Historic England's response to the DESNZ consultation: Home Energy Model: Energy Performance Certificates

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 or strongly disagree. Please provide any comments or evidence to support your answer.

Strongly Agree – Historic England supports the idea of a 'modular' approach. This has the potential to improve the accuracy of Energy Performance Certificates (EPCs) for existing dwellings, particularly those less accurately represented by the current system, such as designated historic buildings (i.e., listed buildings, buildings in a conservation area, etc) and buildings of traditional construction (i.e., built before 1919). Since about a fifth of all English homes were built before 1919 (MHCLG, 2025), HEM suitability for such buildings cannot be treated as a minor concern – it is crucial that this traditional proportion of the domestic sector is effectively represented by the new methodology.

Historic England's recent Historic Building Energy Performance Potential Demonstrator project (Historic England, 2026) found that the existing RdSAP approach leads to inaccurate calculations of traditional building performance, and that performance is better reflected when in-situ data is robustly collected and verified. However, the introduction of more accurate data collection needs to be balanced with keeping accurate EPCs affordable and accessible. At this stage, additional data is proposed to be a 'nice to have', which in most cases is unlikely to be collected due to associated costs, the insufficient knowledge of assessors, and the lack of incentives. We will expand on these topics in our answer to Question 2.

However, at present the full impact of the proposed modular approach cannot be accurately assessed, due to the lack of specific detail provided in this consultation on scoring and weighting within and between the metrics. As such, there are concerns about the potential for unintended consequences that could jeopardise the viability of existing/traditional dwellings, many of which may now be required to meet new Minimum Energy Efficiency Standards (MEES). In this context, it will be essential for Government to make clear the point that was made in paragraph 69 of the recently published partial response to the EPB consultation: that an EPC is intended to provide information on building performance and

offer possible solutions, and before consumers proceed with retrofit interventions, expert advice must be sought (MHCLG, DESNZ, 2026).

In any case, Historic England reiterates that further work needs to be done to improve the accuracy of assumptions in retained 'default values' to avoid perpetuating the existing issues that are known to be present therein. Specifically, work is needed to improve and expand options relevant to 'date built', especially within age band A (pre-1919), which represents a far more varied and heterogenous building stock than the narrow assumptions allowed for under RdSAP. For example, increased capacity to input various 'wall type' construction typologies and associated U-values is required.

Historic England welcomes continued opportunities for engagement regarding the development of the EPC wrapper, the approach for inputting measured data, and improving the accuracy of default data for historic and traditional buildings.

References

Ministry of Housing, Communities and Local Government (2025). *Annex tables for English Housing Survey 2024 to 2025 headline findings on demographics and household resilience; Chapter 1: Profile of households and dwellings annex tables; Annex Table 1.6*. https://assets.publishing.service.gov.uk/media/6985b1dd6da2dee8230a9b0e/2024-25_EHS_Headline_Report_Chapter_1_Profile_of_households_and_dwellings_Annex_Tables.ods.

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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: Historic England believes that the introduction of a modular approach offers a route towards more accurate EPCs, which should engender greater trust among consumers and professionals, more consistency between buildings, and greater usability if building performance is more accurately assessed. These issues are particularly pertinent for buildings of traditional construction (i.e., pre-1919), which are often inaccurately represented by EPCs underpinned by RdSAP. As mentioned in our response to Question 1, since about a fifth of all domestic properties in England fall into this pre-1919 category, they are not a niche part of the sector but are a significant proportion that warrant greater attention if these houses are to be improved in tandem with their more modern counterparts (MHCLG, 2025).

Historic England's recent Historic Building Energy Performance Potential Demonstrator project clearly shows how RdSAP often inaccurately represents traditional building performance (Historic England, 2026). Six buildings received the typical analysis used to produce EPCs and then were also subject to further in-situ testing to find their 'true' baseline performance. The project found significant disparities between these measured and RdSAP-assumed performances, with an average difference of 31% for airtightness, 34% for main wall U-value, and 45% for overall heat loss rate. Such discrepancies can have a major impact on a property's EPC rating, notwithstanding their impact on the perceived need for 'improvement' interventions. For example, one property was placed between bands D and C by the RdSAP calculation, but admissible data input based on in-situ testing would have resulted in a more accurate band B Rating.

The findings of Historic England's Demonstrator Project are by no means unprecedented. Recently, the Society for the Protection of Ancient Buildings found that "standard U-value calculations used across the construction industry underestimate the thermal performance

of traditional solid walls. In some instances, heat loss through vernacular materials can be up to three times lower than industry calculations would predict" (SPAB, 2021). Similar findings were produced by the government-funded DEEP project, "EPCs overestimated the heat loss measured in the DEEP case studies by, on average, 42%" (DESNZ, 2024), and by a U-value-focused study from 2025: "The older walls were found to perform dramatically better than expected, with U-values between 0.74-0.81W/m2K, just over half as much heat loss as expected" (Build Test Solutions, Elmhurst Energy, University of Salford, 2025).

In each of these cases, and in the demonstrator project, we can see a recurring theme of traditional buildings often performing better than RdSAP gives them credit for. Historic England has long highlighted that the solution to this problem involves reforming the EPC system entirely, as stated in 2022: "the EPC database needs to be updated to include more material ranges and its understanding of traditional building construction. At present, the standard calculation for traditional buildings relies on default values for materials made after 1965. These default values perceive traditional buildings to perform poorly, even though this is largely not the case" (Historic England, 2022).

Improving EPC accuracy will therefore require a two-part solution – default values must be changed to reflect the performance of a wide variety of pre-1919 buildings more accurately, and any modular approach implemented must allow for inputting the most useful and robustly accurate in-situ data. A HEM methodology that does not implement both solutions runs the risk of producing EPCs that lead to unnecessary, costly, or inappropriate recommendations. There are numerous examples of the consequences of such 'maladaptation' (Historic England, 2024).

As recommended by the demonstrator project, a balance must be struck between more accurate assessments and keeping costs down for consumers, as more complex assessments come with a higher price. The report recommends as a standard, mandatory approach: the typical EPC estimation, a condition survey, and airtightness testing. Guided by professional advice, consumers could then decide whether to test overall heat loss rate and U-values as well. The new BS 40104 standard for the assessment of dwelling for retrofit could prove a helpful guide for this approach to assessment (Historic England, 2026). The condition survey is particularly important, as it will reveal maintenance and repair needs that could be easily remediated to improve the building's performance. This modular approach to assessment offers a route towards more accurate results and greater consumer confidence, and so must be central to the development of HEM for EPCs.

b. Impact on assessors' workloads, costs, training, and skills: Assessor competence is fundamental to ensuring assessment accuracy, trust, usability, and consistency. Greater assessor ability and capacity will lead to fewer assumptions and improve the accuracy of data used. This will reduce the risk of inappropriate recommendations being put forward and will improve the outcomes for the owners and occupiers of all buildings.

Considering traditional buildings (i.e., pre-1919) specifically, Historic England's demonstrator report (Historic England, 2026) sets out a proposal for the training of a 'Heritage Task Force' of qualified assessors specialising in traditional buildings. Such professionals would have required levels of training and competence to ensure capacity, quality, and validity of the government's proposals in this sector. Specific qualifications could serve as a demonstration of this training and convey confidence to consumers, such as the Level 3 Award in Energy Efficiency Measures for Older and Traditional Buildings; N.B., Historic England (in partnership with Historic Environment Scotland and Cadw) recently published a free handbook to accompany this course (Historic England, 2025). Creating skilled assessor capacity will require targeted, area-based funding for training and upskilling across the country, which should be provided by the responsible government bodies, including Skills England (DfE) and the Office of Clean Energy Jobs (DESNZ).

c. Implementation risks: Methodology reform and improving assessor competence is particularly important in the context of the recent failings of the ECO4/GBIS schemes, as reported in the recent National Audit Office report (NAO, 2025). Failures such as those that took place under ECO4/GBIS are likely to continue to occur if core base metrics are incorrect and if assessors and installers are not appropriately qualified. This could then lead to more costly and technically inappropriate interventions, alongside risk to the health of occupants and damage to the country's building stock To mitigate the implementation risks posed by a new methodology, robust quality assurance should be embedded in the rollout of HEM, overseen by Ofgem and/or the new Warm Homes Agency from 2027, and supported by an adequate number of upskilled assessors.

References

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Historic England (2024). *When Retrofit Goes Wrong. https://historicengland.org.uk/research/heritage-counts/heritage-and-environment/introduction-to-retrofitting/when-retrofit-goes-wrong/.*

Historic England (2025). *Course Handbook: Level 3 Award in Energy Efficiency Measures for Older and Traditional Buildings*. https://historicengland.org.uk/images-books/publications/energy-efficiency-older-traditional-buildings-level3-handbook/.

Historic England (2026). *Historic Building Energy Performance Potential: Demonstrator Project*. https://historicengland.org.uk/research/results/reports/94-2025.

Ministry of Housing, Communities and Local Government (2025). *Annex tables for English Housing Survey 2024 to 2025 headline findings on demographics and household resilience; Chapter 1: Profile of households and dwellings annex tables; Annex Table 1.6*. https://assets.publishing.service.gov.uk/media/6985b1dd6da2dee8230a9b0e/2024-25_EHS_Headline_Report_Chapter_1_Profile_of_households_and_dwellings_Annex_Tables.ods.

National Audit Office (2025). *Energy efficiency installations under the Energy Company Obligation*. https://www.nao.org.uk/reports/energy-efficiency-installations-under-the-energy-company-obligation/.

Society for the Protection of Ancient Buildings (2021). *Our energy efficiency research explained*. https://www.spab.org.uk/news/our-energy-efficiency-research-explained.

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?

Historic England prefers 'HEM for Existing Dwellings (HEMEX)' as the name for this new methodology.

Question 5 – Do you agree with the proposal to evaluate fabric performance using FEE? Response options: strongly agree, agree, neither agree nor disagree, disagree or strongly disagree. Please provide any additional comments or evidence to support your answer.

Agree – If, as suggested, the FEE is robust, accurate, and holistic in estimating the demand for space heating and cooling, accounting for solar gain, thermal mass, and local weather data, Historic England would consider FEE to be an improvement on the current methodologies and other alternatives. Considering a variety of factors that can affect a building's energy performance is also central to Historic England's recommended 'whole building approach' to retrofit, which takes a holistic approach to delivering improvements in thermal performance, as well as cost and carbon savings. This is balanced with the need to avoid increased moisture and overheating risk to both occupants and fabric, ensuring deterioration of fabric is not exacerbated, and that efficacy and durability of interventions are maximised (Historic England, 2024). Moreover, the proposal aims to better align EPCs with Part L of the Building Regulations, which has benefits for clarity and simplicity.

Ensuring the climate resilience of domestic buildings is also essential. We would note the importance of the Fabric Performance metric being robustly capable of driving changes that reduce the energy required for winter heating as well as the energy required for summer

cooling. As noted in our response to the EPBR 2025 consultation response, maintenance need, thermal comfort, ventilation, air quality, and climate change risks must also be factored in (Historic England, 2025).

Ensuring climate resilience will also require a nuanced understanding of concepts like thermal comfort. This consultation suggests that reducing heating demand can also serve as a proxy for creating thermal comfort for occupants – however, this neglects the fact that heating and cooling demand are not always directly proportional and are, in fact, heavily dependent on the thermodynamic properties of both the existing building and materials used to improve fabric energy efficiency. Such properties include both U-value and thermal mass (as calculated using areal heat capacity in FEE), but also decrement delay, which is not currently considered. N.B. decrement delay is the time taken (in hours) for peak external temperature to transfer through a material to the internal surface (i.e., wall or roof). It is generally influenced by thickness, density, and specific heat capacity of the material, alongside thermal resistance (R-value). A high decrement delay (10-17+ hours) is ideal for summer comfort, as it delays peak solar heat from entering a space until the evening, reducing overheating risk when paired with adequate purge ventilation.

To ensure that an accurate understanding of heating, cooling, and climate resilience is built into the design of any retrofit interventions inspired by the new HEM-calculated EPCs, we would highlight the point made in our answer to Question 2 – it is essential that all professionals working on such interventions are adequately trained and competent in the building physics of the typologies on which they are engaged. Historic England welcomes continued opportunities for engagement regarding the development of the Fabric Performance Metric.

References

Historic England (2024). *Whole Building Approach for Historic Buildings*. https://historicengland.org.uk/advice/technical-advice/retrofit-and-energy-efficiency-in-historic-buildings/whole-building-approach-for-historic-buildings/.

Historic England (2025). *Historic England's response to the MHCLG and DESNZ consultation: Reforms to the Energy Performance of Buildings Regime*. https://historicengland.org.uk/content/docs/consultations/response-reforms-energy-performance-buildings-regime-feb25/.

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 or 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.

Neither agree nor disagree – Historic England recognises the benefit of ensuring a broad equivalence between the EER system and the new Fabric Performance Metric, as this will support understanding during the transition and help ensure that people who have previously installed measures continue to see that value reflected in their new EPCs. However, the consultation does not make sufficiently clear what is meant by maintaining "a close equivalence", and so we cannot comment specifically on this proposal as presented.

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 or strongly disagree. Please provide any comments or evidence to support your answer.

Agree – Historic England supports the government's proposal to introduce an option to voluntarily record Heat Transfer Coefficient (HTC) data based on SMETER measurements (if it is appropriately validated and quality assured) to provide an indication as to whether the building is performing as anticipated.

The potential benefit of utilising HTC information is evidenced in our recent Historic Building Energy Performance Potential Demonstrator project (Historic England, 2026). Examination of the HTC of the case study buildings revealed that most of the properties had better thermal performance than predicted – another demonstration of RdSAP's under-estimation of the performance of traditionally constructed buildings (i.e., built pre-1919), as discussed in our answer to Question 2. This proves that measuring HTC can provide a valuable insight into building performance. The benefits and limitations of HTC data and SMETERs are discussed further in the National Retrofit Hub's report on data and technology (National Retrofit Hub, 2026), and the Green Homes Grant (GHG) SMETER project evaluation (DESNZ, 2025).

Allowing for collection of HTC data via SMETERs may contribute to resolving the present 'spend gap' between the need for admissible in-situ data and the ability of homeowners to afford to undertake measurements. However, there are limitations of this technology and approach which merit consideration. These barriers include roll-out costs, encouraging up-take, connectivity and grid management issues, data protection, interoperability, validation and limited data collection capability, and varying accuracy of technologies. Finally, if collection of HTC information goes ahead, there will be a need for robust validation and quality assurance processes, including the possibility of supplementary data collection for robust interrogation. Interpretation of the data (and any cause/effect therein) by a competent professional would be essential for guiding any intervention proposal.

References

Department for Energy Security and Net Zero (2025). *Green Homes Grant (GHG) SMETER project evaluation.* https://www.gov.uk/government/publications/green-homes-grant-ghg-smeter-project-evaluation.

Historic England (2026). *Historic Building Energy Performance Potential: Demonstrator Project*. https://historicengland.org.uk/research/results/reports/94-2025.

National Retrofit Hub (2026). *Data and technology: strengthening our understanding for better retrofit outcomes*. https://nationalretrofithub.org.uk/resource/data-and-technology-strengthening-our-understanding-for-better-retrofit-outcomes/.

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.

Historic England believes that, as set out in our response to Question 2, it might prove beneficial for HTC data to be included in the FEE calculation. As recommended by our recent Historic Building Energy Performance Potential Demonstrator project, a balance must be struck between more accurate assessments and keeping costs down for consumers (as more complex assessments come with a higher price). The report recommends as a standard approach, mandatory approach: the typical EPC estimation, a condition survey, and airtightness testing. Guided by professional advice, consumers could then decide whether to

test overall heat loss rate and U-values as well. The new BS 40104 standard for the assessment of dwelling for retrofit could prove a helpful guide for this approach to assessment (Historic England, 2026). Collection of HTC data via SMETERs may contribute to resolving the present 'spend gap' between the need for admissible in-situ data and the ability of homeowners to afford to undertake measurements, as a cost-effective way of gaining this valuable data which could then be fed into the FEE calculation.

References

Historic England (2026). *Historic Building Energy Performance Potential: Demonstrator Project*. https://historicengland.org.uk/research/results/reports/94-2025.

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

Agree – Historic England broadly supports the design and methodology of the Heating System metric (with a few reservations to be addressed in our response to Questions 10 and 11). We welcome that the metric supports carbon reduction and intends to be holistic by assessing efficiency and emissions not only of space heating requirements but also of space cooling, hot water provision, and cooking needs. By undertaking a dynamic calculation through HEM simulation, values could be more accurate and tailored to each individual case. However, the adequacy and success of the value provided by the metric depends on the ability of HEM to dynamically model the system.

The consultation refers to a "carbon factor" that will reflect changes in the emissions of the grid as it decarbonises over time. It is not clear in the consultation how this carbon factor will be calculated nor how often it will be updated within HEM. This could lead to an issue if the Heating System metric EPC band depends on this carbon factor, as it means that the EPC band would be tied to the particular point in time when the EPC calculation is made. Since the carbon factor will inevitably be subject to change (e.g., due to the ongoing decarbonisation of the grid), it is important that this carbon factor remains dynamic and flexible, perhaps by incorporating a projection of future carbon intensity, as well as the carbon footprint at the time of calculation.

Another important element to incorporate into a carbon factor should be a consideration of the embodied carbon of any retrofit measure that an EPC may lead to. This should be considered not to weaken the environmental case for retrofit measures; in fact, recent Historic England research considering retrofit packages across a range of traditional building archetypes (i.e., pre-1919) found that in all cases, the embodied carbon costs of the retrofit interventions were paid off by the ensuing operational carbon savings produced by the measures within a short timeframe (Historic England, 2025). Rather, the consideration of embodied as well as operational carbon enables a better understanding of the whole life carbon footprint of the built environment. This is important because over time, embodied carbon is set to account for a greater proportion of the built environment's carbon footprint – over 50% of total emissions by 2035, according to a recent estimate (UK Green Building Council, 2021). Consequently, consideration of embodied carbon in the new EPCs will stand the UK in good stead over the coming decades as the decarbonisation of the built environment proceeds.

References

Historic England (2025). *Measuring Embodied Carbon of Different Retrofit Packages in Historic Buildings*. https://historicengland.org.uk/research/results/reports/79-2025.

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

Disagree – While Historic England appreciates the reasoning behind this proposal – to ensure the incentivisation of more efficient and cheaper forms of low-carbon heating over fossil fuel heating – we believe that disincentivising direct electric heating in this way could limit the flexibility needed to decarbonise certain structures, such as buildings of traditional construction (i.e., pre-1919).

Direct heating is a less preferable option than technologies such as heat pumps, as direct heating has more limited flexibility, higher running costs, and potential impacts on peak electricity demand if deployed widely. However, as set out in our recent response to the DESNZ consultation on alternative clean heating solutions, such technologies might sometimes be appropriate (Historic England, 2026). These circumstances might arise if a building cannot accommodate heat pumps due to space, planning, or fabric constraints, or other technical risks (e.g., a concern over whether installation of a heat pump could exacerbate the urban heat island effect).

For example, infrared heating could be useful in buildings with intermittent occupancy or significant constraints on fabric alteration, such as traditional buildings, designated historic buildings (i.e., listed buildings, buildings in a conservation area, etc), places of worship, galleries, and ancillary spaces. This technology's main advantage is the ability to provide localised, rapid thermal comfort with minimal physical intervention, and so may be well-suited to heating small areas or infrequently used buildings, which may offer energy and cost benefits compared with whole-building systems.

Therefore, Historic England believes that direct heating should not be disincentivised by the Heating System metric.

References

Historic England (2026). *Historic England's response to the DESNZ consultation: Exploring the role of alternative clean heating solutions*. https://historicengland.org.uk/content/docs/consultations/response-alternative-clean-heating-solutions-feb26/.

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

Disagree – Historic England does not support the reasoning behind limiting the highest scores of A/B to those households with electric cooking appliances. This consultation states that, "in the best-performing dwellings for fabric, the maximum likely contribution from

cooking is less than 10% of the combined energy required for cooking, space heating and hot water. In most of the stock, we expect this proportion to be much smaller". Therefore, it seems illogical to limit the top bands of the Heating System Metric to those households with electric cooking appliances, as this seems disproportionate to the impact of these technologies when compared to heating and hot water. Rather, it seems preferable to allow for more 'points' to be allocated to those households with electric cooking under this metric, rather than reserving the top two bands entirely to households with such facilities.

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.

Historic England recommends that the development of this metric considers the alternative technologies under consideration in the recent DESNZ consultation. As Historic England wrote in our response, many of the technologies under discussion could be appropriate for buildings where the installation of more preferable technologies is difficult due to space, planning, fabric constraints, etc (Historic England, 2026).

However, no technology should be installed simply to gain points towards the new metric's 1-100 score without the necessary cost/benefit analysis. As we will go on to discuss in our answers to Questions 14 and 15, what is of most importance is not the size or quantity of any particular intervention(s), but the degree of its benefit to the household in question, i.e., will the intervention meet a meaningful proportion of the household's energy demand with low-carbon electricity, or will the intervention provide a meaningful amount of bill savings for the occupants? Considering degree of benefit is important for justifying not only the price of installation and maintenance, but also the natural resource and embodied carbon costs that come with these systems; in all cases, the projected benefits should outweigh the costs.

References

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

Historic England supports having a range of routes towards achieving a C on the Smart Readiness Metric, as is set out in the consultation. Considering the importance of rooftop solar for achieving clean power by 2030, we are supportive of the emphasis on the installation of solar arrays under this metric. As mentioned in numerous pieces of Historic England guidance, such as our recent Advice Note 18, solar panels are often compatible with both traditionally constructed buildings (i.e., built pre-1919) and designated historic buildings (i.e., listed buildings, buildings in a conservation area, etc). Even in the latter case, a building's significance can be protected by installing the solar panels out of sight, on a less prominent roof slope rather than the principal elevation, or on available nearby ground space (Historic England, 2024). As mentioned in our answer to Question 12, any proposed solar array should also consider the natural resource, carbon, and financial costs, and whether the projected benefits outweigh said costs.

However, this metric's weighting in favour of building-mounted PV could have a negative impact on properties that are unsuitable for these installations, such as those where the fire risk is prohibitive, e.g., thatched roof properties. Therefore, the metric should also allocate points to buildings that are powered by other forms of renewable electricity generation, such as local microgeneration schemes. We will expand on this particular opportunity in our response to Question 17.

Furthermore, we have reservations about limiting band C to households that have a smart electricity meter. Historic England notes that there are challenges associated with installing such technologies for rural communities, off-grid properties, and those with poor internet connectivity. Therefore, echoing our answer to Question 11 regarding electric cooking, while we agree that the installation of smart electricity meters should contribute points towards this metric's 1-100 score, it should not be a requirement for achieving band C, so as to avoid the risk of locking rural/off-grid communities out of the top three bands of this metric.

References

Historic England (2026). *Historic England Advice Note 18 (HEAN 18): Adapting Historic Buildings for Energy and Carbon Efficiency*. https://historicengland.org.uk/images-books/publications/adapting-historic-buildings-energy-carbon-efficiency-advice-note-18/.

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

Historic England believes that this metric should focus not the size of the solar array, but on the relative costs and benefits of the proposed installation. Size may prove a limiting factor – if a house has a small roof, limited nearby space, or fabric/planning constraints, it might not be able to install the requisite panels. However, a more holistic and qualitative approach will ensure that any works are both justified and tailored to the building.

We propose that a solar array should be projected to meet a defined minimum threshold of a household's electricity demand. This will ensure that the installation size is tailored to the building, i.e., a smaller property will consume less electricity than a larger one, so fewer panels would be required to meet the threshold. Once the minimum threshold of the household's energy needs has been met by renewable electricity, extra points could be granted under the metric's 1-100 score if the array (or other renewable generation scheme) exceeds that threshold. As mentioned in our answer to Question 12, considering this degree of benefit is important for justifying not only the price of installation and maintenance, but also the natural resource and embodied carbon costs that come with these systems. Historic England welcomes the opportunity for engagement with Government on the development of this threshold for renewable electricity generation.

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

Similar to our answer to Question 14, Historic England believes that this metric should focus not on the size of the electric battery, but on the relative costs and benefits of any proposed installation. As in the case of solar panels, size might prove a limiting factor – e.g., smaller homes or traditionally constructed buildings (i.e., pre-1919) could face space, planning, or fabric limitations, meaning that they might not be able to install a large enough battery to meet the threshold. Again, the qualitative approach offers a better route.

We propose that an electric battery should be projected to deliver a defined minimum amount of cost savings on electricity bills. This will then ensure that in large or small homes, the battery can enable the peak shaving necessary to lower energy prices by drawing on the electricity saved during low-cost periods. This has the added co-benefit of reducing grid demand during high-use periods. This threshold could be set at a fixed projection of savings

per year, but there should be an element of dynamic flexibility built into this threshold because the price of electricity will change over time due to ongoing decarbonisation of the grid or external factors affecting the price of energy (e.g., geopolitical instability). Similar to our proposal in response to Question 14, extra points could be granted under the metric's 1-100 score if savings exceed the minimum threshold. Considering this degree of benefit is important for justifying not only the price of installation and maintenance, but also the natural resource and embodied carbon costs that come with these systems. Historic England welcomes the opportunity for engagement with Government on the development of this threshold for cost savings on electricity bills.

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

Neither agree nor disagree – Historic England would note that there are challenges associated with installing such technologies for rural communities and off-grid properties. Therefore, while we agree that the installation of this technology should contribute points towards this metric's 1-100 score, it should not be a mandatory requirement for achieving band C, so as to avoid the chance of locking rural/off-grid communities out of the top three bands of this metric.

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

Since this metric is intended to incentivise and reward the use of low-carbon electricity, Historic England believes that points should also be granted towards this metric's 1-100 score if a household relies on local microgeneration schemes. There is a major opportunity to revitalise existing microgeneration infrastructure to provide low-carbon power to local areas, thus removing the need for new infrastructure which carries financial, labour, natural resource, and embodied carbon costs. The benefits of local microgeneration are especially significant in isolated rural areas where grid connection could be more challenging or costly.

Sites such as Fladbury Mill (Worcestershire) and Cragside's Archimedes Screw (Northumberland) are examples of historic assets that serve a modern purpose – local

microgeneration of renewable power (Society for the Protection of Ancient Buildings, 2024), (The Guardian, 2014). Another example cited in a Historic England case study is Linton Lock Hydro (North Yorkshire) – once an 18th century lock and weir, the site was converted into a hydroelectric plant in the early twentieth century before falling into disuse. Following its renovation, it is once again a functioning hydroelectric generating plant capable of producing up to 380 kilowatts of electricity (Historic England, 2019). Sites such as these should be publicised more widely, supported, and renovated where they are present but disused. For further information on this topic, please refer to Historic England's guidance on micro-hydroelectric power and the historic environment (Historic England, 2014).

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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 or strongly disagree. Please provide any comments or evidence to support your answer.

Agree – Historic England supports the inclusion of an Energy Cost Metric, and the proposal that said metric reflect changing prices over time. An energy cost indicator, such as energy cost intensity (£/m²/yr), would provide clarity on overall energy expenses and help meet fuel poverty targets. This would also encourage measures to reduce energy bills and align with policies that prevent worsening ratings.

Historic England would also like to underline that the policies reflected in this consultation should be connected with the broader policy aim of bringing down energy costs. At present, the expensive pricing of electricity (due to the cost being tied to gas prices) would mean that consumers reviewing their new EPCs would see that despite installation of clean heating solutions and renewable electricity generation and storage technologies, their energy costs would remain high or at least would not drop as much as they might hope.

Therefore, EPC reform can only go so far to encourage the wholesale change that is required across the built environment. However, the installation of clean heating solutions and renewable electricity generation and storage technologies would be greatly incentivised by further reductions in the cost of electricity, particularly with regard to reducing the spark gap (the price difference between electricity and gas). While some progress was made through the reductions to electricity costs announced during the 2025 Budget, more is needed to provide consumers, installers, and designers with confidence in the economic viability of these technologies. One solution proposed by Nesta involves removing levies on electricity bills (to be replaced with general taxation), thus making electricity less expensive, redressing the imbalance between gas and electricity prices, and making renewable technologies cheaper to operate (Nesta, 2023).

This is particularly important for both traditionally constructed buildings (i.e., built pre-1919) and designated historic buildings (i.e., listed buildings, buildings in a conservation area, etc). Historic England's 2024 report on adapting historic homes identified high costs as a key barrier to adapting traditional buildings (DLUHC, DCMS, DESNZ, Historic England, 2024). Therefore, if clean heating solutions and renewable electricity generation and storage technologies offer cheaper bills due to the lower cost of electricity, then installation will become more financially viable for traditional building owners and take-up will increase, driving decarbonisation and cost savings across this significant proportion of the built environment.

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