Domestic Energy Assessor (DEA) who measures the floor area of the property and records observations about the construction of the building, the heating system and the level of insulation.

An inherent challenge in conducting an EPC assessment is that it can be difficult to verify the information that is required. In particular, without a much more intrusive survey it can be difficult to see if cavity wall, under floor and, in some cases, loft insulation has been installed and to assess the quality of the insulation. If property owners have receipts, certificates or photographs these can be taken into account, but uncertainty can lead to inaccurate EPC ratings where assessors are either unable to include insulation that has been installed or include insulation that is very poorly installed.

*The EPC surveyor had assumed that the solid walls of our house were not insulated but the quick removal of the faceplate of an electrical socket reveals a cavity with insulation material, confirmed later by the results of an infrared camera. A previous EPC had also shown the walls as insulated.*

**Which? member, Oxfordshire**

Although some discrepancies will be a result of the difficulty of identifying whether or not a property has some forms of insulation installed, the prevalence of basic mistakes relating to floor area, the type of property or type of construction suggest that there is also an issue with the quality of the assessments.

EPC assessments require assessors to have suitable training. Currently the training required to become an EPC assessor can be delivered through a five day online programme, they also have to take part in ongoing training. A review of training of assessors for EPCs in 2008, concluded that significant improvements to the technical training of assessors, as occurs in countries like Denmark and Germany, may improve the reliability of EPC's.<sup>11</sup>

In some cases, the person conducting the EPC may also have a conflict of interest if they are connected to a company trying to sell a product or service, although these should be declared to the accreditation scheme.

Market dynamics can also lead to lower quality EPCs. For example if a homeowner is selling a home and is not convinced that the EPC will make much difference to the price of the property there is little incentive for them to get a good quality EPC. As a lot of EPCs are purchased for this purpose, it has led to a section of the market where EPCs are sold at very low cost and delivered very quickly. A quick Google search reveals companies that

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9 [Consultation response on Energy Performance Certificates](#), CREDS, 2018

10 Crawley, J., et al. "Quantifying the Measurement Error on England and Wales EPC Ratings." *Energies* 12.18 (2019): 3523. [From UCL paper](#)

11 Cited in *Energy Performance Certificates: enabling the home energy transition*, BRE, Jan 2024.

are advertising EPCs for as little as £35.<sup>12</sup> In order to carry out a meaningful assessment the DEA needs to be able to spend sufficient time in the property, so where assessors are under pressure to complete a large number of assessments or where the price paid for an assessment is very low this is likely to reduce the quality of the EPC. This makes it particularly important that the auditing process is robust and standards are maintained.

In order to file an EPC, all Domestic Energy Assessors must register with a government approved, accredited scheme, that is responsible for providing ongoing training and auditing the assessors work.<sup>13</sup>

The accreditation schemes are overseen by the Energy Assessor Scheme Operating Board (EASOB) which is made up of representatives from the accreditation boards and has a rotating chair. Whilst it is in the schemes' interests to uphold standards in their industry, the board would have to challenge one of their own members if they felt their standards weren't robust enough. DLUHC is included in all meetings and correspondence and can veto changes.

### **Auditing EPCs**

Under the government's Scheme Operating Requirements and Framework for Approved Organisations all accreditation schemes are required to audit their members to ensure that industry quality standards are being met and members identify any knowledge gaps. All assessors are audited, with the scheme required to audit 2% of all lodgements per year. Additional audits are conducted on new entrants and in response to complaints. Each assessor should have a minimum of 0.5% of their lodgements audited on a random basis each year.<sup>14</sup> The [2016 review](#) increased this to 3% but included random, smart and follow on audits. This is defined in the DLUHC [Scheme Operating Requirements](#) and Scottish Government's Operational Framework. Rules differ slightly across England and Wales, Scotland and N. Ireland. Smart or 'risk based' auditing was introduced in 2016, but the criteria for the risk based reviews are regularly reviewed. The audit is desk based using evidence (photos, measurements and notes) sent in by the assessor.<sup>15</sup> If an assessor fails an audit, there should be additional follow on random audits. If an assessor fails the follow on audit they will be suspended and required to undertake additional training before being reinstated.

In response to the 2016 review the government said it would introduce clearer rules for striking off members that didn't meet the schemes standards, however Level 1 SORs v1.2 says "Accreditation Schemes shall take disciplinary action when directed or requested to by DLUHC". For example, the Accreditation Scheme will 'strike off' an Energy Assessor for a serious breach of the code of conduct." The 2016 consultation response also included a commitment to assessors having a unique ID number to ensure they could be monitored across schemes and not switch from scheme to scheme.

Complaints about negligence or breach of obligations have to be referred to the scheme and if agreement can't be reached they are referred to 'an independent third party appeals panel' with no commercial or other link to the accreditation scheme, at no additional cost

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12 A Google search on 29 February 2024 revealed three companies advertising EPCs from £35.

13 Elmshurst Energy, Quidos, ECMK, Sterling Accreditation Ltd, Stroma (merged with Elmshurst)

14 [Elmshurst energy Auditing FAQs](#)

15 [Review of energy assessor accreditation scheme operations](#), UK gov Dec 2016



to the consumer. If the assessor has committed fraud then it would be a criminal case. There are requirements for how quickly a scheme should respond to a complaint and inform the consumers about next steps. The scheme must disclose information about the complaints procedure ‘on request’ but there doesn’t appear to be any requirements for proactively informing property owners.

Unusually, consumers do not have an easy option for reviewing EPC assessors or accessing reviews from previous customers. Verified reviews could help consumers to choose an assessor that had received positive reviews and would also create an incentive for assessors to provide a good service including thorough assessments and taking time to explain the results to consumers so they understood the information that an EPC provides.

The government should begin to address the quality of EPC assessments through improved standards for the training of assessors, improved auditing and enforcement of standards, and oversight of the accreditation schemes.

In the future it should be possible to automatically input data from sources such as the Valuation Office Agency, and from databases that register measures installed through government or ECO funded schemes, boiler installations from GasSafe, double glazing installations from FENSA and Feed in Tariff data from OFGEM. This data is already collected through the UK Government [National Energy Efficiency Data Framework](#) (NEED) programme and could also be added automatically to EPCs. Prefilling data may deliver efficiencies and improve consistency, but checks would be needed to ensure that assessors do not accept this data without verifying it themselves.

### **Improvements to the assessment model**

EPC ratings can also be misleading because the model that all assessors must use to generate the ratings provides inaccurate results. The model is called the Standard Assessment Procedure (SAP) for new builds or Reduced SAP (RdSAP) for existing properties. The government is currently working on the [Home Energy Model](#) which will replace SAP.

As noted above the aim of an EPC is to generate a rating for the cost of heating a home based on a defined level of comfort therefore it is misleading to suggest that an EPC is wrong simply because a household is using more or less energy than the EPC suggested it would. It may be that the household uses more or less energy because of how much time the occupants are in the property or because they like to keep their home warmer or colder than average. However there are a number of studies that have compared the energy use predicted by EPCs with actual energy use and found significant differences.<sup>16 17</sup> These large discrepancies across large samples do raise questions about the assumptions used in the model.

There are [a number of changes that could address these discrepancies](#). For example, including a regional measure could take into account the impact of a building’s location on its ability to retain heat, assumptions around the level of occupancy in different properties could

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16 [The over-prediction of energy use by EPCs in Great Britain: A comparison of EPC-modelled and metered primary energy use intensity](#)

17 Study published in [Why misleading EPC ratings are a national scandal](#), Sunday Times. Further explanation of the methodology available [here](#)

also be adjusted, and including the energy used by household appliances could make EPCs more accurate.

Assessors should also be able to select options that accurately reflect the construction materials and heating system of the property. Until recently there was a single efficiency rating for all heat pumps, whereas assessors could enter the make and model of any gas boiler to get an efficiency reading specific to each boiler. The number of heat pumps that can be selected on the database has now increased but because a listing is dependent on the manufacturer making an application and submitting a fee, there can be gaps and delays. As innovation in heating increases it is important that EPCs keep up to date so that households receive credit for investing in more efficient systems.

*I found the whole EPC process frustrating and unhelpful. The tool used to assess the heating system has every gas boiler you can buy included, but only one type of electric water heater, an emersion. Mine is a German design and efficient, but I got zero benefit for this and was penalised. Same for the efficient electric heaters I have installed. The surveyor realised he was going to generate a low rating and even apologised to me and stated it was the limitation of the system (computer says no) and he was unable to change anything.*

**Which? member from Cornwall**

As EPC ratings are based on £/m<sup>2</sup>/yr the relative price of gas and electricity can also have a significant impact on the rating. As the energy crisis has demonstrated, the price of electricity and gas can change significantly both in absolute terms but also relative to each other. This can give householders a misleading impression as to the cost of heating a home and can also give a false impression as to the costs of different heating systems. Prices are currently updated on a regular basis but more frequent changes could undermine comparability between EPCs which is one of the core requirements of EPCs that are used for property sales or rentals.

A new [Home Energy Model](#) is being introduced that will take the place of SAP. Initially this will be used to verify compliance with the Future Homes Standard, but in future other functions will be added to support the production of EPCs.

### **More up to date information**

Another factor that can contribute to the lack of accuracy in EPC ratings is the age of an EPC. Currently EPCs are valid for 10 years regardless of any changes that have been made to the property. This is most likely to result in EPCs underestimating energy efficiency as, considering the housing stock as a whole, homes are more likely to have been improved, however it is possible that in individual cases energy efficiency may have got worse as a result of the property deteriorating or poor work that didn't meet building regulations. This could be addressed by reducing the validity of an EPC from ten to five years. The reduced validity would only apply if the EPC was required for a property sale, new rental agreement or a grant application, or if in the future, the government introduces other events, such as major building works, that would trigger the need for an EPC.

Additionally the government could create a simple, low cost process by which homeowners can update their EPC when they have made improvements to the energy efficiency or heating system of their home using a certified installer. This could potentially be done by submitting a certificate from an installer that belongs to a government endorsed certification scheme.

### **Moving from modelled performance to actual performance**

Large studies have found that there are significant discrepancies between the actual performance of a building and the level of performance predicted by the EPC. For example government funded studies of new build homes have identified an ‘energy performance gap’ of between 1.6x<sup>18</sup> – 4x<sup>19</sup> – meaning that observed energy demand in homes can be up to 4 times that predicted by an EPC.

As noted above, part of the problem with using modelled data to predict the energy efficiency of a property is that assessors are often unable to identify if insulation has been installed or assess the quality of work. For example, [one commercial study](#) conducted in twelve Manchester homes found that when poorly installed insulation was replaced with an improved product that was properly installed it achieved a 30% reduction in the heat loss from the home, however because an EPC only records if wall insulation is present there would be no change in the EPC.

The use of sensors introduces the possibility of using actual performance measurements rather than modelled data. Using sensor data, smart meter data and machine learning, real performance technologies are now able to isolate and provide a measure for different factors that influence the amount of energy used including outside temperature, the efficiency of the heating system, the fabric of the building and the households preferences and behaviours.

This means that they can be used to create a standardised measurement for fabric efficiency ‘under average occupancy and average weather’ as well as providing information on the actual performance of the home including the impact of more variable factors such as the size of the household and the impact of their lifestyles and preferences. An assessment would still be needed to provide measurements and an explanation of the readings however it would be based on a much more accurate reading of the property’s performance.

The UK government SMETERs programme (Smart Meter Enabled Thermal Efficiency Ratings) piloted several new technologies and aims to validate and accredit different technologies for this purpose. The new SAP11 model should also create the option to use actual performance measurements where it is available.

The use of sensors could also have other benefits. In the future sensors could be used to support performance guarantees for insulation and heating products. This will incentivise better quality installations as currently there is little incentive to install insulation well as it is largely hidden from view and difficult to assess.

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18 [Zero Carbon Hub report: Performance gap in new homes | Features | Building](#)

19 [Building for 2050 Low cost, low carbon homes \(publishing.service.gov.uk\)](#)

## Conclusions and recommendations

EPCs should provide consumers with the information they need to understand the energy efficiency and environmental impact of a property, and get tailored advice on the actions they can take to make it more comfortable, reduce bills and meet government requirements. A critical role for EPCs in the future is for them to support consumers with the sometimes complex decisions involved in switching to new low carbon heating and more flexible energy use.

In order for consumers to value an EPC it is important that they are as accurate and reliable as possible and that they contain information and advice that is useful, relevant and accessible.

The government has [proposed several significant changes to SAP](#) (to be replaced by the Home Energy Model) including:

- producing three metrics: final energy use, carbon emissions and space heating demand
- replacing short-term carbon factors with long-term ones (averages over 25 years)
- including unregulated energy use (energy use by appliances).
- including an assessment of overheating risk and
- becoming fully digitalised.

We support the government's proposals, but believe that further research should be conducted to understand consumer perspectives on which headline metrics are most appropriate. Taking into account the proposals the UK government has already made we call on the UK and Scottish governments to take action in the following three areas:

### 1. Include relevant information and advice for consumers

- EPCs should have more than one headline or primary metric in order to give consumers a better picture of a property's energy use. A combination of metrics should be considered including energy use, fabric energy efficiency, energy cost, the type and age of the heating system and the environmental impact. Consumer research should be conducted to understand householders' needs and their understanding of different metrics before a final decision is made on which headline metrics to use.
- EPCs should include information to support the transition to low carbon heating and more flexible energy use, including
  - The age and efficiency of the heating system and a RAG rating to indicate when it is likely to need updating so households can plan ahead and avoid distress purchases.
  - The property's ability to support flexible demand for energy, including the energy efficiency of the building, its ability to store energy and the availability of smart technologies.
  - The ability of the property to support energy generation through solar PVs or solar thermal, as well as information about the property's potential based on location, roof area and orientation.

- Local Energy Action Plans including whether the property is in an area that might be covered by a Heat Network.
- Building passports that contain more detailed information about the building and plans.
- The advice in an EPC should be relevant and accessible. It should include advice that is:
  - tailored to the type of property (house, flat etc).
  - low cost measures as well as more expensive measures.
  - interactive elements to enable a consumer to understand the impact that different measures will have on the energy efficiency of their home.
  - links to checker tools, installer information, further advice and a comprehensive building passport.

## 2. Improved accessibility

- More accessible presentations of EPC data should be developed for different points in the property purchase and rental process and action taken to ensure the information is shared with consumers.
- More interactive online services and apps should be supported that enable consumers to understand and engage with the information and advice in an EPC, including:
  - allowing users to focus on the aspects of the EPC they are most interested in,
  - inputting information about the number of occupants and their lifestyles to get more tailored data,
  - applying real time prices to get a better sense of the cost of heating a property and the cost of making improvements,
  - investigating the impact of different measures on the efficiency of their home
  - including links to relevant services including information providers, green finance, and certified home energy assessors and installers.
- In order to support these services:
  - Application Programme Interfaces (API) should enable third parties to access all the data held in the EPC database.
  - the data that is available through the API should be available in real time so that consumers can access their data through third party online services from the day their EPC is lodged.
- Non-digital formats should be maintained and improved for those consumers that want or need one.

## 3. Improve accuracy and reliability

Action is needed to ensure property assessments are thorough and accurately reflect the characteristics of the property including:

- reviewing the training requirements for DEAs to ensure that they have the skills needed to complete reliable assessments.
- reviewing the number of EPCs that are audited and the auditing process so that the accuracy of EPCs is improved.

- requiring schemes to inform consumers about the complaint process and give them opportunities to leave reviews that are publicly available. Input data should be readily available so that assessments can be quickly verified.

The Home Energy Model that will be used to generate EPC ratings in the future should:

- Include the ability to include location data as this can impact the ability of the property to retain heat
- Be regularly updated so that data relating to new heating and micro generation technologies can be applied.

EPCs should be updated more frequently:

- A new EPC should be required when a property is sold or let and the existing EPC is more than five years old.
- There should be a simplified process for consumers to update their EPC when they have had work done on their property.

Action to encourage the wider use of actual performance data

- The transition to using actual performance data should be supported by requiring a staged increase in the use of sensors in government and ECO funded programmes and when new heating systems are installed.

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