

DESNZ consultation on Home Energy Model: Energy Performance Certificates

[Chapter 2: Proposal for a modular approach to inputting data for existing buildings in HEM \(replacement for RdSAP\)](#)

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?

Response options:

- strongly agree
- **agree**
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any comments or evidence to support your answer.

We agree with the introduction of a modular approach to data input for existing dwellings. The flexibility to input dwelling-specific empirical data (where available) alongside default values should improve the precision of EPC ratings, while avoiding the wasteful “all-or-nothing” approach of RdSAP.

A modular approach also better reflects the realities of retrofitting. Retrofitting is rarely achieved in one go, but instead performed in several phases with, for example, measures to improve a home’s thermal efficiency occurring before microgeneration devices are installed at a later date. A modular approach could enable us to capture the benefits of these measures as and when they are completed. It could also enable a move to digital/dynamic EPCs with bandings automatically updated based on live building information.

We do, however, foresee a number of risks to adopting a modular approach (see our answer to question two for more detail). For example, while extra data requirements and inputting flexibilities may increase precision, they could also degrade accuracy. As more data points are added, so too is the potential for errors or for surveyors to ‘shortcut’ the process by opting for default values. Mechanisms should be put in place to avoid this.

Therefore, much will depend on how default values will be calculated in the absence of dwelling-specific data. If these are overly conservative, they risk underestimating homes' energy performance, changing EPC bandings despite no change in actual performance. This risk is greatest for older homes and those with limited construction records for which dwelling-specific data is less likely to be available and current default values are based on assumptions and unlikely to accurately reflect the dwelling's performance.

Depending on the number of homes affected, this could necessitate resurveying tens of thousands of homes across our stock, severely disrupting our existing retrofit delivery, procurement plans and business planning. As we've already seen from the implementation of SAP10, this will likely increase costs and place increased demand on an already stretched supply chain.

The methodology should also allow verified physical survey evidence to override estimated inputs where available. For example, evidence from borescope investigations should supersede visual inspection when assessing cavity wall insulation status. This would improve confidence in EPC outputs and reduce reliance on assumptions. The framework should also remain flexible enough to incorporate improved survey techniques as they develop, including technologies that can provide more accurate evidence of building fabric performance.

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
- b) Impact on assessors' workloads, costs, training, and skills?
- c) Implementation risks, for example: QA/audit and fraud risk, supply chain readiness and training needs
- d) Anything else you feel is relevant.

a) Quality of assessments and EPCs

- Where data is available, the flexibility to input dwelling-specific empirical data alongside default values should improve the precision of EPC ratings, but it could also degrade accuracy if default values are relied upon
- Trust in and consistency of EPCs could be damaged if ratings change despite no change in underlying performance
- Given EPCs could be based on varying amounts of dwelling-specific data, some form of gradation (e.g., mirroring the distinction between RdSAP and SAP) may be needed to distinguish ratings based primarily on default values from those based primarily on observed data.

b) Impact on assessors' workloads, costs, training, and skills

Increased data requirements associated with a modular approach will:

- Require more surveys to plug data gaps
- Increase the duration of each survey given the extra data points needed
- Increase modelling times and costs
- Necessitate extra training and workforce capacity in a supply chain already struggling to meet demand
- Increase validation requirements for accreditation schemes
- Necessitate investment in IT systems and updates to reporting.

In our view, all of these factors mean it will be highly challenging to introduce new EPCs in late 2027 and leave sufficient time for the sector to adapt ahead of the 2030 target.

To assess the impact more precisely, it would be helpful to have clarity on whether we'll be able to demonstrate compliance based on expired or calculated EPCs (as currently permitted by the Regulator), since this could heavily influence our approach to gathering data. There is a question mark over whether we'll be able to plug data gaps solely by lodging new EPCs or in combination with RdSAP surveys as part of Home Condition Surveys. If lodged rather than calculated EPCs are required to demonstrate compliance, we'll need to lodge over 40,000 EPCs by 2030, two thirds of which are for properties already at EPC Band C. This would cost of several million and prove extremely challenging given the already over-stretched supply chain and increasing difficulties gaining access to residents' homes.

c) Implementation risks

- Extra requirements associated with a modular approach and a rushed transition period could lead to unintended consequences of the sort seen through the Energy Company Obligation programme when rogue actors exploited the additional flexibility and inadequacy of supply chains to hit government deadlines
- Longer and more intrusive surveys are likely to increase resident refusal rates, which already stand at roughly 20 to 25%
- A lack of adequate safeguards could see assessors using default values if it is quicker and easier than collecting dwelling-specific data, undermining the intentions of the modular approach
- Mistakes may become more common if assessors try to complete visits within the same timescales needed for current (less demanding) assessments - we've already seen a degradation in EPC data quality since the introduction of SAP10 with its extra data demands.

The transition to EPC C by 2030 is already stretching the retrofit supply chain, and demand will intensify further as housing providers scale up their programmes and adjust to new metrics. Limited availability of qualified assessors risks creating bottlenecks, meaning organisations may struggle to secure the capacity needed to meet regulatory requirements.

These various risks and additional costs mean it is important to introduce effective transitional arrangements to enable a smooth transition to the Home Energy Model.

Question 3: Please share your views or provide any evidence on any alternative approaches you think we should consider for existing dwellings.

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)
- 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?

We have a preference for HEMEX on the basis it’s the clearest and most straightforward of the proposed names.

Chapter 3: Proposals for EPC metrics and band boundaries

Scoring and banding considerations

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any additional comments or evidence to support your answer.

It’s difficult to comment given the lack of information on the metric or likely thresholds for Band C. The consultation says the Fabric Energy Efficiency (FEE) methodology will be adapted from the metric already used for assessing new build homes under Part L of the Building Regulations. Enabling consistency of measurement between new and existing homes would be positive. But without knowing the detail or the threshold (especially on U-values and airtightness), it’s difficult to comment on how appropriate this would be.

Applying a heat-demand based metric to existing homes also presents practical challenges. In common with many landlords, we currently track the condition of building components such as walls, windows, roofs, floors and doors separately rather than modelling whole-building heat demand. As a result, we would be reliant on our modelling software to calculate performance under an FEE metric before we can assess compliance or finalise retrofit programmes.

Specifying too ambitious a U-value would mean many older homes require major wall interventions to comply, even where loft insulation and double glazing have already been installed. If walls are expected to achieve U-values below $0.6 \text{ W/m}^2\text{K}$, nearly half of our 60,000+ homes (those built before 1981) would need either cavity, external or internal wall insulation to reach the required fabric score.

Delivering external or internal wall insulation at this scale is not currently realistic. Residents have raised concerns about these measures, particularly following issues seen under ECO. External wall insulation in higher-risk buildings triggers complex processes from the Building Safety Regulator, which cause delays and increase costs. Internal wall insulation reduces room sizes, may require kitchens and bathrooms to be replaced, and, without careful design, can increase overheating risk.

Both internal and external wall insulation also involve significant disruption to residents' daily lives and are incredibly expensive for leaseholders, who would face large bills for works that go beyond what feels proportionate or manageable. For residents, the issue is not simply whether a measure improves efficiency on paper, but whether it is reasonable, affordable and deliverable without unacceptable upheaval.

We believe a target U-value of $2.1 \text{ W/m}^2\text{K}$, broadly consistent with a typical Victorian solid brick home, combined with double glazing and 300 mm of loft insulation, would represent a reasonable compromise. This would allow lower disruption measures to count fully towards compliance, support genuine improvements in energy performance and avoid forcing large-scale wall insulation programmes where the marginal gain does not justify the impact on residents and leaseholders.

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any additional comments or evidence to support your answer, including evidence on the sorts of measures that should be prioritised under this metric.

Although we support the intention, there are questions marks over how government would achieve equivalence in practice. The EER is a cost-based metric, with fabric performance only one part of the equation. Homes can currently achieve an EPC Band C with either good fabric performance or poor fabric performance (if this is compensated for by other measures). The EER is also heavily influenced by heating type, meaning a property can be well-insulated and still achieve only a Band D.

The focus of retrofit funding has also moved increasingly towards low-carbon heating solutions, rather than fabric-first improvements. This change means that retrofit projects are now less likely to improve fabric performance, which should be reflected in the approach to threshold setting.

Supplementary fabric performance information: SMETERs and HTC's

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any comments or evidence to support your answer.

We agree SMETERs could offer a valuable source of supplementary evidence. They could be especially helpful for cross-referencing purposes (e.g., where a resident complains a home is uncomfortable or expensive to heat, despite the FEE saying otherwise). SMETERs could also be useful to validate EPCs or completed works.

However, given a) the accuracy of measurements is variable and b) privacy and data protection concerns are likely to impede readings, SMETERs must always be supplementary rather than the basis of the new Fabric Performance Metric.

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.

Heating System Metric

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any additional comments or evidence to support your answer.

We broadly agree with the proposed design and methodology for the Heating System metric. However, government should consider how the metric interacts with the development of low-carbon heat networks. We're not planning to start decarbonising our heat networks until 2030 as this requires significant investment and planning to deliver. This will enable closer alignment to the timelines for district heat networks. Therefore, we should be able to exempt properties from the heating metric where they are located within a confirmed district heat network.

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.

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any additional comments or evidence to support your answer.

We disagree with the proposal for direct electric heating with no (or insufficient) thermal energy storage to always score a D or below. Relative to other forms of heating, direct electric heating can perform relatively poorly on a unit cost and emissions basis. But, if combined with high levels of thermal efficiency, it can be comparatively affordable and low emission, as residents typically require very little energy to heat their home.

We have been installing some direct electric heating in our new-build homes for several years. Were this proposal to be adopted, we'd need to replace the heating system (for example, to storage heaters) in homes we're building now. This would be a high cost retrofit, with no real reduction in energy costs or carbon emissions. Since the majority of our new-build homes are flats, our options for installing microgeneration technologies would also be limited (see our answer to question 13 below), meaning we have few cost-effective / practical options available to achieve compliance against a secondary metric by 2039.

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Do you have any views on how these should be reflected in EPCs (whether in terms of banding or advice to consumers?)

Reserving the highest scores for electric cooking appliances could be disproportionate given their low contribution to overall energy use. As a social landlord, cooking appliances are also our residents' responsibility (unless we remove the gas connection), which would mean our ability to achieve an A/B rating on the Heating System Metric is not under our direct control.

Smart Readiness Metric

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.

The list – and more importantly – the combination of technologies necessary for a C rating – needs to be sufficiently broad to ensure compliance is realistic and equitable for different archetypes and tenures. An over-emphasis on technologies such as electric vehicle charge points would disproportionately favour owner-occupiers with off-street parking.

Network capacity constraints may also affect the feasibility of deploying some smart technologies. Delays in obtaining distribution network connections or the need for local grid upgrades could create additional costs and delivery challenges outside our control. The framework should recognise these constraints and ensure they are considered within any compliance or exemption arrangements.

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

The options for achieving a C on the Smart Readiness Metric need to be sufficiently broad to account for the practical challenges presented by different archetypes. Both options currently require some form of micro-generation, which may be impractical in many cases. Flats, particularly in buildings above five storeys, present particular problems since roof space is limited, structural and connection constraints apply, and the scope for installing solar or batteries is much narrower than in houses. We have over 8,000 flats in

buildings of five storeys or more, accounting for roughly one in ten of our homes. These practical constraints mean our options for achieving a C rating against a secondary metric are particularly limited for flats, especially our newer-build flats for which the installation of direct electric heating may preclude compliance against the Heating System Metric.

Options for installing microgeneration technologies on homes in conservation areas would also be very limited given planning restrictions. Some options, such as electric vehicle charge points or large-scale battery storage, will not be feasible for many homes including those without off-street parking given space constraints. In some cases, wall penetrations and cabling from technologies that cross compartment lines in blocks of flats trigger complex Building Safety Regulator processes, leading to delays and higher costs.

These practical difficulties mean it is important exemption criteria for MEES include not only the proposed £10,000 cost cap, but also those proposed for the revised Decent Homes Standard. These cover circumstances where:

- tenants refuse access
- there are physical or planning factors preventing compliance
- there are plans to sell, demolish or renew properties and estates.

Question 14: Do you have any evidence to provide on what an appropriately sized solar array should be to reach a C?

Question 15: Do you have any evidence to provide on what an appropriately sized electric battery should be to reach a C?

Questions 16: Do you agree that a bidirectional EV charge point should be recognised as an alternative to other forms of energy storage, such as batteries, in order to achieve a C on the Smart Readiness Metric?

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any additional comments or evidence to support your answer.

Question 17: Do you have any other comments regarding the design and methodology for the Smart Readiness metric?

Energy Cost metric

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

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any comments or evidence to support your answer.

An Energy Cost Metric providing an independent estimate of likely energy bills is a useful piece of information for consumers, and arguably more tangible than A-G ratings on the remaining three metrics.

The consultation document acknowledges the Energy Cost Metric will be based on a snapshot of energy costs at the time the EPC was generated, and that this may not be an accurate reflection of costs at the time of purchase / letting.

We do not see this as too serious a risk given the current EER suffers from the same drawback and provisions are suggested to ensure purchasers/renters can access the most up-to-date information on costs.

Question 19: Do you agree that the cost metric should be presented in £, rather than bands?

Response options:

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree.

Please provide any comments or evidence to support your answer.

Our preference is for the Energy Cost Metric to be expressed in A-G bands, with £s used as a supplementary metric. This would mean all four metrics are displayed in the same format, while also providing prospective renters/buyers with a more easily understandable estimate of likely energy costs.