

NATIONAL RETROFIT HUB'S RESPONSE TO THE HOME ENERGY MODEL: ENERGY PERFORMANCE CERTIFICATES CONSULTATION

This document includes the National Retrofit Hub's response to the HEM:EPC consultation, which was produced based on our research and industry engagement over the last three years, and workshop feedback from our working group, cross-cutting theme members and other collaborators. We hope this document will be useful for others looking to engage with the consultation, understand its relevance, and make their own responses.

We have drafted responses to questions most relevant to the NRH's work and mission. We have not provided answers to questions 3 and 14-17, however these may be relevant to you and your organisation, so please do take a look at them. We encourage potential respondents to read the consultation and respond to as many or as few questions that are relevant to them and their work.

CONTEXT

The [Home Energy Model: Energy Performance Certificates consultation](#) opened 21 January 2026 and will close on 18th March. The consultation applies to England and Wales.

The Home Energy Model (HEM) is a general-purpose simulation of energy use in a dwelling. It is used to calculate energy performance. 'Wrappers' are used to apply HEM for specific assessment, eg: for Part L compliance or to produce Energy Performance Certificates (EPCs). The HEM:EPC wrapper will replace both SAP and rdSAP.

The consultation covers two topics:

- The proposed expansion of HEM to permit calculations based on on-site inspection of existing dwellings.
- How EPC metrics should be calculated and translated into new EPC bands.

This is important because:

- The potential to include more real-world data could lead to more accurate EPCs and better performance outcomes.
- The boundary between C and D ratings, in particular, impacts the standards homes in the private and social rented sector need to meet under the Minimum Energy Efficiency Standards and grant funding eligibility. Access to green finance can also be influenced by a home's EPC bands, and future policy, regulation and funding will likely make requirements based on EPC bands.

MHCLG and DESNZ are in the process of reforming EPCs. This will include a change to the metrics within EPCs. Existing metrics will be replaced by four new headline metrics: fabric,

heating system, smart readiness and cost, and secondary metrics on energy demand and carbon. Although the names of the metrics may change before the final EPC is released, their general scope has been confirmed. The government released a [partial response](#) to the 'Reforms to the Energy Performance of Buildings regime' consultation with further detail.

In 2025 consultations on increasing Minimum Energy Efficiency Standards (MEES) in the Private Rented Sector and introducing MEES in the Social Rented Sector were conducted. The Warm Homes Plan, published 21 January 2026, confirmed that the proposals will go ahead. Rented homes will need to meet band C of the fabric metric, then choose to comply with a band C under either the heating or smart readiness metric.

METHODOLOGY

The NRH has been engaging on EPCs and MEES since September 2024 and has produced a series of reports and consultation responses based on industry engagement and research, available within our [Knowledge Hub](#). We held a workshop with our working group, cross cutting theme and advisory panel members on 2 March to gather feedback on the HEM:EPC consultation. The session started with presentations from the DESNZ EPC reform and SMETERS teams. We then stepped through the consultation questions, gathering feedback during live discussions and using miro.

The responses below are based on our work and engagement within the industry to date, and specifically the insights gathered during this workshop.

OUR RESPONSE

Question 1: *Do you agree with the introduction of a modular approach to data input for existing builds, where assessors can enter complete data where available and rely on defaults for other elements?*

Agree

Allowing the introduction of more real-world information into the EPC calculation is a good step towards making EPCs more accurate, reliable and trusted. This objective will help occupants and building owners better understand homes, and more effectively target improvement interventions.

The default values within HEM should also be assessed, so that they more accurately reflect average characteristics of homes, particularly for pre-1919 buildings.

Question 2: *Please share your views on the following potential impacts of a modular approach.*

a. Quality of assessments and EPCs:

- *assessment accuracy*
- *trust, usability, or consistency in EPCs*
- *how inputs are communicated to consumers/householders*

In order for EPCs to be legible and useable for consumers it should be clear where information used is specific to their home or based on defaults. This could be provided on output / work sheets, and these should also be made available to other stakeholders where possible. The percentage of real vs assumption data could be also shown. This could also encourage the input of more in-situ data, as those looking to rent or buy a home may trust or value an EPC based on more in-situ data. The risk of data-overwhelm should be mitigated through the design and testing of EPC presentation.

Input data should be audited, validated, and generated using approved sources and methodologies, to ensure quality and accuracy. The risk that two different EPC assessors could generate very different EPCs for the same home should be mitigated, as this could erode trust in EPCs.

b. Impact on assessors' workloads, costs, training, and skills?

Participants who engaged during our industry workshop highlighted concerns that this change could have a significant impact on assessor workloads, which already rose with the introduction of SAP 10. Increased competency and training would be required to ensure assessors generate and input additional data accurately, and initial training could take longer. The approach to producing EPCs needs to remain affordable, repeatable and easy to understand.

A two-tier system of EPCs could be generated, with those utilising real-world data being more accurate and useful, but also more expensive to generate. This challenge could be utilised as a feature, with 'enhanced' EPCs, with high proportions of in-situ input data, being marketed specifically.

c. Implementation risks, for example: QA/audit and fraud risk, supply-chain readiness and training needs

One challenge to overcome might be that real-world information that improves the EPC score, where the home performs better than default values, would be more likely to be included than when the real-world information reveals worse circumstances than the defaults. Measures should be introduced to stop 'gaming' – ie: when a value is available it

should be used. Clear information, to EPC assessors and commissioners, on the benefits of inputting in-situ data, and avoiding defaults, should be provided.

This increase in complexity may increase EPC variability, depending on the assessor's approach, and therefore increase audit costs.

d. Anything else you feel is relevant.

Input data used should be stored and made accessible post-assessment, and for future building owners. Government endorsement of Digital Building Logbooks could be a solution to storing, transferring and sharing this larger amount of data available on a home. The ability to use and build-on on the additional data gathered, for retrofit assessment, planning and other building work could reduce long term costs and improve accuracy and auditing.

Some participants within our workshop clarified that where assumptions are based on occupant behaviour these should be kept as default values, to allow EPC comparability between properties.

Question 4: *If a modular approach is adopted, the term "Reduced data HEM" (RdHEM) may not accurately reflect the model's structure or purpose. We want to ensure the terminology clearly conveys this flexibility and avoids confusion with previous approaches. A clear, intuitive name will help stakeholders understand the purpose of the methodology and distinguish it from both full HEM and legacy RdSAP. Potential options for the new name are:*

- *HEM for Existing Dwellings (HEMEX)*
- *HEM Input Expansion (HEMIE)*
- *Mixed Data for HEM (MdHEM), or*
- *Reduced data HEM (RdHEM).*

Do you have any views on the proposed alternative name(s) that would better capture the intent and flexibility of a modular version of HEM? Do you have any other suggested options that are not listed above?

The majority of participants within our workshop preferred HEM for Existing Dwellings (HEMEX) from the options provided. However, a more effective alternative could be to avoid separate names altogether. Use HEM as the universal name and then give 'confidence ratings' to the EPC – as recommended in the NRH's [EPC Reform Report](#). This would allow assessors to market, and charge fairly for the time needed for different levels of in-situ data input.

Question 5: *Do you agree with the proposal to evaluate fabric performance using FEE?*

Agree

Participants at our workshop generally felt that this was the most useful methodology given its ability to take into account heat losses and gains, allowing for passive design measures such as window sizing and orientation to be valued.

A holistic approach to thermal comfort should be taken, ensuring that the way the FEEs methodology accounts for cooling demand accurately conveys overheating risk.

Question 6: *Do you agree with the approach to maintain close equivalence between the C/D boundary in the current EER rating and the C/D boundary in the Fabric Performance Metric?*

Neither agree nor disagree

Considering the amount to which the current EER rating is dependent on the cost of energy, it is difficult to ascertain what maintaining close equivalence with the current ratings will mean for actual fabric performance. The NRH's report [Delivering for Tenants](#) reviewed the proxy metrics included within the MEES consultation, and found that a SAP dwelling heat loss of 4W/m²K would leave many walls un-insulated, and some single glazing retained. The 'C' rating should be set at a high enough level to ensure fabric is upgraded to provide thermal comfort, affordable warmth, and ensure efficient heating system operation.

Some of our participants suggested that the current banding system should be replaced with a numerical scale, making clear the difference between old and new EPC ratings, and ensuring that improvements are made, even when these might not mean a change in band letter.

Question 7: *Do you agree with the Government's proposal to introduce an option for recording Heat Transfer Coefficients based on SMETER measurements in the EPC system, as supplementary information about fabric performance?*

Strongly agree

The NRH strongly supports the adoption of real-world performance measurement, so that we can better understand the performance of our homes, make the right interventions, and ensure these operate as designed. Introducing this measurement on an EPC will help familiarise the industry and consumers with the SMETERS-HTC.

The potential for the SMETERS measurement to 'flag' when a home is performing worse than modelling suggests should be explored. This could help identify defects, improve operation of the home, and reduce residents' bills.

Validation and measurement accuracy is important to ensure trust is built and decisions are well informed. Measures must be put in place to ensure that the SMETER measurement does not incentivise inadequate ventilation, or dis-incentivise residents from opening windows for purge ventilation. The DESNZ validation processes will hopefully consider these risks.

Other methods of HTC measurement should also be considered for input into the EPC, for example from co-heating tests or QUB.

Including the SMETERS measurement in an EPC will not increase uptake of better measurement on its own. Other actions, such as supporting local authorities and landlords to utilise these measurements, and including requirements within grant funding or government-enabled finance programmes, are also needed to increase uptake.

A key challenge to address will be how the SMETERS-HTC measurement relates and interacts with the Fabric Rating FEE modelling. Consumers and stakeholders will need to clearly see how the two figures or ratings relate, and where there are discrepancies. In the move towards the integration and use of more real-world and in-situ data, approaches should be developed that allow the HTC measurement to inform the fabric rating directly.

Question 8: *Do you have any views on how the provision of additional information, such as that derived from SMETERS, should be enabled within the energy assessment process in practice? Please provide any evidence to support your answer.*

Transparency and traceability of input data must be enabled for both consumers and professionals, to prevent fraud and reduce repeated work. A Digital Building Logbook could be an effective tool to enable data storage and evidencing.

A route for innovative measurement techniques should also be provided, to ensure these can be developed, and their results validated.

Question 9: *Do you agree with our proposal on the design and methodology for the Heating System metric?*

Neither agree nor disagree

There is some contradiction in the description of the heating system metric which means it is not possible to give a definitive response. The NRH agree with the principle of calculating the metric using modelled efficiency and emissions intensity, specific to each installation. However, this will mean that principles such as 'heat pumps will always score a C or above', or 'direct electric without thermal storage will always score a D or below' are not possible or desirable. In the longer term we would also advocate for a move from modelled to real-world measured system performance, utilising heat-meters and other technology.

We strongly agree that no fossil fuel system should score a C or above, as without this the government would have limited regulatory mechanisms to decarbonise heat. The proposed MEES design does not mandate a Heating System C rating, so in homes where this change is not yet beneficial for the building or residents the Smart Readiness Metric can be targeted instead.

Our participants expressed strongly that the operational efficiency, total carbon emissions and heat affordability of heating systems should determine the rating. It will be important to mitigate the risk for tenants that their fossil fuel heating system will be replaced by an inefficient, inadequately sized and poorly commissioned heat pump, increasing their bills. This will be particularly important for homes with low thermal performance, perhaps where an exemption has been used to prevent upgrade to a Fabric Rating of C.

Question 10: *Do you agree with the proposal to set the C/D boundary such that direct electric will always score a D or below, and that storage-based technologies would score above or below the C/D boundary based on their emissions relative to direct electric?*

Agree

The banding design should never incentivise the installation of significantly more expensive, but lower carbon heat sources, particularly in the rented sector.

The provision of thermal storage is one important element that will reduce the energy cost of direct electric systems, however there are additional design, tariff and innovation measures that impact the effective delivery of heat from these system. The rating should be based on both the cost and carbon associated with heating using the system.

The rating of a heating system should never be predicated on the use of a tariff that is not available to all citizens, for example those on pre-payment meters, or with specific needs on when they use energy.

There should also be total carbon or cost usages, below which higher ratings can be achieved. This would enable homes with very good thermal performance, and therefore low heat demand, to install appropriate low-carbon, and low embodied carbon and capital cost, systems.

Question 11: *What is your view on the option of reserving the highest scores of A/B for electric cooking appliances?*

Strongly agree

Many assume that gas hobs and cookers are usually replaced with electric when the gas boiler is replaced with a low-carbon source within the home. However, this is not proving to

be the case for many heat decarbonisation programmes. This change would help promote the importance of low-carbon cooking to consumers and housing providers.

Global Action Plan have conducted research demonstrating the impacts of gas cooking, and piloted schemes where gas cookers are removed in social housing settings. Internal pollution levels are reduced, gas standing charges are removed, and residents responded positively to their new cooking equipment. [DESNZ's own research](#) shows that swapping gas for electric cooking has the single biggest health impact of any retrofit measure.

Current regulation would not force a householder or landlord to swap gas for electric, as MEES standards require meeting a C rating only. If regulation is ever planned to mandate a Heating rating of A or B then careful consideration on disruption, cultural issues, and freedom of choice will be required.

Question 12: *Do you have any views on the proposed list of technologies that would be recognised under the Smart Readiness Metric and their relative scoring? Please provide any evidence to support your answer.*

Effective routes for innovation and existing innovative products will be required. The NRH's engagement through the RetroNetZero project, led by BRE and funded by InnovateUK, has continuously identified frustrations felt by innovators with the PCDB and Appendix Q progress. The metric must enable risk-assessed and effective innovation.

Non-tech flexibility measures, such as thermal mass and the specific heat capacity of internal insulation products, should also be considered for inclusion. These enable the passive shifting of heat demand within the day.

Routes for shared and community solar schemes should also be provided.

Question 13: *Do you have views on the options we have set out for how to achieve a C on the Smart Readiness Metric?*

Options for using a range of technologies, either micro-generation, batteries or other devices, should be provided, so that flats, listed buildings and those with inappropriate roofs for solar can find a solution to achieve C.

Our participants highlighted issues with evidencing of specific technologies or capabilities and the need to upskill and support assessors. Others highlighted the proportion of homes that are still looped and/or might not have existing network connections that are capable of interfacing with these technologies.

Considering the metric focuses quite heavily on micro-generation the name 'Smart Readiness' might also be misleading.

We also suggest that, rather than size thresholds for solar arrays or batteries it might be more appropriate to base the metric score on the proportion of the household's energy demand that is met by the systems, or the projected energy savings.

Question 18: *Do you agree with our proposed approach to the design and methodology for the Energy Cost metric?*

It is not clear whether the Energy Cost metric will be presented as an intensity, ie: cost per m² floor area, or as an absolute figure. An absolute figure that is influenced by the size of the home could help incentivise appropriate levels of occupation and promote downsizing where appropriate. Perhaps assumed occupancy could also be provided, so cost per person could be understood, and overcrowding could be discouraged.