

LETI Response

The Future Homes and
Buildings Standards:
2023 consultation



About LETI

LETI is a voluntary network of over 1,000 built environment professionals, working together to put the UK and the planet on the path to a zero carbon future. Our vision is to understand and clarify what this means in the built environment and develop the actions needed to meet the UK climate change targets.

We do this by:

- **Engaging with stakeholders** to develop a robust and rapid energy reduction approach, producing effective solutions to the energy trilemma of security, sustainability, and affordability.
- **Working with local authorities** to create practicable policy to ensure the regulatory system is fit for purpose, placing verified performance at its core.
- **Encouraging and enabling collaboration** between a large, diverse group of built environment professionals.
- **Providing technical guidance to support exemplar development**, enabling pioneers who aspire to go beyond the current regulatory frameworks

Our volunteers are made up of developers, engineers, housing associations, architects, planners, academics, sustainability professionals, contractors and facilities managers, with support and input provided by local authorities and other organisations.

Originally the 'London Energy Transformation Initiative' (LETI) was established in 2017 to support the transition of the London's built environment to meet Net Zero Carbon. Since then, LETI has formed as a Community Interest Company and altered our name to become the 'Low Energy Transformation Initiative', but predominantly we are known as LETI. This reflects our interest in all UK zero carbon policy and regulation.

LETI has focused on providing guidance on defining what good looks like in the context of the climate emergency, publishing guidance documents, one-pagers, case studies and opinion pieces.

For more information on LETI, please see:

www.LETI.uk





Consultation Questions

Question 1. Are you responding as / on behalf of (select all that apply):

- Member of the public
- Builder/Developer
- Building Control Approved Inspector/Registered Building Control Approver
- Competent Persons Scheme Operator
- Designer/Engineer/Surveyor
- Architect
- Energy sector
- Installer/Specialist sub-contractor
- Local authority
- Housing Association
- Manufacturer/Supply chain
- National representative or trade body**
- Professional body or institution
- Property Management
- Research/Academic organisation
- Other

Question 2. If you are responding as a member of the public/a building professional, what region are you responding from? [drop down list of England regions + other]

LETI response : England

Question 3. If you are responding as a member of the public, are you a [checkboxlist: private tenant, housing association/local authority housing tenant, private landlord, homeowner]

N/a

Question 4. If you are responding on behalf of a business/organisation, what is the name of your business/organisation? [free text]

LETI response : Low Energy Transformation Initiative (LETI)

Question 5. If you are responding on behalf of a business/organisation, where is your business/organisation based/registered? [drop down list England regions + other]

LETI response : London, England

Question 6. When you respond it would be useful if you can confirm whether you are replying as an individual or submitting an official response on behalf of an organisation and include:

- your name,
- your position (if applicable),
- the name of organisation (if applicable),
- an address (including post-code),
- an email address, and
- a contact telephone number

LETI response : Joe Jack Williams, responding on behalf of LETI.

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Question 7. Which option for the dwelling notional buildings (for dwellings not connected to heat networks) set out in The Future Homes Standard 2025: dwelling notional buildings for consultation do you prefer?

- a. **Option 1 (higher carbon and bill savings, higher capital cost)**
 b. ~~Option 2 (lower carbon savings, increase in bill costs, lower capital cost)~~

LETI response : As part of the Future Homes Standard and Future Buildings Standard consultation documents, DHLUC released two impact assessments focused on the respective changes to Part L of the building regulations for domestic and non-domestic buildings. LETI believes that core to the consultation must be a transparency of methodology in which options are assessed against. Whilst the assessments are beneficial and follow logical reasoning, they lack a sufficient evidence base and omit key aspects in assessing cost impacts. DHLUC has stated their policy objectives are:

"...to deliver (i) significant carbon savings; (ii) homes which are high quality and affordable, protecting occupants from high bills; (iii) homes which are "zero-carbon ready" - In other words, because they use electric or other renewable energy sources, no work will be necessary to allow these buildings to achieve zero carbon emissions when the electricity grid is fully decarbonised; (iv) homes which are cost-effective, affordable, practical and safe."

Of the two options given, Option 1 will not only boost our national energy security and grid resilience, but it will also deliver higher value for the nation. Analysis undertaken using the 2023 Greenbook supplementary guidance on valuation of energy use and GHG emissions by LETI found that Option 1 will generate an additional £1.6 bn in value over the next 70 years compared to Option 2 (see separate evidence document, Cost Impact Assessment review section).

However, we ultimately do not agree that the options appraised are the optimal at achieving these policy aims, nor is there sufficient evidence to prove DHLUC's position.

Question 8. What are your priorities for the new specification? (select all that apply)

- ~~low capital cost~~
- lower bills**
- carbon savings**
- other (please provide further information)

Please provide any additional comments to support your view on the notional building for dwellings not connected to heat networks.

LETI response : New homes should be inherently low carbon, not only reducing our carbon emissions and mitigating climate change, but also significantly reducing energy costs to the home occupiers. While improving the energy performance of our new build homes may increase capital costs in the short term, we expect these additional costs to reduce once the industry matures and low carbon homes become conventional, delivering value at a national scale.

We would encourage the carbon savings to include embodied carbon in additional carbon emissions arising from energy use, introducing mandatory measurement, as noted within the proposed Part Z amendment that has been discussed in parliament.

Question 9. Which option for the dwelling notional buildings for dwellings connected to heat networks set out in The Future Homes Standard 2025: dwelling notional buildings for consultation do you prefer?

- a. Option 1 (higher carbon and bill savings, higher capital cost)**
- ~~b. Option 2 (lower carbon savings, increase in bill costs, lower capital cost)~~

Please provide any additional comments on the specification of the heat network in the notional building.

LETI response : As noted in response to question 7, we believe that of the two options, Option 1 demonstrates better value. However, we would advocate for an improvement in the building performance over Option 1, as we believe it would deliver a better future for our new homes.

Question 10. Which option do you prefer for the proposed non-domestic notional buildings set out in the NCM modelling guide?

a. Option 1

~~b. Option 2~~

LETI response : In line with the response to question 7. As part of the Future Homes Standard and Future Buildings Standard consultation documents, DHLUC released two impact assessments focused on the respective changes to Part L of the building regulations for domestic and non-domestic buildings. LETI believes that core to the consultation must be a transparency of methodology in which options are assessed against. Whilst the assessments are beneficial and follow logical reasoning, they lack a sufficient evidence base and omit key aspects in assessing cost impacts.

Of the two options given, Option 1 will not only boost our national energy security and grid resilience, but it will also deliver higher value for the nation.

However, we ultimately do not agree that the options appraised are the optimal at achieving these policy aims, nor is there sufficient evidence to prove DHLUC's position.

Question 11. What are your priorities for the new specification?

- low capital cost
- lower bills
- carbon savings
- other (please provide further information)

Please provide additional information to support your view on the proposed non-domestic notional buildings set out in the National Calculation Methodology modelling guide.

LETI response : All new buildings should be inherently low carbon, not only reducing our carbon emissions and mitigating climate change, but also significantly reducing energy costs to the building occupiers. While improving the energy performance of our new buildings may increase capital costs in the short term, we expect these additional costs to reduce once the industry matures and low carbon buildings become conventional, delivering value at a national scale.

We would encourage the carbon savings to include embodied carbon in additional carbon emissions arising from energy use, introducing mandatory measurement, as noted within the proposed Part Z amendment that has been discussed in parliament.

Question 12. Do you agree that the metrics suggested above (TER, TPER and FEE) be used to set performance requirements for the Future Homes and Buildings Standards?

- ~~a. Yes~~
- ~~b. Yes, and I want to provide views on the suitability of these metrics and/or their alternatives~~
- c. No, I think delivered energy should be used**
- ~~d. No, I think FEE should be changed~~
- ~~e. No, for another reason (please provide justification)~~

LETI response : We welcome the review of the units used with the standards, however, we do not agree that TER, TPER and FEE represent an effective way of ensuring efficient, low carbon buildings. We recommend that efficiency improvements are not included in the new standard, instead utilising absolute metrics that closely relate to the use of a building and can be measured in practice.

To **represent the environmental impacts of energy use $\text{kgCO}_2\text{e}/\text{m}^2\text{a}$** should be maintained. The inclusion of system factors through the adoption of primary energy factors overlaps with the purpose of measuring the carbon and is not necessary within the standard.

LETI recommends the use of Energy Use Intensity (EUI), measured as $\text{kWh}/\text{m}^2\text{a}$, providing a more intelligible metric that is simpler to measure and verify in-use, helping to reduce the performance gap. This would necessitate a move to **measure regulated and unregulated energy use**, rather than just regulated energy use.

We would recommend the **adoption of a space heating demand metric**, measured as $\text{kWh}/\text{m}^2\text{a}$ instead of FEE to regulate the underlying energy demand of a building. This is widely adopted internationally, and is simpler to understand.

In addition, **we recommend the addition of a renewable energy generation metric**, based on the footprint of the building: $\text{kWh}/\text{m}^2_{\text{fp}}\text{a}$. We would also recommend that the standard **adopts a metric for energy flexibility** to assist with peak electricity demand management.

A fuller discussion aligned with the desired outcomes of the metrics, along with evidence, is shown in the companion evidence document within the Metrics – Comparison section.

Question 13. Do you agree with the proposed changes to minimum building services efficiencies and controls set out in Section 6 of draft Approved Document L, Volume 1: Dwellings?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 14. Do you agree with the proposal to include additional guidance around heat pump controls for homes, as set out in Section 6 of draft Approved Document L, Volume 1: Dwellings?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 15. Do you agree that operating and maintenance information should be fixed to heat pump units in new homes?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 16. Do you think that the operating and maintenance information set out in Section 10 of draft Approved Document L, Volume 1: Dwellings is sufficient to ensure that heat pumps are operated and maintained correctly?

- ~~a. Yes~~
- ~~b. Yes, and I want to provide additional suggestions or information to support my view~~
- c. No (please provide justification)**

LETI response While we support the ambition of improving the operation and maintenance information in new homes, the current proposals do not provide enough support for home owners, with much of the guidance too technical. Generic text provided within the proposed "Home Energy Guide" does not clearly outline how to operate a specific system, and instead should be replaced with specific guidance created for the home, including images of operation and diagrams.

Question 17. Do you agree with the proposed changes to Section 4 of draft Approved Document L, Volume 1: Dwellings, designed to limit heat loss from low carbon heating systems?

- a. Yes**
- ~~b. Yes, and I want to provide additional suggestions or information to support my view~~
- ~~c. No (please provide justification)~~

LETI response We also propose updating guidance on the sizing of domestic hot water storage vessels. This is set out in Section 5 of draft Approved Document L, Volume 1: Dwellings.

Question 18. Do you agree with the proposed sizing methodology for hot water storage vessels for new homes?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 19. Do you agree with the proposed changes to minimum building services efficiencies and controls set out in Section 6 of draft Approved Document L, Volume 2: Buildings other than dwellings?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 20. Do you agree with the proposed guidance on the insulation standard for building heat distribution systems in Approved Document L, Volume 2: Buildings other than dwellings?

- a. Yes
- ~~b. Yes, and I want to provide additional suggestions or information to support my view~~
- ~~c. No (please provide justification)~~

Question 21. Do you agree that the current guidance for buildings with low energy demand which are not exempt from the Building Regulations, as described in Approved Document L, Volume 2: Buildings other than dwellings should be retained without amendment?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 22. Do you agree that lifts, escalators and moving walkways in new buildings (but not when installed within a dwelling) should be included in the definition of fixed building services?

- ~~a. Yes~~
- b. Yes, and I want to provide additional suggestions or information to support my view**
- ~~c. No (please provide justification)~~

LETI response: Yes, all elements that lead to energy use should be included within the regulations, driving energy efficiency across the entire built environment supply chain. Through inclusion of transport systems, buildings will have a clearer prediction of energy use, moving a step closer to an Energy Use Intensity (EUI) metric, which can be used to reduce the performance gap, reducing energy costs and increasing national energy resilience.

Question 23. Do you agree with the proposed guidance for passenger lifts, escalators and moving walkways in draft Approved Document L, Volume 2: Buildings other than dwellings?

- a. Yes
- b. Yes, and I want to provide additional suggestions or information to support my view
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 24. Do you have any further comments on any other changes to the proposed guidance in draft Approved Document L, Volume 2: Buildings other than dwellings?

- a. Yes (please provide comments)
- b. No

LETI hasn't reached a consensus, no response provided

Question 25. Should we set whole-building standards for dwellings created through a material change of use?

- a. Yes
- b. No, an elemental standard should be set with an option to use a notional building if the designer prefers
- c. No, for another reason (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 26. Should the proposed new MCU standard apply to the same types of conversion as are already listed in Approved Document L, Volume 1: Dwellings?

- ~~a. Yes~~
- b. No, standards should also apply to non-dwelling accommodation e.g., student or patient accommodation, care homes, and hotels**
- ~~c. No, the standard should be clearer that it applies to houses of multiple occupation (please recommend specific building types you think the standard should apply to and provide justification)~~
- ~~d. No, for another reason (please provide justification)~~

LETI response: The MCU standard should aim to create a universal low energy future for the built environment, and include as broad a definition as possible. Preference would be to include a defined list of exemptions, rather than a list of inclusions.

Question 27. Should different categories of MCU buildings be subject to different requirements?

- a. Yes**
- b. No (please provide justification)

Question 28. Which factors should be taken into account when defining building categories? (check all those that apply)

- height of the building, i.e., low versus mid- to high-rise buildings
- floor area of the building
- the expertise of those carrying out the work
- whether the conversion is a part- or whole-building conversion
- Other (please state)**

Please provide additional information to support your view.

LETI response: Should different building characteristics be incorporated into the MCU, then a detailed, open study should be undertaken to identify the key characteristics and tipping points for energy efficiency. Through creating exemptions, the MCU will be putting a value judgement on different buildings that may limit our progress towards our net zero carbon goals, and each factors should be considered against our decarbonisation pathways.

Question 29. Do you agree with the illustrative energy efficiency requirements and proposed notional building specifications for MCU buildings?

- a. Yes
- b. No

LETI hasn't reached a consensus, no response provided

Question 30. If you answered no to the previous question, please provide additional information to support your view. Select all that apply. The requirements are:

- too stretching
- not stretching enough
- not economically viable
- not practical/technically feasible
- other (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 31. Do you agree with using the metrics of primary energy rate, emission rate and fabric energy efficiency rate, if we move to whole dwelling standards for MCU buildings?

- ~~a. Yes~~
- ~~b. Yes, and I want to provide additional suggestions or information to support my view~~
- c. No (please provide justification)**

LETI response: As noted in response to question 12, **LETI recommends a delivered energy metric**, as it can be measured in use and help to reduce the performance gap.

Primary energy is a confusing and unnecessary metric that cannot be measured by building occupants. It should not form part of the standard.

Fabric efficiency is essential within the standard, but we recommend an absolute metric of space heating demand, measured as kWh/m².a.

A detailed discussion is included in the separately provided evidence document with the Metrics section.

Question 32. Under what circumstances should building control bodies be allowed to relax an MCU standard?

- a. None, building control bodies should not be able to relax MCU standards
- b. Building control bodies should be able to relax under the following circumstances (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 33. Do you have views on how we can ensure any relaxation is applied appropriately and consistently?

Please select all that apply:

- there should be guidance on circumstances where relaxation of the notional standard may be appropriate
- there should be monitoring of how relaxation is applied
- only formal relaxation or dispensation through the local authority should be possible
- other (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 34. Should a limiting standard be retained for MCU dwellings?

- a. Yes (please provide further details)
- b. No, it is too strict
- c. No, it is not strict enough
- d. No, there is not enough information
- e. No, for another reason (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 35. If a limiting standard is retained, what should the limiting standard safeguard against?

Please select all that apply:

- risk of moisture, damp and mould
- high energy demand and energy bills (please provide recommended values referring to ADL volume 1 Table 4.3)
- other (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 36. Do you wish to provide any evidence on the impacts of these proposals including on viability?

- a. Yes (please provide evidence)
- b. No

LETI hasn't reached a consensus, no response provided

Question 37. Do you agree that a BREL report should be provided to building control bodies if we move to energy modelling to demonstrate compliance with MCU standards?

~~a. Yes~~

b. Yes, and photographic evidence is needed

~~c. Yes, and I'd like to provide further information~~

~~d. No (please provide justification)~~

LETI response : Yes, building control bodies should be able to clearly and efficiently understand the proposed performance of a building, and a standardised approach will improve the recognition of outliers and potential areas of concern. The industry must improve the quality of our buildings, and provision of photographic evidence is a key method of ensuring that buildings are constructed to a standard that delivers the predicted performance.

Question 38. Do you agree that consumers buying homes created through a material change of use should be provided with a Home User Guide when they move in?

a. Yes

~~b. Yes, and I'd like to provide further information~~

~~c. No (please provide justification)~~

Question 39. Do you agree that homes that have undergone an MCU should be airtightness tested?

a. Yes

~~b. Yes, and I'd like to provide further information~~

~~c. No (please provide justification)~~

Question 40. Do you think that we should introduce voluntary post occupancy performance testing for new homes?

~~a. Yes~~

b. Yes, and I'd like to provide further information

~~c. No (please provide justification)~~

LETI response: Post-occupancy performance testing of new homes should form a mandatory part of the standard, closing the performance gap and providing a feedback loop to improve future buildings. However, voluntary post-occupancy performance testing will not drive the large scale improvements needed, instead a level of compulsory testing should be included. This would broaden the uptake of post-occupancy testing to beyond those with aspirations for low energy housing to include the majority of house builders.

Question 41. Do you think that the government should introduce a government-endorsed Future Homes Standard brand? And do you agree permission to use a government-endorsed Future Homes Standard brand

should only be granted if a developer's homes perform well when performance tested? Please include any potential risks you foresee in your answer.

- a. Yes
- b. Yes, and I want to provide additional suggestions or information
- c. Yes, but I think there are risks associated with introducing a government-endorsed brand
- d. No (please provide justification)**

LETI response: The FHS should be compulsory compliance rather than being treated as a standard.

Question 42. Do you agree with the proposed changes to Approved Document F, Volume 1: Dwellings to improve the installation and commissioning of ventilation systems in new and existing homes?

- a. Yes
- b. Yes, and I'd like to provide further information
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 43. Do you agree with the proposal to extend Regulation 42 to the installation of mechanical ventilation in existing homes as well as new homes?

- a. Yes**
- ~~b. Yes, and I'd like to provide further information~~
- ~~c. No (please provide justification)~~

Question 44. Do you think the guidance on commissioning hot water storage vessels in Section 8 of draft Approved Document L, Volume 1: Dwellings is sufficient to ensure they are commissioned correctly?

- ~~a. Yes~~
- ~~b. Yes, and I'd like to provide further information~~
- c. No (please provide justification)**

LETI response: While we are pleased to see an increased focus on commissioning, we do not think it is enough to ensure hot water storage vessels are commissioned correctly. We would encourage the inclusion of seasonal commissioning or a check after the first year of operation to rectify any issues with the initial commissioning.

Question 45. Are you aware of any gaps in our guidance around commissioning heat pumps, or any third-party guidance we could usefully reference?

- a. Yes (please provide further details)
- b. No

LETI hasn't reached a consensus, no response provided

Question 46. Do you think the guidance for commissioning on-site electrical storage systems in Section 8 of draft Approved Document L, Volume 1: Dwellings is sufficient to ensure they are commissioned correctly?

- a. ~~Yes~~
- b. ~~Yes, and I'd like to provide further information~~
- c. **No (please provide justification)**

LETI response: While we are pleased to see an increased focus on commissioning, we do not think it is enough to ensure on site electrical storage systems are commissioned correctly. We would encourage the inclusion of seasonal commissioning or a check after the first year of operation to rectify any issues with the initial commissioning.

Question 47. Do you agree with proposed changes to Approved Document L, Volume 1: Dwellings and Approved Document F, Volume 1: Dwellings to (a) clarify the options for certifying fixed building services installations and (b) set out available enforcement options where work does not meet the required standard?

- a. Yes
- b. Yes, and I'd like to provide further information
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 48. Do you think the additional information we intend to add to the Home User Guide template, outlined above, is sufficient to ensure home occupants can use their heat pumps efficiently?

- a. ~~Yes~~
- b. ~~Yes, and I'd like to provide further information~~
- c. **No (please provide justification)**

LETI response: The home user guide is a welcome addition, however by providing so much generic text, it is likely that this will be used in preference to generating new, specific guidance for the home. To be impactful it should include specific actions for homeowners that relate to the installation within their home, including diagrams and photographs.

Question 49. If you are a domestic developer, do you use, or are you planning to use, the Home User Guide template when building homes to the 2021 uplift? Please give reasons in your response.

- a. Yes (please provide further details)
- b. No (please provide further details)

LETI hasn't reached a consensus, no response provided

Question 50. Do you have a view on how Home User Guides could be made more useful and accessible for homeowners and occupants, including on the merits of requiring developers to make guides available digitally? Please provide evidence where possible.

a. Yes, (please provide further details)

~~b. No~~

LETI response: Home User Guides should reduce the amount of generic text, instead prioritising specific guidance on the home and the systems it contains, including photographs, diagrams, and manufacturer guidance. Through the provision of generic text, it is likely that this will be used by default, but not provide information particular to the homeowner.

Question 51. Do you think that there are issues with compliance with Regulations 39, 40, 40A and 40B of the Building Regulations 2010? Please provide evidence with your answer.

a. Yes (please provide justification)

b. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 52. Do you think that local authorities should be required to ensure that information required under Regulations 39, 40, 40A and 40B of the Building Regulations 2010 has been given to the homeowner before issuing a completion certificate?

a. Yes

~~b. Yes, and I'd like to provide further information~~

~~c. No (please provide justification)~~

Question 53. Do you agree that new homes and new non-domestic buildings should be permitted to connect to heat networks, if those networks can demonstrate they have sufficient low-carbon generation to supply the buildings' heat and hot water demand at the target CO₂ levels for the Future Homes or Buildings Standard?

~~a. Yes~~

b. Yes, and I'd like to provide further information

~~c. No (please provide justification)~~

LETI response: This is subject to a heat network connection not being mandated and to heat networks not being given an unfair advantage compared to on-site communal and individual low carbon heating systems:

- Condition 1: the methodology used to calculate the CO₂ emissions per kWh of the heat network must not be based on sleeving
- Condition 2: the methodology must be peer reviewed by a carbon expert independent from heat network interests

We have provided a more detailed analysis of heat networks within the Heat Networks section of the additional evidence document provided.

Question 54. Do you agree that newly constructed district heating networks (i.e., those built after the Future Homes and Buildings Standard comes into force) should also be able to connect to new buildings using the sleeving methodology?

~~a. Yes~~

~~b. Yes, and I'd like to provide further information~~

c. No (please provide justification)

LETI response: We do not agree with the principles of sleeving:

- It is not scientifically robust
- It is biased towards the on-going use of heat networks even when most of their heat is generated by fossil fuels
- It does not provide a clear pathway for buildings already connected to the network to decarbonise
- It has not been peer reviewed by a carbon expert independent from heat network interests

Sleeving should not be included within any of the proposed standards. A wider discussion on heat networks is included within the Heat Networks section of the additional evidence document provided.

Question 55. Do you agree with the proposed guidance on sleeving outlined for Heat Networks included in Approved Document L, Volume 1: Dwellings and Approved Document L, Volume 2: Buildings other than dwellings?

~~a. Yes~~

~~b. Yes, and I'd like to provide further information~~

c. No (please provide justification)

LETI response: We do not agree with the principles of sleeving:

- It is not scientifically robust
- It is biased towards the on-going use of heat networks even when most of their heat is generated by fossil fuels
- It does not provide a clear pathway for buildings already connected to the network to decarbonise
- It has not been peer reviewed by a carbon expert independent from heat network interests

Sleeving should not be included within any of the proposed standards. A wider discussion on heat networks is included in the evidence document provided in addition to this document.

Question 56. Do you agree that heat networks' available capacity that does not meet a low carbon standard should not be able to supply heat to new buildings?

a. Yes

~~b. No (please provide further details regarding how this unused higher carbon capacity should be accounted for)~~

LETI response: The Future Homes Standard and Future Building Standard should signal the end of fossil fuels, and should restrict the expansion of carbon intensive heat networks.

Question 57. What are your views on how to ensure low-carbon heat is used in practice?

LETI hasn't reached a consensus, no response provided

Question 58. Are there alternative arrangements for heat networks under the Future Homes and Building Standards that you believe would better support the expansion and decarbonisation of heat networks?

LETI response: We propose that there is no allowance for sleeving or expansion of heat networks that cannot meet either Future homes and Future building standards. There is no benefit to expanding existing heat networks, even in spatial terms. If they are beneficial, then new ones can be built with heat pumps and existing ones should be decarbonised instead. This will reduce losses and enable lower flow temperatures to be used when connected to a new development which has been designed for heat pumps. It would also assure us that the heat is definitely from a low carbon source, not from a gas boiler or CHP engine running longer hours.

Question 59. Do you agree that the draft guidance provides effective advice to support a successful smart meter installation in a new home, appropriate to an audience of developers and site managers?

- a. Yes
- b. No

If not, please provide suggestions for how the draft guidance could be improved. Please provide evidence and sources for your statements where appropriate.

LETI hasn't reached a consensus, no response provided

Question 60. Do you agree that voluntary guidance referenced in draft Approved Document L, Volume 1: Dwellings is the best approach to encouraging smart meters to be fitted in all new domestic properties?

- a. Yes
- b. No

If not, is there anything else you think the government should be doing to ensure that smart meters are fitted in all new build properties?

LETI hasn't reached a consensus, no response provided

Question 61. Do you agree that it should be possible for Regulation 26 (CO2 emission rates) to be relaxed or dispensed with if, following an application, the local authority or Building Safety Regulator concludes those standards are unreasonable in the circumstances?

- a. Yes
- b. No (please provide justification)

LETI response: The inclusion of **this process will create a loophole that can be exploited**, creating an uneven and uncompetitive market. **Building regulation should be the minimum standards across the country without exception.** If this process is enabled, it will likely affect areas of high deprivation where build, land and property costs are more constrained, **leading to an increase of fuel poverty** among those would benefit most from low energy homes.

Question 62. [If yes to previous question], please share any examples of circumstances where you think it may be reasonable for a local authority to grant a relaxation or dispensation?

N/a

Question 63. Do you think that local authorities should be required to submit the applications they receive, the decisions they make and their reasoning if requested?

~~a. Yes~~

b. Yes, and I'd like to provide further information

~~c. No (please provide justification)~~

LETI response: Should councils receive the authority to relax the CO₂ emission rates of a building, which we are firmly against, then it is essential that they are committed to sharing information in an open and transparent manner. Increases in CO₂ emissions affect us all, and as stakeholders, any information should be shared on an open platform that is accessible by all.

Question 64. Are there any additional safeguards you think should be put in place to ensure consistent and proportionate use of this power?

LETI response: This power should not be extended until a full understanding of the implications is analysed. The building regulations should not introduce a mechanism that undermines its effectiveness.

Question 65. Do you agree that Part L1 of Schedule 1 should be amended, as above, to require that reasonable provision be made for the conservation of energy and reducing carbon emissions?

~~a. Yes~~

b. Yes, and I'd like to provide further information

~~c. No (please provide justification)~~

LETI response: Whilst we welcome the broadening of the definition to include all greenhouse gas emissions, we believe that the embodied carbon emissions of a building, including refrigerant gases should be included in the building regulations - either in the Future Homes/Buildings Standards or in a standalone complementary approved documents. Refrigerant gas emissions are implied within (b) - *providing fixed building services which - (ii) minimise greenhouse gas emissions.*

Question 66. Do you agree that regulations 25A and 25B will be redundant following the introduction of the Future Homes and Buildings Standards and can be repealed?

~~a. Yes~~

~~b. Yes, and I'd like to provide further information~~

c. No (please provide justification)

LETI response: We do not believe that the proposed standards will deliver “zero-carbon ready” buildings and so disagree with the statement that no further work will be necessary to ensure a zero-carbon future. As such **it is essential that these regulations are retained** to ensure that the need to deliver buildings in line with our carbon commitments is maintained.

Question 67. Do you agree that the Home Energy Model should be adopted as the approved calculation methodology to demonstrate compliance of new homes with the Future Homes Standard?

a. Yes

~~b. Yes, and I'd like to provide further information~~

~~c. No (please provide justification)~~

LETI response: The proposed Home Energy Model is a significant improvement over the current SAP model. With continued development we believe it will be able to better predict the space heating demand, energy use, renewable energy generation, and demand flexibility than current SAP models, enabling the use of absolute metrics such as EUI.

Question 68. Please provide any comments on the parameters in the notional building.

LETI hasn't reached a consensus, no response provided

Question 69. Minimum standards already state that heat pumps should have weather compensation and we would like to understand if stakeholders think this is enough to ensure efficiency of heat pumps under the varying weather conditions across England. Should the notional building use local weather?

~~a. Yes~~

b. No

Please provide any evidence you have on the unintended consequences that could arise as a result of using local weather in the notional building. If possible, please comment on the impact on the construction industry in terms of design and building feasibility. We also welcome views on whether weather compensation is sufficient to ensure heat pump efficiency.

LETI response: It is a very positive improvement on SAP that HEM:FHS is able to use regional weather data as opposed to average national weather data. Unfortunately, due to the notional dwelling approach, the target will also change, meaning that a house in the North of England will have to be less efficient than a house in the South of England. These homes will have higher energy bills. LETI believes that the Future Homes Standard should seek to deliver the same benefits across the country. See the additional evidence provided within the attached note, within the Weather Data section.

Question 70. Do you agree with the revised guidance in The Future Homes Standard 2025: dwelling notional buildings for consultation no longer includes the average compliance approach for terraced houses?

- a. Yes
- ~~b. No~~

LETI response: The Future Homes Standard should not make exceptions due to the form and massing, including flats and terraces. We welcome the removal of terrace houses from the FHS, but this should be extended to include all homes, moving towards an approach that guarantees all homes are low energy and provide the benefits that it would bring.

Question 71. Do you agree with the revised guidance in Approved Document L, Volume 1: Dwellings which states that you should not provide a chimney or flue when no secondary heating appliance is installed?

- a. Yes
- b. No

Please provide any further evidence.

LETI hasn't reached a consensus, no response provided

Question 72. Do you agree with the proposed approach to determine U-values of windows and doors in new dwellings?

- a. Yes
- ~~b. No~~

Please provide any further evidence.

LETI response: Increasing the accuracy of U-values for doors and windows is essential when determining the underlying fabric performance of a building. Through increased accuracy, the HEM will be better placed to predict actual energy usage that can be measured in use, with the co-benefits that low energy housing will create.

Question 73. Do you agree with the proposal to remove the default γ -value for assessing thermal bridges in new dwellings?

- a. Yes
- b. Yes, and I'd like to provide further information
- c. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 74. Do you have any information you would like to provide on the homes built to the Future Homes Standard using curtain walling?

LETI hasn't reached a consensus, no response provided

Question 75. Do you agree with the methodology outlined in the NCM modelling guide for the Future Buildings Standard?

- a. Yes,
- b. No (please provide justification)

LETI hasn't reached a consensus, no response provided

Question 76. Please provide any further comments on the cSBEM tool which demonstrates an implementation of the NCM methodology.

LETI hasn't reached a consensus, no response provided

Question 77. Please provide any further comments on the research documents provided alongside the cSBEM tool and which support the development of the NCM methodology, SBEM and iSBEM.

LETI hasn't reached a consensus, no response provided

Question 78. Which option describing transitional arrangements for the Future Homes and Buildings Standard do you prefer? Please use the space provided to provide further information and/or alternative arrangements.

a. Option 1

~~b. Option 2~~

Please provide further information or suggest alternative transitional arrangements with your rationale and supporting evidence.

LETI response: It is essential that we respond quickly to the climate crisis and build truly zero-carbon compatible buildings. Extending transitional arrangements beyond 6 months will enable the installation of more gas boilers and the creation of inefficient homes. These buildings will become a carbon burden, locked into high emission heating systems, and require retrofitting in the near future to be compatible with our net carbon commitments.

Question 79. Will the changes to Building Regulations proposed in this consultation lead to the need to amend existing planning permissions? If so, what amendments might be needed and how can the planning regime be most supportive of such amendments?

- a. Yes (please provide further information)
- b. No

LETI hasn't reached a consensus, no response provided

Question 80. Do you agree that the 2010 and 2013 energy efficiency transitional arrangements should be closed down, meaning all new buildings that do not meet the requirements of the 2025 transitional arrangements would need to be built to the Future Homes and Buildings Standards?

a. Yes

b. No (please provide justification)

LETI response: It is essential that we respond quickly to the climate crisis and build truly zero-carbon compatible buildings. Maintaining these transitional arrangements will enable the installation of more gas boilers and the creation of inefficient homes. These buildings will become a carbon burden, locked into high emission heating systems, and require retrofitting in the near future to be compatible with our net carbon commitments.

Question 81. What are your views on the proposals above and do you have any additional evidence to help us reach a final view on the closing of historical transitional arrangements?

LETI hasn't reached a consensus, no response provided

Question 82. Part O does not apply when there is a material change of use. Should it apply?

a. Yes

b. Yes, but only for some types of conversion (please list from reg 5a-k or describe the type)

c. No

Please provide more details about why Part O should/should not apply to a material change of use and, if possible, point to existing evidence/examples that demonstrates your view.

LETI response: Material change of use represents a substantial number of new homes, with 102,830 delivered between 2015 and 2023 (reference: <https://commonslibrary.parliament.uk/research-briefings/sn00485/>).

Residents in these homes should have the same protection against overheating as any other resident. This will reduce the impact of climate change on the health of these residents, with the many benefits this will bring to the country.

Existing non-domestic buildings will have a different risk profile for overheating compared to buildings designed to be homes, including large areas of glazing, restricted window openings, deep floor plates, and location in areas of higher noise (e.g. city centres). Given the additional risk of overheating arising from these building features, it is imperative that Part O should be applied to MCU properties to provide a mechanism for ensuring future homes do not overheat and impact on the health of the residents. The Climate Change Committee report, *Progress in Adapting to Climate change 2021 Progress report to Parliament*, noted that development conversions were linked to a poorer internal environment (www.theccc.org.uk/wp-content/uploads/2021/06/Progress-in-adapting-to-climate-change-2021-Report-to-Parliament.pdf).

Question 83. Apart from material change of use, is there anything missing from the current scope of Part O?

a. Yes, (please provide justification)

~~b. No, (please provide justification)~~

LETI response: Part O should be applied in some form to retrofit projects, creating a more resilient building stock in the face of climate change. This would align Part O with Commitment M5 of the Global cooling pledge which requires that passive cooling measures be incorporated into refurbished buildings by 2030.

In line with other aspects of building performance, overheating should be subject to a post-occupancy evaluation, identifying the efficacy of cooling measures that can be fed-forward to inform future decision making.

We would also recommend that hotels be included within the Part O requirements, noting that hotels can be used as temporary housing.

Question 84. Can you provide evidence on how the addition of extensions or conservatories to domestic buildings can impact overheating risk on an existing building?

a. Yes, (please provide justification)

b. No

LETI hasn't reached a consensus, no response provided

Question 85. We are currently reviewing Part O and the statutory guidance in Approved Document O. Do you consider there to be omissions or issues concerning the statutory guidance on the simplified method for demonstrating compliance with requirement O1, for buildings within the scope of requirement O1?

a. Yes (please provide justification)

~~b. No~~

LETI response: The simplified method for calculation is not intuitive and difficult to apply consistently. It would be more robust to have a fuller calculation tool, potentially as an extension to the HEM, that could then be used with more consistency than is currently available.

Additional modelling of openable windows at night other than bedrooms would enable the impact of cooling the whole building down rather than just the occupied space. Issues around security of open windows in non-occupied areas could be designed out.

Question 86. Do you consider there to be omissions or issues concerning the statutory guidance on the dynamic thermal modelling method for demonstrating compliance with requirement O1 for all residential buildings?

a. Yes, (please provide justification)

~~b. No~~

LETI response: Part O currently deviates from CIBSE TM59 rules of modelling, which creates areas of confusion and additional modelling work. Work should be undertaken to align the underlying modelling assumptions with CIBSE TM59, representing best practice within the industry.

Greater intelligence of the opening strategy for bedrooms at night should be included, with the current 23°C threshold moved to an adaptive approach that enables the bedroom occupants to close windows if temperatures drop below 23°C or open windows if the room temperature exceeds 25°C after 11pm.

Where maximum reach limits of 650mm are encountered, additional guidance should be provided on how to include the impact within the modelling. Additional support within the calculation tool for establishing equivalent areas is necessary.

Question 87. Do you consider there to be omissions or issues concerning the statutory guidance on ensuring the overheating mitigation strategy is usable for buildings within the scope of requirement O1?

a. Yes, (please provide justification)

b. No

LETI response: We have noticed that when mechanical cooling is included, there is typically little consideration of the passive solutions that would reduce the cooling load and improve building resilience in future climate scenarios. Greater clarity on how to enforce the passive measures should be included. A clearer implementation of the cooling hierarchy and how to assess its implementation should be included.

Question 88. Do you consider there to be omissions or issues concerning the statutory guidance on protection from falling?

a. Yes, (please provide justification)

b. No

LETI hasn't reached a consensus, no response provided

Question 89. Are you aware of ways that Approved Document O could be improved, particularly for smaller housebuilders?

a. Yes, (please provide justification)

b. No

LETI response: Part O should be updated to align with the upcoming revision of CIBSE TM59 to avoid any confusion over standards that may arise and improve efficiency of delivery. The Part O terminology throughout the standard should be unified, with mixed descriptions of 'free' and 'equivalent' area.

Question 90. Does Regulation 40B require revision?

- a. Yes, (please provide justification)
- b. No

LETI hasn't reached a consensus, no response provided

Question 91. Do you consider there to be omissions or issues concerning the statutory guidance on providing information?

- a. Yes, (please provide justification)
- b. No

LETI hasn't reached a consensus, no response provided

Question 92. Are there any improvements that you recommend making to the information provided about overheating in the Home User Guide template?

- a. Yes, (please provide justification)**
- ~~b. No~~

LETI response: The guidance provided by the Home User Guide is generic and not home specific. It is likely to be used as default option over a home systems specific guidance would enable a home occupant to manage their space more effectively. It is recommended that the guide instead provides a series of questions to be answered by the home builder with suggested responses and supporting information such as diagrams, photographs and specific manufacturer guidance.

Question 93. Are there any omissions or issues not covered above with the statutory guidance in Approved Document O that we should be aware of?

- a. Yes
- b. No

If you answered yes, please provide more details including suggestions on ways to improve the statutory guidance and point to existing evidence/examples that demonstrates why the gaps or issues you have identified should be reviewed as a priority.

LETI hasn't reached a consensus, no response provided

Question 94. Please provide any feedback you have on the potential impact of the proposals outlined in this consultation document on persons who have a protected characteristic. If possible, please provide evidence to support your comments.

LETI hasn't reached a consensus, no response provided

Question 95. Please provide any feedback you have on the impact assessments.

LETI hasn't reached a consensus, no response provided