



Consultation Response

## The Future Buildings Standard

Consultation on changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for non-domestic buildings and dwellings; and overheating in new residential buildings

Response by the Royal Institution of Chartered Surveyors (RICS).



## RICS Responses

For ease of identification, responses have been highlighted.

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.

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

Question 2): We believe that developers will typically deploy heat pumps and heat networks to deliver the low carbon heating requirement of the Future Buildings Standard where practical. What are your views on this and in what circumstances should other low carbon technologies, such as direct electric heating or hydrogen, be used?

**We agree that heat pumps are a good way of delivering low carbon heat and are highly likely to be used.**

**Any technology adopted must be appropriate for the building – for example, electric heating may be entirely appropriate in certain cases – and must be easily useable to provide the maximum benefit.**

Question 3): Do you agree that some non-domestic building types are more suitable for low carbon heating and hot water, and that some non-domestic building types are more challenging?

a) Yes **b) No**

If you answered no, please explain your reasoning.

Question 4): Do you agree with the allocation of building types to space and water heating demand types, as presented in Table 2.1 of this consultation document?

a) Yes b) No

If you answered no, please explain your reasoning, including how different building types should be allocated.

This approach is too simplistic and the combination of building types into these categories would seem to be of limited value. Other means of categorisation can be utilised.

Question 5): We would like to introduce the Future Buildings Standard for all buildings as quickly as possible. When do you think the Future Buildings Standard should introduce low carbon space heating for buildings with Type 1 or Type 2 demand (buildings that have space heating demand more suitable for heat pumps)?

a) 2025 – our proposed date b) Another date (please specify)

Please explain your reasoning.

It should be initiated earlier if possible to provide the best chance of meeting future targets.

Question 6): We would like to introduce the Future Buildings Standard for all buildings as quickly as possible. When do you think the Future Buildings Standard should introduce low carbon space heating for buildings with Type 3 demand (buildings that have space heating demand less suitable for heat pumps)?

a) 2025 b) Another date (please specify)

Please explain your reasoning.

As above.

Question 7): We would like to introduce the Future Buildings Standard for all buildings as quickly as possible. When do you think the Future Buildings Standard should introduce low carbon water heating for buildings with Type 1 or Type 3 demand (buildings that have water heating demand more suitable for point-of-use heaters or heat pumps)?

a) 2025 – our proposed date b) Another date (please specify)

Please explain your reasoning.

As above.

Question 8): We would like to introduce the Future Buildings Standard for all buildings as quickly as possible. When do you think the Future Buildings Standard should introduce low carbon water heating for buildings with Type 2 demand (buildings that have water heating demand less suitable for point-of-use heaters or heat pumps)?

a) 2025 b) Another date (please specify)

Please explain your reasoning.

As above.

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.

Remove the notional building rationale, to allow reward for potential unrelated to the notional building model.

Question 10): What level of uplift to the energy efficiency standards for nondomestic 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.

The level of uplift should be more significant, and 27% is not ambitious enough.

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.

Energy use rather than primary energy would be easier for building users to comprehend.

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.

CO2 does not prove energy efficiency measures – the fabric energy efficiency standard should be used.

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.

The proposed carbon factor will likely be outdated by the time the new guidance comes into effect.

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.

The heating fuel type should be based on the best technology for that building type that promotes decarbonisation.

Question 15): Do you agree with our proposal of using a hybrid electric/heat pump heating system in the notional building when electricity is specified as a heating fuel?

a) Yes **b) No**

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

**As it stands, given heating demand is underestimate by NCM and there is little incentive to reduce it, the approach of setting a 134% SCOP in the notional building in this instance may lead to wide-spread specification of direct electric heating.**

Question 16): Do you agree with the proposal for the treatment of domestic hot water in the notional building?

a) Yes **b) No**

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

**The notional building uses gas.**

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.

**Should heat networks be used if some are not decarbonised (and use gas)? There must be a future proofed way of achieving net zero.**

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.

The % of heat pump assumed for new DH networks should be higher to incentivise decarbonisation.

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.

SBEM uses over inflated unregulated room heat gain assumptions to cope with regulated fabric heat loss. NCM should better consider unregulated energy.

Question 20): We would welcome any further suggestions for revising the outputs from SBEM, which would enable easier checking by building control on building completion. Please provide related evidence.

N/A

Question 21): Do you agree with the proposals for limiting heat gains in nondomestic buildings?

a) Yes b) No, they go too far c) No, they 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 alternative suggestions.

A fabric efficiency / heating and cooling demand metric could be introduced as an alternative to this method.

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.

No, these should be more onerous. 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.

Retrofit work to existing non-domestic buildings represent a key opportunity to decarbonise the existing stock, however there must be flexibility for heritage properties (combined with a requirement to use experienced heritage professionals). The vast majority of the carbon issue lies in the existing building stock.

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.

However guidance should also address air leakage paths in retained existing elements (rather than solely new elements).

Question 25): Do you agree that the limiting U-value for rooflights in new and existing non-domestic buildings should be based on a rooflight in a horizontal position, as detailed in paragraph 4.4 of draft Approved Document L, volume 2: buildings other than dwellings?



a) Yes b) No

If you answered no, please explain your reasoning.

Question 26): Do you agree that we should adopt the latest version of BR 443 for calculating U-values in new and existing non-domestic buildings, as detailed in paragraph 4.1 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 27): Do you agree with the newly proposed minimum efficiencies for natural gas, oil and LPG boiler and domestic hot water system installations in new non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

The efficiency should be raised for natural gas boilers.

Question 28): Do you agree with the proposed set of standards for air distribution systems for new non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 29): Do you agree with the proposals for self-regulating devices for new non-domestic buildings, as set out in Sections 5 and 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 30): Do you agree with the minimum efficacy proposals for lighting in new non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 31): Do you agree with the proposals for cooling in new non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 32): Do you agree with the proposals to require building automation and control systems in new non-domestic buildings, when such buildings have a heating or air-conditioning system over 290kW?

a) Yes b) No, a different trigger point should be used c) No, I do not agree that building automation and control systems should be required in new buildings d) No, I disagree for another reason

If you answered no (b, c or d), please explain your reasoning and provide alternative suggestions. Please also highlight any unintended consequences that may result from setting this standard.

290kW output buildings are already likely to have automation.

Question 33): Do you agree with the technical specification for new building automation and control systems as EN 15232, Class A?

a) Yes b) No, the requirements go too far c) No, the requirements do not go far enough

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

Question 34): Do you agree with the proposals for improving the commissioning guidance for new non-domestic buildings in Section 8 and 9 of draft Approved Document L, volume 2: buildings other than dwellings?

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 alternative suggestions.

Question 35): Do you agree with the proposals for requirements relating to the assessment of overall energy performance of building services installations and providing information to building owners for new non-domestic buildings given in sections 8 and 9 of Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 36): Do you agree with the guidance proposals for adequate sizing and controls of building services systems in new non-domestic buildings, as detailed in Sections 5 and 6 of draft Approved Document L, volume 2: buildings other than dwellings?

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

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

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.

To ensure gas heating condensation and heat pump SEERs.

Question 38): Do you agree with the proposals to clarify, rationalise and simplify the guidance for building services in new non-domestic buildings, and to incorporate the standards of the Non-Domestic Building Services guidance into the main body of the Approved Document L, volume 2: buildings other than dwellings?

a) Yes **b) No**

If you answered no, please explain your reasoning

**The additional guidance is very useful to range of people should be maintained.**

Question 39): Do you agree with the proposals to simplify the requirements in the Building Regulations for the consideration of high-efficiency alternative systems in new non-domestic buildings?

**a) Yes** b) No

If you answered no, please explain your reasoning.

Question 40): Do you agree with the proposals for replacement of 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.

Question 41): Do you agree with the newly proposed minimum efficiencies for natural gas, oil and LPG boiler and domestic hot water system installations in existing non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far **c) No, the standards do not go far enough**

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

Question 42): Should minimum boiler efficiency standards in existing nondomestic buildings still benefit from relaxations through the use of heating efficiency credits?

a) Yes, boiler installations should continue to benefit from heating efficiency credits b) No, boiler installations should no longer benefit from heating efficiency credits (the Government's proposal)

If you answered yes, please explain your reasoning.

Question 43): Do you agree with the proposed set of standards for air distribution systems for existing non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 44): Do you agree with our proposed approach and guidance to mandating self-regulating controls in existing non-domestic buildings, including technical and functional feasibility, as detailed in Sections 5 and 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 45): Do you agree with the minimum efficacy proposals for lighting in existing non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 46): Do you agree with the proposals for cooling in existing nondomestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 47): Do you agree with the proposals that when Building Automation and Control System is installed in an existing non-domestic building with a heating or air-conditioning system over 290 kW, it should meet the same minimum standards as new non-domestic buildings?

- a) Yes b) No, a different trigger point should be used c) No, a different standard should be used  
d) No, for another reason

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

290kW is a large rating and a lower rating should be used.

Question 48): Do you agree with the proposals for requirements relating to the assessment of overall energy performance of building services installations and providing information to building owners for existing non-domestic buildings?

- 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, including any further suggestions.

Question 49): Do you agree with the guidance proposals for adequate sizing and controls of building services systems in existing non-domestic buildings, as detailed in Sections 5 and 6 of draft Approved Document L, volume 2: buildings other than dwellings?

- a) Yes b) No, 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.

Question 50): Do you agree with the proposal that when whole wet space heating systems (i.e. boiler and radiators) are replaced in existing nondomestic 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.

This will improve the efficiency of the system.

Question 51): Do you agree with the proposals to restructure the guidance for building services in existing non-domestic buildings, and to incorporate the standards of the Non-Domestic Building Services guidance into the main body of the Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

The additional guidance is very useful to range of people should be maintained.

Question 52): Do you agree the Government should continue to provide guidance for minimum building services efficiencies in existing non-domestic buildings, if the standard does not go significantly further than the Ecodesign regulations?

a) Yes b) No, the Ecodesign regulations are sufficient c) No

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

Question 53): Do you agree with the changes made to simplify, rationalise and clarify the guidance, and the updates to external references in Appendix E and Appendix F, in Approved Document L, volume 2: buildings other than dwellings, as outlined in paragraph 3.12.1 of the consultation document?

a) Yes b) Yes, but not with the changes to the supplementary guidance c) Yes, but not with the external references d) No

If you answered no, please explain your reasoning. Please do not repeat comments on the changes made to simplify, rationalise and clarify the guidance for Building Services which you have already provided under Questions 38, 51 and 52.

Question 54): Do you agree that the measures in Tables D.1 and D.2 of Appendix D of Approved Document L, volume 2: buildings other than dwellings are likely to be technically, functionally and economically feasible under normal circumstances? a) Yes b) No

If you answered no, please explain your reasoning.

We cannot answer this question.

Question 55): Do you agree with the proposals for relaxation factors for modular and portable buildings, as detailed in Tables 2.2 and 2.3 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No, the requirements go too far c) No, the requirements do not go far enough

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

Question 56): Do you think that the Pulse methodology should be an approved means of demonstrating airtightness for non-domestic buildings?

a) Yes b) No

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

It could be an intermediate stage but blower test should be final.

Question 57): Do you agree that we should adopt an independent approved airtightness testing methodology such as the CIBSE draft methodology for non-domestic buildings?

a) Yes, and the CIBSE methodology is appropriate b) Yes, but with a methodology other than CIBSE c) No, an independent approved airtightness methodology shouldn't be adopted.

If you answered no, please explain your reasoning.

Question 58): Do you agree with the proposal for guidance on the calibration of devices that carry out airtightness testing in new and existing nondomestic buildings?

a) Yes b) No



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

Question 59): Do you agree with the proposed approach to energy sub-metering, as detailed in Section 5 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes b) No

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

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.

Question 61): Do you agree with the proposals for transitional arrangements for buildings other than dwellings?

a) Yes b) No

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

Question 62): Do you agree with the proposed guidance in Section 1 and Section 2 of Approved Document F, volume 2: buildings other than dwellings on minimising the ingress of external pollutants and on the proper installation of ventilation systems in non-domestic buildings?

a) Yes b) No

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

Question 63): Do you agree with the proposed guidance for reducing noise nuisance for ventilation systems in non-domestic buildings?

a) Yes b) No

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

There should be more guidance around noise standards on a system basis and how external noise is taken into account.

Question 64) Do you agree with the additional guidance provided in paragraphs 1.18 to 1.26 of the draft Approved Document F, volume 2: buildings other than dwellings on the installation of ventilation systems?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 65): Do you agree that the guidance in Appendix B of the draft Approved Document F, volume 2: buildings other than dwellings provides an appropriate basis for setting minimum ventilation standards?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 66): Do you agree with the list of industry guidance presented in Section 1 of draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) Yes, but additional guidance should be provided c) No

Please explain your reasoning and where relevant provide alternative suggestions for guidance.

Question 67): Do you agree with the list of references to industry guidance presented in Appendix C and Appendix D in the draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) No, the Government should amend the list of references c) No, for another reason

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

Question 68): Do you agree with the proposals to simplify, rationalise and clarify the Approved Document guidance in Approved Document F, volume 2: buildings other than dwellings as outlined in paragraph 4.3.7 of the consultation document?

a) Yes b) No

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

The guidance is useful in its expanded form.

Question 69): Do you agree that purge ventilation in offices should be designed to provide at least four air changes per hour?

a) Yes b) No, this standard goes too far c) No, this standard does not go far enough

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

We cannot answer this question.

Question 70): Do you agree with the guidance for the ventilation of car parks and offices, as detailed in Section 1 of Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) Yes, but some improvements can be made c) No, the guidance should be significantly changed

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

Please note that the appropriate questions on measures to prevent the spread of infection are detailed in section 4.4 of this consultation document.

Question 71): Do you agree with the proposals in Section 3 of draft Approved Document F, volume 2: buildings other than dwellings, when replacing an existing window with no background ventilators?

a) Yes b) No, the standards do not go far enough c) No, the standards go too far

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

Question 72): Do you agree with the proposal to provide a completed commissioning sheet to the building owner and associated guidance in Section 4 of draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 73): Do you agree with requiring increased capacity of 50% within new ventilation systems in offices shown in paragraph 1.38 of the draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) Yes, but with qualifications c) No, the standard is too high d) No, the standard is too low e) No, I disagree for another reason

If you answered b, c, d or e, please explain your reasoning.

We cannot answer this question.

Question 74): Do you agree with the proposed standards for provision of outdoor air for offices, shown in paragraphs 1.35 to 1.36 of draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) Yes, but with qualifications c) No

If you answered b or c, please explain your reasoning.

We cannot answer this question.

Question 75): Do you agree that extract ventilation in bathrooms, WCs, and other sanitary accommodation should be capable of operating in a continuous mode if necessary?

a) Yes b) No

If you answered no, please explain your reasoning.

Ventilation should be bespoke to the room function.

Question 76): Do you agree with the proposal for indoor air quality monitoring in offices as outlined in paragraphs 1.39 to 1.41 of draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) Yes, but with qualifications c) No

If you answered b or c, please explain your reasoning and provide any suggestions for guidance if applicable.

**We cannot answer this question.**

Question 77): If applicable, please provide any suggestions for guidance for indoor air quality monitoring (e.g. CO2 monitoring) in nondomestic buildings.

**N/A**

Question 78): Do you agree with the proposals for systems that recirculate air as outlined in paragraph 1.46 of draft Approved Document F, volume 2: buildings other than dwellings?

a) Yes b) No

If you answered no, please explain your reasoning.

**We cannot answer this question.**

Question 79): Do you agree with the proposed minimum ventilation standard in occupiable rooms in all types of non-domestic buildings where singing, loud speech or aerobic exercise may take place, where low temperature and low humidity environments may exist, or where members of the public may gather in large groups? These are outlined in paragraphs 1.27 and 1.28 of draft Approved Document F, volume 2: buildings other than dwellings.

a) Yes b) Yes, with qualifications c) No

If you answered b or c, please explain your reasoning and provide any suggestions for guidance if applicable.

**We cannot answer this question.**

Question 80) Do you think the mitigating measures to protect against infection via aerosols would be suitable for any non-domestic buildings other than those stated in the Approved Document guidance?

a) Yes b) No

If you answered yes, please explain your reasoning and provide evidence to support this.

Question 81): How should the Government address the overheating risk?

a) Through a new requirement in the Building Regulations and an Approved Document, as proposed in this consultation b) Through Parts L and F of the Building Regulations c) Through government guidance d) I have an alternative approach e) It isn't an issue that needs addressing

Please explain your reasoning and provide alternative suggestions where applicable.

We understand that overheating is a significant problem that will continue to escalate, requiring a firm mitigation.

Question 82): Do you agree with the buildings that are in scope of this new part of the Building Regulations?

a) Yes b) Yes, but they should be expanded to include more building types and/or existing buildings c) No, they should be reduced to only include flats and houses d) No, I disagree for another reason

Please explain your reasoning.

Question 83): Do you agree that the division of England based on overheating risk detailed in paragraph 5.6.3 of this consultation document is correct?

a) Yes b) No, there should be one area c) No, there should be more areas

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

There should be more flexibility than just two simplified areas.

Question 84): Do you agree with the categorisation of buildings into Group A and Group B as detailed in paragraph 5.6.5 of this consultation document?

a) Yes **b) No**

If you answered no, please explain how buildings should be recategorised.

**It is not possible to agree without further details on the background to using this classification.**

Question 85): Do you agree with the simplified method as a means of compliance with the proposed new requirement to reduce overheating risk?

a) Yes b) No, the method should be more sophisticated c) No, the method is too easy to pass **d) No, for another reason**

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

**We understand this method will not have the desired effect against overheating due to the excessive glazing areas.**

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.

**There must be more flexibility in approach to deal with variations in space layout.**

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.

**The proposed free areas of openings are too high.**

Question 88): Do you think that adequate levels of daylight will be provided and that homes will be acceptable to purchasers while meeting these proposed standards?

a) Yes b) No

Please explain your reasoning

Question 89): Do you agree with offering dynamic thermal analysis as a means of compliance with the proposed new requirement to reduce overheating risk?

a) Yes, as described in the draft Overheating Approved Document b) Yes, but not as described in the draft Overheating Approved Document c) No

Please explain your reasoning and provide alternative suggestions where applicable.

We would suggest following TM59.

Question 90): Please detail any information you have about the likelihood of occupants opening doors and windows at night in unoccupied rooms.

N/A.

Question 91): Do you agree with the proposed acceptable strategies for shading and the removal of excess heat, when following the dynamic thermal analysis method, as found in Section 2 of the draft Overheating Approved Document?

a) Yes, I agree with both sets of acceptable strategies b) Yes, but with amendments to the acceptable shading strategies c) Yes, but with amendments to the acceptable strategies to remove excess heat d) Yes, but with amendments to both sets of acceptable strategies e) No, I do not agree with the acceptable strategies

Please explain your reasoning and provide any suggested amendments where applicable.

We cannot answer this question.

Question 92): Do you agree that the overheating standard should not account for the effect of curtains, blinds and tree cover?



a) Yes, curtains, blinds and tree cover should be excluded b) Yes, but only curtains and blinds should be excluded c) Yes, but only tree cover should be excluded d) No, none of these should be excluded

If you answered b, c or d, please explain your reasoning.

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.

Question 94): Do you agree with limiting noise in new residential buildings when the overheating strategy is in use, and the proposed guidance in Section 3 of the draft Overheating Approved Document?

a) Yes b) Yes, but with amendments to the guidance c) No, I do not agree with limiting noise when the overheating strategy is in use

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

Question 95): Do you agree with minimising the ingress of external pollutants when the overheating strategy is in use, and that the external pollutants guidance in Approved Document F, volume 1: dwellings should be followed where practicable?

a) Yes b) Yes, but with amendments to the guidance c) No, I do not agree with minimising the ingress of external pollutants when the overheating strategy is in use

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

We understand that the guidance provided should be enhanced to provide more practical advice.

Question 96): Do you agree with the proposals on security in Section 3 of the draft Overheating Approved Document in new residential buildings?

a) Yes b) No

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

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.

There is a clash with other parts of the Approved Documents, which should be referenced instead.

Question 98): Do you agree with the guidance on protection from entrapment 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.

Question 99): Are there any further issues which affect usability that should be included in the Overheating Approved Document?

a) Yes b) No

Please explain your reasoning and provide supporting evidence.

N/A.

Question 100): Do you agree with the proposed requirement to provide information on the overheating strategy to the building owner?

a) Yes, I agree with the requirement, the list provided and that this should be within a Home User Guide b) Yes, I agree with the requirement, but think that the list provided should be changed or that this should not be provided within a Home User Guide c) No, I do not agree with providing information

Please explain your reasoning and provide alternative suggestions where applicable.

This would be a sensible solution for communicating what might not be obvious to future owners.

Question 101): How do you see this new Building Regulation interacting with policies in local plans?

This must be considered carefully with planners to avoid unintended consequences, especially with heritage properties.

Question 102): Do you agree that this guidance on limiting the effects of heat gains in summer, in both Approved Document L guidance for new dwellings and SAP Appendix P, can be removed?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 103): Should the transitional arrangements that apply to the overheating requirements align with the proposed transitional arrangements for Part L and F 2021 for new dwellings, as described in paragraph 5.10.2 of this consultation document?

a) Yes b) No

Please explain your reasoning and provide alternative suggestions where applicable. If you answered no, please also propose an alternative reasonable period that could apply.

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.

More onerous u-values should be considered.

Question 105): Do you agree with the draft guidance in section 4 of the draft Approved Document L, volume 1: dwellings on reducing unwanted air infiltration when carrying out work to existing homes?

a) Yes **b) No**

If you answered no, please explain your reasoning.

**A Whole House Approach should be adopted to avoid unintended consequences of elemental improvements, and reference should be made to PAS 2035 Retrofitting dwellings for improved energy efficiency.**

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.

**There must be flexible approaches to cover differing building types, for example heritage buildings.**

Question 107): Do you agree that the limiting U-value for rooflights in existing domestic buildings should be based on a rooflight in a horizontal position, as detailed in Section 4 of draft Approved Document L, volume 1: dwellings?

**a) Yes** b) No

If you answered no, please explain your reasoning.

Question 108): Do you agree that we should adopt the latest version of BR 443 for calculating U-values in existing domestic buildings, as detailed in Section 4 of draft Approved Document L, volume 1: dwellings?

**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

**It is unclear if these U-values have been tested against the effect of condensation in different construction types.**

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.

**We cannot answer this question.**

Question 111): Do you agree that we have adequately covered matters which are currently in the Domestic Building Services Compliance Guide in draft Approved Document L, volume 1: dwellings for existing homes?

a) Yes **b) No**

If you answered no, please explain which matters are not adequately covered.

**Other relevant guidance should be referenced.**

Question 112): Do you agree with the proposed minimum standards for building services in existing homes, as detailed in Sections 5 and 6 of draft Approved Document L, volume 1: dwellings?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

**We cannot answer this question.**

Question 113): Do you agree with the proposals for replacement fixed building services in existing homes, as detailed in Section 5 of draft Approved Document L, volume 1: dwellings?

a) Yes **b) No**

If you answered no, please explain your reasoning.

**There should be more incentive to improve upon previous systems during replacement where possible, with due regard to heritage constraints.**

Question 114): Do you agree with our proposed approach to mandating selfregulating controls in existing domestic buildings, including technical and economic feasibility, as detailed in Sections 5 and 6 of draft Approved Document L, volume 1: dwellings?

**a) Yes** b) No

If you answered no, please explain your reasoning.

Question 115): Do you agree with the proposed specifications for building automation and control systems installed in a new or existing home, as detailed in Section 6 of draft Approved Document L, volume 1: dwellings?

**a) Yes** b) No

If you answered no, please explain your reasoning.

Question 116): Do you agree with the proposals for extending commissioning requirements to Building Automation and Control Systems and on-site electricity generation systems, as detailed in Sections 8 and 9 of draft Approved Document L, volume 1: dwellings?

**a) Yes** b) No

If you answered no, please explain your reasoning.

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.

With building with central energy systems, information about the billing methodology should be provided, together with details on how to change suppliers (where possible) and how to make a complaint (including how to contact an ombudsman).

Question 118): Do you agree with the proposed changes to water treatment guidance and removing formal guidance on water softening?

a) Yes b) No

If you answered no, please explain your reasoning.

Question 119): Do you agree with the guidance proposals for adequate sizing and controls of building services systems in domestic buildings, as detailed in Sections 5 and 6 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.

We cannot answer this question.

Question 120): Do you agree with the guidance proposals on sizing a system to run at 55°C when a whole heating system is replaced, as detailed in Section 5 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.

We cannot answer this question.

Question 121): Do you agree with the proposed changes to the supplementary guidance and the external references in Appendix D and Appendix E, in the draft Approved Document L, volume 1: dwellings as outlined in paragraph 6.8.2.?

a) Yes b) Yes, but not with the changes to the supplementary guidance c) Yes, but not with the external references d) No

If you answered b, c or d, please explain your reasoning.

The guidance on thermal bridging is useful, why remove it?

Question 122): Do you agree with the proposal for guidance on the calibration of devices that carry out airtightness testing in new and existing domestic buildings?

a) Yes b) No

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

Question 123): Do you agree that we have adequately covered matters for existing dwellings which are currently in the Domestic Ventilation Compliance Guide in draft Approved Document F, volume 1: dwellings?

a) Yes b) No

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

Surveys in accordance with PAS2035 should be undertaken to assess infiltration and evidence of that submitted.

Question 124): Do you agree with the proposed changes to supplementary guidance and the external references used in Appendix E and Appendix F, for existing domestic buildings from the draft Approved Document F, volume 1: dwellings?

a) Yes b) Yes, but not with the changes to the supplementary guidance c) Yes, but not with the external references d) No

If you answered b, c or d, please explain your reasoning.



The standards do not go far enough to support low carbon and thermally efficient ventilation solutions.

Question 125): Do you agree with the proposal to align the guidance and standards for work to existing homes to that outlined in Chapter 4 of the Government Response to the Future Homes Standard consultation?

a) Yes b) No

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

Question 126): Do you agree with the proposed guidance for installing energy efficiency measures in existing homes, as detailed in Section 3 of draft Approved Document F, volume 1: dwellings.

a) Yes b) No

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

Question 127): Do you agree with the content of the proposed checklist for ventilation provision detailed in Appendix D of draft Approved Document F, volume 1: dwellings?

a) Yes b) No

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

We would suggest that reference be made to the existing PAS 2035 ventilation requirements.

Question 128): Do you agree with the guidance in Section 3 of draft Approved Document F, volume 1: dwellings when replacing an existing window with no background ventilators?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 129): Do you agree with the proposals in paragraphs 3.29 to 3.31 of draft Approved Document F, volume 1: dwellings in 7.4.11 of this consultation document on work to existing kitchens or bathrooms?

a) Yes b) No, the standards go too far c) No, the standards do not go far enough

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

Question 130): Do you agree with the proposal to provide a completed commissioning sheet to the homeowner, as detailed in Section 4 of draft Approved Document F volume 1: dwellings?

a) Yes b) No

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

Question 131): Please provide any feedback you have on the impact assessment here, including the assumptions made and the assessment of the potential costs and benefits of the proposed options we have made.

N/A

Question 132): 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. Please provide evidence to support your comments.

The vast majority of the built environment energy problem lies in existing buildings and we are pleased to see this addressed. Drawing attention to other documents such as PAS 2035 (and PAS 2038 when released) is important but the cost of such documents to the practitioner should be considered. Providing free good guidance to promote best practice is key and we would support keeping guidance free and cross referenced to the final documents wherever possible.

We are also encouraged that exemptions remain for listed buildings, buildings in conservation areas and scheduled monuments where compliance with energy efficiency requirements has the potential to conflict with heritage related aspects. Traditionally built buildings make up a considerable portion of our built environment and it is important that this type of construction is understood and protected in energy efficiency approaches.

In such properties, consideration of the type of building is vital to ensuring there is an adequate compromise between heritage and energy conservation. Utilisation of heritage experts (including local conservation officers) is essential to reach practical solutions in this regard where application of regulations is often difficult. Guidance on this aspect would be a welcome addition to the documents.