

LETI – short consultation - Yes/ No responses

The consultation response has 130 questions, some high level about ambition and some very detailed and technical. LETI have produced a short version of the consultation response outlining what we think are the key 17 questions.

If you only have 10-15 minutes of time, we encourage you to [respond to the FBS consultation](#) and just respond to these questions. We encourage you to respond with a yes/ no answer.

The text in blue is provided to show why LETI have responded a certain way, please do not copy and paste these answers into your consultation response. Either just provide a yes/ no answer with no further information or write your own explanatory text.

Section A: Non-Domestic Buildings

The Future Buildings Standard

Question 1): Our aim is that buildings constructed to the Future Buildings Standard will be capable of becoming carbon neutral over time as the electricity grid and heat networks decarbonise.

Do you agree that the outline of the Future Buildings Standard in this chapter meets this aim?

- a) Yes
- b) No**

Please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

The outline generally shows good intent, with a focus on fabric efficiency and low carbon heating technologies. However, we have a number of concerns on the approach and detail of each element.

Interim uplift to Part L standards for non-domestic buildings

Question 9): We would welcome any further suggestions, beyond those provided in this consultation, for improving the modelling process; Part L and Part F compliance; and the actual energy performance of non-domestic buildings. Please provide related evidence.

LETI's messages- don't copy and paste

- *Introduce absolute Energy Use Intensity (EUI) targets for non-domestic buildings. This*

provides a measure of energy “at the meter” which is influenced by efficient design and energy supply agnostic

- *Include unregulated energy*
- *No notional building, etc. The way the notional building works means that some essential decisions are not rewarded (e.g. improvement in form factor, decision to adopt a heat pumps in nondomestic buildings, etc.). These decisions should be rewarded.*
- *Energy data disclosure and Post occupancy evaluation should be mandated*
- *Embodied carbon metrics should be introduced within regulations*
- *NCM should be improved, in particular its assessment of space heating demand*

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 10): What level of uplift to the energy efficiency standards for non- domestic buildings in the Building Regulations should be introduced in 2021?

- a) Option 1 – average 22% CO₂ reduction
- b) Option 2 – average 27% CO₂ reduction (this is the Government’s preferred option)
- c) No change
- d) Other level of uplift (please specify)**

Please explain your reasoning and provide supporting evidence or alternative suggestions where applicable.

LETI’s reasoning - don’t copy and paste

We would suggest at least 40-50% uplift

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 11): Do you agree with the way that we are proposing to apply primary energy as the principal performance metric?

- a) Yes
- b) No**

If you answered no, please explain your reasoning.

LETI’s reasoning - dont copy and paste

Primary energy is derived from energy use. It makes it more complex by multiplying it by a factor. This factor changes dynamically and can be out-of-date very quickly.

Adding this complexity would be necessary if decisions driven by energy use only need to be corrected to drive the right outcomes. It is not the case though.

It changes independent of the building performance using offsite factors, is not understandable by vast majority of occupants and operators, does not directly relate to meter readings, changes year on year and hence means buildings cannot be compared

Out of all metrics it is probably the one which most people will not understand.

Adopting energy use EUI as a metric is one of the key LETI messages and has received consistent support in the last 4 years. Through surveys of a total of 800 people, more than 85% expressed a preference for energy use over primary energy.

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 12): Do you agree with using CO₂ as the secondary performance metric?

a) Yes

b) No

If you answered no, please explain your reasoning.

LETI's reasoning - don't copy and paste

CO₂ factor should be long term forecast, not 3-year forecast

Useful as an incentive to reduction of carbon emissions

Question 13): Do you agree with the approach to calculating CO₂ and primary energy factors, referred to in paragraph 3.5.7 of this consultation document?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

The proposed carbon factor for electricity is around the current level, so will already be outdated by the time the new guidance comes into effect.

The methodology does not support electricity use as the primary energy source as it shows it with a PE factor of 1.501, vs gas of 1.130. This is likely to lead to gas being favoured.

Question 14): Do you agree with the proposals for natural gas being assigned as the heating fuel for any fuels with a worse CO₂ emission factor than natural gas?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

The heating fuel type in the notional building should be the same in every building, to

promote a consistent and fair appraisal of options on a like-for-like basis, and it should be a low-carbon fuel to set a low-carbon target AND send a strong signal on the importance of heat decarbonisation. This is another good reason to move away from the Notional building approach as it reduces this confusion.

Question 17): **Do you agree with the proposal for connecting to an existing heat network, as presented in the draft NCM modelling guide?**

- a) Yes
- b) No, they give too much of an advantage to heat networks**
- c) No, they do not give enough of an advantage to heat networks
- d) No, I disagree for another reason

If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

If the notional building has a fixed DH baseline, and the existing or new network performs better than this, this gives a fabric and energy efficiency get out clause' for all buildings connecting to DH.

Most heat networks have not switched to electricity and have no roadmap to zero carbon

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 18): **Do you agree with the proposal for connecting to a new heat network, as presented in the draft NCM modelling guide?**

- a) Yes
- b) No, they give too much of an advantage to heat networks**
- c) No, they do not give enough of an advantage to heat networks
- d) No, I disagree for another reason

If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

If the notional building has a fixed DH baseline, and the existing or new network performs better than this, this gives a fabric and energy efficiency get out clause' for all buildings connecting to DH.

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 19): Do you agree with the proposed changes to the National Calculation Methodology Modelling Guide and activity database?

- a) Yes
- b) Yes, but additional changes should be made
- c) No**

If you answered b or c, please explain your reasoning and provide alternative suggestions.

LETI's reasoning - don't copy and paste

- NCM underestimates space heating – proposed NCM changes do not seem to address this issue
- SBEM uses over inflated unregulated room heat gain assumptions to cope with regulated fabric heat loss – NCM should better consider unregulated energy
- A fabric efficiency / heating and cooling demand metric would be useful
- We propose to move away from the notional building

(LETI will produce further evidence on this - To help with this sign up at [this link](#))

Question 22): Do you agree with the proposed minimum standards for fabric performance in new non-domestic buildings as presented in Table 3.2 of this consultation document?

- a) Yes
- b) No, the standards go too far
- c) No, the standards do not go far enough**
- d) No, I disagree for another reason

If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

- Airtightness values do not go far enough
- The range of U-values in the notional building specification for Option 2 would be more adequate as backstop U-values
- A fabric efficiency / heating and cooling demand metric would be useful

Question 23): Do you agree with the proposed minimum standards for fabric performance of new thermal elements in existing non-domestic buildings as presented in Table 3.3 of this consultation document?

- a) Yes
- b) No, the standards go too far
- c) No, the standards do not go far enough**
- d) No, I disagree for another reason

If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

LETI's reasoning - don't copy and paste

Retrofit work to existing non-domestic buildings represent a key opportunity to decarbonise the existing stock. The U-Values proposed for new fabric elements do little to realise this opportunity and should be improved drastically (in particular for external walls).

Question 24): Do you agree with the draft guidance in paragraph 4.15 of the draft *Approved Document L, volume 2: buildings other than dwellings* on reducing unwanted air infiltration when carrying out work to existing non-domestic buildings?

- a) Yes
- b) No

If you answered no, please explain your reasoning.

LETI's reasoning - don't copy and paste

Guidance should also address air leakage paths in retained existing elements (rather than solely new elements). And provide a clearer link to an improved air permeability target (beyond the proposed 8.0 m³/h.m² @ 50Pa).

Question 37): Do you agree with the proposal that wet space heating systems in new buildings should be designed to operate with a flow temperature of 55°C or lower?

- a) Yes, through a minimum standard set in paragraph 5.9 of the *Approved Document L, volume 2: buildings other than dwellings*
- b) Yes, through carbon and primary energy credit in SBEM
- c) Yes, by another means
- d) No, the temperature should be below 55°C**
- e) No, this standard should not be applied to all new buildings
- f) No, I disagree for another reason

Please explain your reasoning.

LETI's reasoning - don't copy and paste

To ensure gas heating condensation and heat pump SEERs. In principle this provides a

good balance point between lowest temperature and providing some flexibility.

Question 40): Do you agree with the efficiency proposals for replacement fixed building services in existing non-domestic buildings as detailed in paragraphs 5.4 to 5.7 of draft *Approved Document L, volume 2: buildings other than dwellings*?

- a) Yes
- b) No

If you answered no, please explain your reasoning.

LETI's reasoning - don't copy and paste

The efficiencies have been broadly improved.

Should systems for existing buildings have the same standards as new built?

Question 50): Do you agree with the proposal that when whole wet space heating systems (i.e. boiler and radiators) are replaced in existing non-domestic buildings the replacement system should be designed to operate with a flow temperature of 55°C or lower?

- a) Yes, through a minimum standard set in paragraph 5.9 of *Approved Document L, volume 2: buildings other than dwellings*
- b) Yes, through carbon and primary energy credit in SBEM
- c) Yes, by another means
- d) No, the temperature should be below 55°C
- e) No, this standard should not be applied to all existing buildings
- f) No, I disagree for another reason

Please explain your reasoning.

LETI's reasoning - don't copy and paste

Contributes to low return temperatures which are key to the efficiency of most heating systems

Question 60): Do you agree with the proposed approach to energy forecasting, as detailed in paragraph 9.4 of draft *Approved Document L, volume 2: buildings other than dwellings*?

- a) Yes
- b) No, I do not agree with the proposed approach
- c) No, energy forecasting should not form part of the Building

Regulations

If you answered no (b or c), please explain your reasoning and provide alternative suggestions.

LETI's reasoning - don't copy and paste

Prediction of operational energy use with CIBSE TM54 is seen as a positive and can be used for capacity building. This is seen as a positive move in conjunction with the BEIS consultation - [Introducing a performance-based policy framework in large commercial and industrial buildings - GOV.UK \(www.gov.uk\)](#)

Supplementary guidance could be developed to support the use of TM54 for a number of building types.

Section B: Domestic Buildings

Standards for overheating in new residential buildings in 2021

Question 86) Do you agree with the maximum glazing area and shading standards for limiting solar gains in the simplified method as detailed in paragraphs 1.6 to 1.9 of the draft *Overheating Approved Document*?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence.

LETI's reasoning - don't copy and paste

No - the proposed glazing areas are too high for some home designs and could still encourage heavily glazed facades with consequent overheating risk.

Question 87) Do you agree with the approach to removing excess heat in the simplified method as detailed in paragraphs 1.10 to 1.13 of the draft *Overheating Approved Document*?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence.

LETI's reasoning - don't copy and paste

No - the areas proposed are very high, and whilst we support a requirement for generous and flexible openings, the proposals set out seem impractical and excessive in the context of all new homes. However, this is not to say that such a significant provision of opening area wouldn't be necessary in some higher risk circumstances.

Question 93): Do you agree that the building should be constructed to meet the overheating requirement without the need for mechanical cooling?

a) Yes

b) No

If you answered no, please explain your reasoning.

LETI's reasoning - don't copy and paste

Yes - ensuring homes are designed not to overheat without mechanical cooling is essential. Where cooling is subsequently installed it is for additional comfort rather than a necessity.

Question 97): Do you agree with the protection from falling guidance proposed in Section 3 of the draft *Overheating Approved Document*?

a) Yes

b) No

If you answered no, please explain your reasoning and provide alternative suggestions.

LETI's reasoning - don't copy and paste

No - too many clashes with Part B,K and M

Part L standards for domestic buildings in 2021

Question 104): Do you agree with the proposed minimum fabric standards for existing domestic buildings set out in Table 6.1 of this consultation document?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence.

Question 105): Do you agree with the proposed minimum fabric standards for existing domestic buildings set out in Table 6.1 of this consultation document?

a) Yes

b) No

If you answered no, please explain your reasoning and provide supporting evidence.

Question 106): Do you agree that we should control the primary energy and fabric energy efficiency of new extensions to existing homes when using the SAP method of compliance?

- a) Yes
- b) No**

If you answered no, please explain your reasoning

Question 109): Do you agree with the proposed minimum fabric standards set out in Table 6.2 of this consultation document, and Sections 4 and 11 of draft *Approved Document L, volume 1: dwellings*?

- a) Yes
- b) No**

If you answered no, please explain your reasoning provide supporting evidence.

Question 110): What level of FEES should be used for Part L 2021?

- a) Option 1, full fabric specification
- b) Option 2, fabric specification x1.15
- c) Neither, it should be higher**
- d) Neither, it should be lower

Please explain your reasoning and provide supporting evidence, including whether you think a higher level of FEES will make it more or less likely for a home to be built with low carbon heat.

LETI's reasoning - don't copy and paste

The air permeability requirements should be increased to $<1\text{m}^3/\text{h.m}^2@50\text{Pa}$ and Mechanical ventilation with heat recovery should be mandated

Question 117): Do you agree with the proposals for requirements relating to the assessment of overall energy performance of building services installations and providing information to homeowners, as detailed in Sections 8 and 9 of draft *Approved Document L, volume 1: dwellings*?

- a) Yes
- b) No, I do not agree with providing this guidance
- c) No, the guidance should be improved**

If you answered no (b or c), please explain your reasoning.

LETI's reasoning - don't copy and paste

Commissioning plans to include on-site generation and design stage space heating demand (kWh/m²/yr). Overheating mitigation clearly explained in building user manuals