

Future Buildings Standard Survey

About You

Q1. Full Name

Steve McConnell

Q2. Email

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Q3. Are you responding on behalf of an organisation or as an individual?

On behalf of an organisation

Q4. Which description below best identifies you or the organisation you are responding to this consultation on behalf of:

National Representative/Trade Body

About You

Q5. What is the name of the organisation you are responding on behalf of?

ICOM Commercial Heating Equipment Manufacturers Trade Association

Q6. What is your position in the organisation you are responding on behalf of?

Director

Section A: Non-domestic

Q7. Do you wish to answer any of the questions found in Section A of the Consultation Document?

Yes

The Future Buildings Standard

Q8. Do you wish to answer any of the questions in this chapter?

Yes

The Future Buildings Standard: What should the Future Buildings Standard look like?

Q1) 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 Chapter 2 of the consultation meets this aim?

b) No

Q9. Please explain your reasoning and provide supporting evidence or alternative suggestions.

To link buildings purely to the future decarbonisation pathway of the electricity grid, will not allow the flexibility for load shifting that would be provided with a future decarbonised hydrogen gas grid or local biogas production. Future smart grids may need this flexibility from hybrid systems to cope with demand at peak times.

The proposal for the Future Building Standard leans too heavily on the national grid (electric). There are low/zero carbon alternatives available and being developed to continue using gaseous combustion as an alternate heat source. Diversifying the energy grid will help to curb peak demands and eliminate waste due to oversized networks. E.g. once gas supply lines are removed from certain buildings (e.g. type 3) then future usage of any type of gas, including carbon free, will automatically be eliminated. It is therefore very important that gas supply networks are not precluded to type 3 buildings beyond 2025.

Alternative suggestion: hybrid systems (electric + gas) should be considered as a valuable alternative to the technologies (Heat pump, District heating, Direct electric heating) presented in this chapter. Hybrid solutions would allow to cover many applications for which the other technologies would be very expensive in capital cost or in the running cost. It will still allow to have a significant cut on emission in the short term and keep the option open for a further cut when hydrogen technology is ready.

ICOM agree with the need for future buildings to become carbon neutral, however, we believe that the solutions need to be more technology agnostic particularly around the technological and economic feasibility of heat pumps and electrical appliances. The standard should allow for all zero to near zero carbon technologies within a chronological timeframe to 2050 to be effectively considered. There is no single "silver bullet" answer and a mixture of electrical and gaseous fuels will be required and therefore technology to suit will also be necessary.

Although slight reference is given to Hydrogen there needs to be greater consideration of this energy pathway. The preparation by energy industries for Hydrogen blending at 20% towards 100% Hydrogen is advancing at a rapid rate and building design should be considerate of this.

Please refer to the HyNet Northwest programme information below as merely one of many hydrogen related developments that will continue the development of a wider hydrogen economy. Below is a basic overview of the high-level deliverables and demonstrates the huge potential across domestic and non-domestic buildings that HyNet and others will deliver. Further details are obtainable via <https://hynet.co.uk/>

Q10. Please upload any evidence here.

No Response

Q11. Q2) 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?

The well argued response regarding resilience of the electrical grid, and ability of the heat pumps to respond to the high energy demand spikes that are currently met by gas fired equipment remains. Additionally, the first three heat generation methods exclude the supply of gas fired heating equipment to properties (which it can be argued is still the most popular heating energy supply with commercial end user consumers), if no provision is made in a building for a gas supply then that means that future heat supply by hydrogen and hybrid systems incorporating gas-fired equipment are effectively excluded. The announcement by the Prime Minister in November last year of the Ten Point Plan for a Green Industrial Revolution, placed Hydrogen at point 2, and so emphasises the significance placed on development of that as a future fuel. By relegating it to an afterthought in the Future Building Standards is sending conflicting messages to equipment manufacturers. Currently our equipment sector is reacting well to the promotion by Government of projects examining the feasibility of hydrogen as fuel, but the Future Building Standards proposals will deter manufacturers from developing exactly those products that will be required for utilising hydrogen as a fuel. The importance of hydrogen as an energy source needs to be given much greater emphasis in the Future Building Standards. Perhaps by allowing equipment that can fire now on natural gas, and will then allow a simple conversion for future hydrogen firing.

The heating demands of new buildings should reduce as the insulation levels of buildings increases, and as the amount of heat reduces the application of heat pumps becomes more viable. But for many non-domestic new builds, heat pumps are not always a viable technology, due to the amount of heat required. Heating products based on combustion must continue to play an active role, as they can produce large amounts of heat with virtually no demand on the electricity network. Gas fired appliances are capable of efficiently supplying this heat and decarbonising their fuel (in time) to the same extent as electric products.

There are circumstances for the kinds of buildings that are heated with gas fired radiant heating where it would not be practical to heat them with any other methods proposed. The reasons would be how they actually perform and work in practice – comfort levels, zoning capabilities, heat up times – plus the capital cost and importantly the annual energy costs.

Heat pump technology and heat networks are a suitable low carbon solution for new buildings where suitable. For heat pump technology it is eminently sensible to deploy this technology in buildings that are built to a well-insulated specification. However, existing on-grid buildings present a significant obstacle for this type of technology, poorer levels of insulation, airtightness, heating and hot water circuits suited for higher temperature systems will inevitably impact on heat pump performance. There will also be difficulties associated with the requirement to install additional plant, in the form of a large commercial heat pump outdoors and a larger cylinder for LTHW will lead to technical and economic feasibility issues.

The growing development of hydrogen will ensure that large numbers of existing on-grid buildings are supplied with hydrogen in the future. Therefore, the existing on-grid natural gas market will switch to blended methane and hydrogen, then transition towards 100% hydrogen in the future. It is therefore essential that this is reflected in the Future Buildings Standard so it aligns with Government produced documents such as the Ten Point Plan, White Paper Powering net zero and the pending Hydrogen strategy.

The Future Buildings Standard: Implementing the Future Buildings Standard

Q12. Q3) 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

Q13. If you answered no, please explain your reasoning.

It is difficult to disagree with this statement but most existing buildings are more challenging for low carbon technology like heat pumps and electrical appliances. The UK building stock is so diverse and with 85% of UK buildings been developed on the natural gas network, services and pipework have been designed for higher temperature heating and hot water systems. Therefore, technologies requiring significant upgrades in plant, pipework, heat emitters, electrical infrastructure, and insulation to be effective will find the non-domestic building network extremely challenging. The challenging scenarios highlight above will create economic and technological issues for the consumer base.

Consideration again should be given to the future use of environmentally benign gases like hydrogen and its ability to support decarbonisation in this sector over a longer-term perspective. The standard should refrain from short-termism in support of more sustainable and pragmatic developments supported by other government departments and therefore avoid widespread technology dystopia.

Q14. Q4) Do you agree with the allocation of building types to space and water heating demand types, as presented in Table 2.1 of the consultation document?

b) No

Q15. If you answered no, please explain your reasoning, including how different building types should be allocated.

For new buildings the allocation seems broadly reasonable, although there needs to be some flexibility for niche building types, which would not easily fall into these categories. For existing buildings, the simple allocation does not take into account the construction type/age, building performance or existing heating system type or operating temperature.

Rather than put buildings into categories, the heat or hot water demand should be defined on a case by case basis based on the DHW design criteria. Ultimately most applications can be either application, but the cost and the available technical solution may not be achievable. It does not take into consideration distances that hot water might have to travel versus an electric supply. A stored hot water system may be perfectly capable to run on gas or renewables in terms of DHW demand in a situation but the building may be large necessitating point of use. The context of the buildings is not taken into consideration.

There is a need for more accurate building categories and building types, the diverse nature of UK building stock cannot be simply categorized. Heating demand and hot water demand should be more scientific considerations when defining building envelopes and their subsequent emissions. This would be the only true way to make informed decisions of technology deployment.

Building Type Examples – Consider, schools as a prime example. Point of use electric would not be suitable for kitchen areas as these ablutions demand large volumes of hot water. Consider also that schools can vary in size it would be hard to simply categorize a school. Theatres are in Type 1 yet a lot of these are older buildings that would not be suitable for Heat Pump systems, there are many instances that a conceivable outcome would be that the technical and economic feasibility is truly tested if these scenarios are put forward.

Finally regarding, types of buildings a building could fall in to any 3 of the categories proposed. Categories need to be added where space heating is not suitable for heat pumps and hot water is not suitable for point of use otherwise technology dystopia will be widespread.

Q16. Q5) 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)?

b) Another date (please specify):

2030 to 2040

Q17. Please explain your reasoning.

Widespread alignment with other government policy making should be agreed before a date is set for implementation. For instance, BEIS industrial decarbonisation strategy and Hydrogen Strategy will influence energy pathways and building services.

A lack of alignment will only serve to confuse the market and create technology and economic feasibility issues.

Q18. Q6) 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)?

b) Another date (please specify):

2030 to 2040

Q19. Please explain your reasoning.

To ensure the low carbon technology is suitable and ready to meet the needs of type 3 buildings, there may need to be a split date between heat networks and heat pumps. Heat networks should be positioned to serve new building types already (where they are available) through warm air fan heaters. For existing buildings it could represent a complete system change. For heat pumps, new buildings should be better placed to be heated by 2025. For existing buildings, the use of heat pumps will represent a significant upgrade of existing systems and may mean complete system change.

Combustion of hydrogen is a viable zero carbon alternative to electricity. It will allow us to meet the high peak heating demands without overwhelming the national electrical grid. This date needs to allow time for the hydrogen grid to be developed. The requirement in 2030 could be that all gas fired heaters are operating on hydrogen or can be converted to hydrogen. The proposal of 2025 is too soon for this type of building, Safety standards will need to be written and manufacturers have to upgrade their R&D facility with the capability to test e.g. hydrogen.. Almost all buildings of this type are currently heated by means other than that proposed by this Standard. A longer transition is needed.

The date must be set when the Hydrogen Roadmap and Hydrogen Ready Strategy is clear. With the needed inclusion of hydrogen (even blended hydrogen) in the absence of a Government roadmap or policy of hydrogen the regulations are better adopted when the strategy is known. Like the proposals of the domestic market with Hydrogen ready – it seems inefficient and inappropriate to mandate a set of regulations twice should the Government include H2 ready later.

Widespread alignment with other government policy making should be agreed before a date is set for implementation. For instance, BEIS industrial decarbonisation strategy and Hydrogen Strategy will influence energy pathways and building services. A lack of alignment will only serve to confuse the market and create technology and economic feasibility issues.

Q20. Q7) 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

Q21. Please explain your reasoning.

2025 is a good, proposed date but this should also be flexible and coincide with other developments such as hydrogen. As mentioned in Question 4 the categories need expanding as they do not cover all the potential buildings, or the criteria should include heating and hot water demand calculations.

Q22. Q8) 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)?

Another date (please specify):
2030

Q23. Please explain your reasoning.

To ensure the low carbon technology is suitable and ready to meet the needs of type 3 buildings, there may need to be a split date between heat networks and heat pumps. Heat networks should be positioned to serve these building types already (where they are available) where as heat pumps for higher operating temperatures, may not be readily available by 2025. For existing buildings with high DHW use, there may be a significant uplift in running costs from Heat Pumps because of the lower COP associated with DHW production. This could hit Hotels, Care homes and Hospitals for example.

Interim uplift to Part L standards for non-domestic buildings

Q24. Do you wish to answer any of the questions in this chapter?

Yes

Interim uplift to Part L standards for non-domestic buildings: Building performance

Q25. Q9) We would welcome any further suggestions, beyond those provided in the 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.

It would be sensible to prepare the modelling process for the future energy vectors that will power the future and incumbent buildings services. The UK gas manufacturers industry is mandating that all gas appliances are Hydrogen ready by 2025, this is in support of Hydrogen blending at 20% Hydrogen and

Q25. Q9) We would welcome any further suggestions, beyond those provided in the 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.

80% methane.

This fuel mix will result in a near 8% reduction in carbon emissions and therefore should be reflected in any future building modelling, as an accurate way of forecasting future carbon. As many boilers and water heaters are already capable of operating on this blend the inclusion of these factors in the modelling process early in the design stage will enable lifetime carbon projections to be modelled.

The allocation of building types must take into account the age and construction of the building as well as the existing heating system, when it is being applied to existing buildings. The modelling should include that existing buildings may be better served through decarbonised gas.

Q26. Please upload any evidence here.

No Response

Interim uplift to Part L standards for non-domestic buildings: Level of interim uplift

Q27. Q10) What level of uplift to the energy efficiency standards for non-domestic buildings in the Building Regulations should be introduced in 2021?

d) Other level of uplift (please specify)

Q28. Please explain your reasoning and provide supporting evidence or alternative suggestions where applicable.

Neither of the proposed target figures would achieve the local requirements such as London that already requires a 35% uplift vs baseline target. How these proposed uplifts will interact with local requirements is unclear.

We believe that the greatest level of uplift should be introduced, yet this should be achieved in a pragmatic and energy agnostic way. The desired outcome of the Part L uplift is to pave the way for the Future Buildings Standard. For this to be achieved consideration must be given to future fuel sources like hydrogen and the deep carbon reductions that are attainable through hydrogen deployment. Failure to factor in future energy sources will result in technology dystopia and widespread technological and economic feasibility issues for the consumer.

Q29. Please upload any evidence here.

No Response

Interim uplift to Part L standards for non-domestic buildings: Performance metrics for the interim uplift

Q30. Q11) Do you agree with the way that we are proposing to apply primary energy as the principal performance metric?

a) Yes

Q31. If you answered no, please explain your reasoning.

No Response

Q32. Q12) Do you agree with using CO2 as the secondary performance metric?

a) Yes

Q33. If you answered no, please explain your reasoning.

No Response

Q34. Q13) Do you agree with the approach to calculating CO2 and primary energy factors, referred to in paragraph 3.5.7 of the consultation document?

a) Yes

Q35. If you answered no, please explain your reasoning and provide supporting evidence or alternative suggestions.

No Response

Q36. Please upload any evidence here.

No Response

Interim uplift to Part L standards for non-domestic buildings: National Calculation Methodology for non-domestic buildings

Q37. Q14) 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

Q38. If you answered no, please explain your reasoning and provide supporting evidence or alternative suggestions.

No Response

Q39. Please upload any evidence here.

No Response

Q40. Q15) 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

Q41. If you answered no, please explain your reasoning and provide supporting evidence or alternative suggestions.

No Response

Q42. Please upload any evidence here.

No Response

Q43. Q16) Do you agree with the proposal for the treatment of domestic hot water in the notional building?

b) No

Q44. If you answered no, please explain your reasoning and provide alternative suggestions.

The DHW demand should not be based on a volume of water per m² of a building. This is because buildings have different requirements and come in different area sizes. For example, a Launderette would normally occupy a relatively small floor area but the water volume is vast.

The same can be applied to many hospitality venues. These can have large floor area, but the demand would be less than a high demand building. Also, this kind of building type would still need high volume hot water due to the dish washing and food prep but could also utilize Point of Use hot water in areas such as toilets.

Calculation methods for heating and hot water demand should be used to select the relevant technology.

Q45. Q17) Do you agree with the proposal for connecting to an existing heat network, as presented in the draft NCM modelling guide?

a) Yes

Q46. If you answered no (b,c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

Generally for existing heat networks the proposed method is sound. However for heat networks going forward, hybrid heat pump systems are more likely to be the norm. It may also restrict benefits from the use of waste heat in heat networks.

Q47. Please upload any evidence here.

No Response

Q48. Q18) Do you agree with the proposal for connecting to a new heat network, as presented in the draft NCM modelling guide?

a) Yes

Q49. If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

For a new heat network there should be enough flexibility in the model to allow for the use of different low carbon and waste heat sources. All new heat networks should also be encouraged to follow CIBSE CP1 (2020) guidance and the method must ensure there is a penalty if this is not the case. With the current approach, it is still possible to construct a heat network without incorporating low carbon or waste heat. This situation has to be addressed and it may be necessary to have a minimum contribution, for example 40% of peak demand kW, which is often a cost effective solution.

Q50. Please upload any evidence here.

No Response

Q51. Q19) Do you agree with the proposed changes to the National Calculation Methodology Modelling Guide and activity database?

b) Yes, but additional changes should be made

Q52. If you answered b or c, please explain your reasoning and provide alternative suggestions.

The modelling should take into account the proposed changes above. Ideally there should be a feedback loop from actual metered data from heat networks into the modelling tool. A national anonymised data base of actual data from heat networks would help to drive good design practise and validate the model.

Q53. Q20) 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.

No comment

Q54. Please upload any evidence here.

No Response

Q55. Q21) Do you agree with the proposals for limiting heat gains in non-domestic buildings?

a) Yes

Q56. If you answered no (b, c or d), please explain your reasoning and provide alternative suggestions.

No Response

Interim uplift to Part L standards for non-domestic buildings: Minimum standards for thermal elements, windows and doors in new non-domestic buildings

Q57. Q22) Do you agree with the proposed minimum standards for fabric performance in new non-domestic buildings as presented in Table 3.2 of the consultation document?

a) Yes

Q58. If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

No Response

Q59. Please upload any evidence here.

No Response

Interim uplift to Part L standards for non-domestic buildings: Minimum standards for new and replacement thermal elements, windows and doors in existing non-domestic buildings

Q60. Q23) 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

Q61. If you answered no (b, c or d), please explain your reasoning and provide supporting evidence or alternative suggestions.

No Response

Q62. Please upload any evidence here.

No Response

Q63. Q24) 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

Q64. If you answered no, please explain your reasoning.

No Response

Interim uplift to Part L standards for non-domestic buildings: Limiting U-value calculations for rooflights

Q65. Q25) 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

Q66. If you answered no, please explain your reasoning.

No Response

Q67. Q26) 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

Q68. If you answered no, please explain your reasoning.

No Response

Interim uplift to Part L standards for non-domestic buildings: Building services in new non-domestic buildings

Q69. Q27) 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

Q70. If you answered no (b or c), please explain your reasoning.

The minimum efficiency and the hydrogen-ready boiler debate could be joined as is debated in eco-design within Europe. This harmonisation and lack of Government direction must be sorted out for the good of customers and manufacturers alike. The domestic market has the potential to be zero in carbon for new build excluding carbon fuel, however this should be taken as a learning for the non domestic market where the potential technology gap between Electric and Non Carbon Gas must be avoided. The costs and implications are greater than the domestic market – non domestic customers have less choice than the domestic market – a target already given for heat pumps in the domestic market.

Q71. Q28) 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

Q72. If you answered no (b or c), please explain your reasoning.

No Response

Q73. Q29) 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

Q74. If you answered no, please explain your reasoning.

Decentralised heating systems, such as radiant or warm air systems are inherently self-regulating, as each heater (or set of heaters) operate within their own zone.

Q75. Q30) 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

Q76. If you answered no (b or c), please explain your reasoning.

No Response

Q77. Q31) 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

Q78. If you answered no (b or c), please explain your reasoning.

No Response

Q79. Q32) 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?

b) No, a different trigger point should be used

Q80. 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.

We are not sure why the trigger point of 290kW has been chosen. There are other trigger points such as 400kW from ErP regulations. It would be helpful if the Government response to this consultation clarifies the views behind 290kw.

We question whether an EN15232 control system is suitable for all non-domestic buildings, especially Type 3 buildings. Buildings heated with warm air or radiant systems just require the current building regulation requirements to operate at optimum performance ie modulation, optimised start up /shut down and effective zoning of the building.

Q81. Q33) Do you agree with the technical specification for new building automation and control systems as EN 15232, Class A?

b) No, the requirements go too far

Q82. If you answered no (b or c), please explain your reasoning.

Some non domestic buildings can operate efficiently with relatively simple control systems, so long as the building has sufficient zones. To restrict the type of control can be prohibitive and inappropriate for the building used. Offices are more suited to class B and celebration venues to Class A due to the programming difference.

The choice of control should be free to choose the most efficient type for the use case of the building. Care facilities are an example where there is no time demand as is under almost full occupancy- zone isolation provides the most efficient system for that use case but within the active zones there are 2 settings per 24hr period On during occupation during the day and Set Back during occupation during the night. Full Class A is a waste of money over specifying the control for the use case.

Q83. Q34) 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

Q84. If you answered no (b, c or d), please explain your reasoning and provide alternative suggestions.

No Response

Q85. Q35) 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

Q86. If you answered no, please explain your reasoning.

No Response

Q87. Q36) 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

Q88. If you answered no (b or c), please explain your reasoning.

The oversizing of an appliance to 120% needs to take into consideration plant redundancy strategies. It should also consider hybrid systems. whilst this proposal is similar to suggested approaches for domestic systems the value of 120% may require review for non domestic buildings to take into account customer requirements or redundancy in the system. For example, allowance for an outage of a cascaded

Q88. If you answered no (b or c), please explain your reasoning.

appliance, expected/predicted expansion requirements of the system. Therefore we believe there should be a guidance value.

Q89. Q37) 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?

c) Yes, by another means

Q90. Please explain your reasoning.

The flow temperature should not be a limit to the design possibility. It should be a recommendation. The flow temperature should be the best compromise for the chosen technology (or combination of technologies) for the space heating system.

Q91. Q38) Do you agree with the proposals to restructure 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

Q92. If you answered no, please explain your reasoning.

As long as the requirements are clear and unambiguous, with sufficient guidance to ensure the intended outcomes will be complied with and understood. The proposed compliance guide is not fit for purpose when looking at radiant heaters. It states that heaters should meet the heat generator seasonal efficiency figures in table 6.4 but as previously it states thermal efficiency figures and radiant efficiency figures. THESE ARE NOT SEASONAL EFFICIENCY FIGURES. Why have the seasonal efficiency figures/calculation required for all radiant heaters by the EcoDesign regulations not been incorporated here? The figures used are the same as they've always been but now minus the additional credits bit. Simplifying the document is sensible but significant changes are required to achieve clarity as highlighted in other answers in this consultation.

Q93. Q39) 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

Q94. If you answered no, please explain your reasoning.

No Response

Interim uplift to Part L standards for non-domestic buildings: Building services in existing non-domestic buildings

Q95. Q40) 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?

b) No

Q96. If you answered no, please explain your reasoning.

We do not agree with section 5.6, which cross-references the revised season efficiency levels for replacement hot water heaters, due to concerns associated with the compliance date for implementing the new requirements on existing building owners.

In principle there is little objection but there is a conflict between supplying reliable heat and reducing the oversizing by 120%. Oversizing is totally acceptable for the base load. However it does not take into account redundancy and manufacturers controllers to be able to manage cascades in a much more efficient manner than a single heat source. Cascades effectively manage redundancy of unwanted boilers by demand, increase the efficiency of the system and improve plant equipment life time. More consideration could be given to improved lifetime of products by redundancy with intelligent control and carbon footprints and system efficacy by system separation. Cascading and redundancy also maintains heat provision in this sector where guaranteed heat is a given.

Q97. Q41) 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?

b) No, the standards go too far

Q98. If you answered no (b or c), please explain your reasoning.

For existing building where a dual fuel boiler is needed (hospital), the choice is limited if the efficiency is set to the same level of new building.

Direct attention should be drawn to direct fired water heaters less than 30kw only. Due to the nature and usage of these types of appliances, they are difficult to replace with alternative fixed building services due to space, performance and installation issues.

The uplift suggests an 18% increase of efficiencies for both new build and existing buildings for the category of direct-fired water heaters less than 30kw. The uplift to PART L also removed the "Heating efficiency credits" highlight in Table.3. The heating credits are relevant to direct-fired water heating because of the system's sporadic usage nature and market propensity to oversize hot water services.

The increase in efficiency of 18% plus the removal of heating efficiency credits means that there is a swing between PART L and PART L uplift of 23.5%. This level of UPLIFT would be difficult for manufacturers to effectively prepare for within the timeframes set by the uplift and could lead to a product hiatus in the market. This product gap would lead to technical and economic feasibility issues, whilst enabling the potential deployment of higher carbon and not fit-for-purpose technology.

Proposed uplift to PART L, direct fired water heaters less than 30kw (minimum base efficiencies)

DHW system Type Fuel Type Heat Generator seasonal efficiency Product Standard
Direct Fired: New Building Natural Gas 83% BSEN 26
LPG 84% BSEN 26

Q98. If you answered no (b or c), please explain your reasoning.

Direct Fired: Existing building Natural Gas 83% BSEN 26
LPG 84% BSEN 26

Proposed heating efficiency minimum requirements.

System Type Measure Minimum requirements (% points)
All Decentralisation 2%
Direct fired Integral combustion circuit cut off device 1%
Fully automatic ignition controls 0.5%
All Sized using manufacturers helpline or software 2%
All Hydrogen-ready 5%

The proposal above will ensure that the best available technology is implemented during this UPLIFT period ready for greater efficiencies and different energy vectors in the future. It will ensure that the minimum percentage efficiencies proposed in the draft uplift document are achieved by combining a significant base efficiency uplift on 2013 levels and minimum technology relevant heating efficiency credits.

Another recommendation would be to include the following prequalification for the less than 30kw category only, this recommendation seeks to align ERP and building regulations until such a time that the disparity in test criteria between ERP and the Building regulations is aligned (2025) this again would safeguard and prevent the negative impacts on consumers highlighted below whilst also ensuring that fit or purpose products can still be placed on the market.

In general, we support the goal to increase the market penetration of more-efficient hot water heaters in non-residential buildings, thereby contributing to overall reductions in greenhouse gas emissions (GHGs) in the built environment. With this goal in mind, the proposal for expanding the current seasonal efficiencies of hot water heaters in new non-domestic buildings to existing non-domestic buildings is too ambitious and will cause unintended consequences for manufacturers, buildings owners, and policymakers.

The adoption of the minimum seasonal efficiencies reflecting the use of condensing technology for non-domestic buildings with such a short compliance period will cause significant impacts to existing building owners.

More specifically, many of the building owners and operators of non-domestic buildings plan and save over a multi-year period well in advance of water heating system upgrades due to the costs associated with the equipment and associated installation. We are concerned that many building owners will forgo much needed replacements and extend the life of their existing equipment due to the small compliance window coupled with the increased costs of installing condensing equipment. Many of these non-domestic building owners will not be able to afford the increased costs associated with condensing products and installation in the near term forcing them to extend the life of their 10 to 15 year water heating system.

This significant cost cannot be overlooked and building owners must be given the time necessary to prepare for another transition. Consequently, we respectfully request that the compliance date being considered for the increased seasonal efficiency for replacement water heaters should coincide with the introduction of the 2025 Future Building Standards January 1, 2026. Extending the time for compliance would allow building owners to plan accordingly for the increases in costs associated with condensing equipment and installation, while allowing the savings from low-NOx water heaters to continue to be locked in over the next 5 years. This is the best outcome to help reach the policy goals of reducing emissions, while allowing both industry and its customers a managed transition to more efficient water heating equipment.

Q99. Q42) Should minimum boiler efficiency standards in existing non-domestic buildings still benefit from relaxations through the use of heating efficiency credits?

a) Yes, boiler installations should continue to benefit from heating efficiency credits

Q100. If you answered yes, please explain your reasoning.

The use of heating efficiency credits encourages a more holistic approach to boiler replacements. The overall efficiency of the system is more important than the efficiency of only the boiler.

As highlighted in the responses to question 41, there have been significant improvements across the efficiencies of boiler and water heating technologies but there are technological and economic considerations from a consumer perspective that need to be addressed please refer to our response to Question.41. for greater detail.

It is our belief that the use of heating efficiency credits also has the added benefit of imparting best practice, irrespective of heat generator efficiency the use of heating credits can benefit the overall efficiency of the system. Decentralising and appropriately sizing are key criteria in energy usage for hot water delivery and therefore should be maintained in the wider context of energy usage.

Other considerations that can have significant benefits are highlighted below with evidence.

1. Turndown Ratio of an appliance. Gas appliances have been developed to have increasing ranges of modulation, which means they can react more accurately to the demands of the system by adjusting their burner. This technology has been overlooked but it can contribute to reducing CO2 volumes by simply having greater control over a system whether that be heating and hot water.

For example: Using a DHW system on a secondary return, if that system has a heat loss of around 6kW/h then a modulating water heater would be able to reduce its input relevant to the demand.

If the technology deployed does not have the expansive range of modulation that are available within today's direct fired water heaters both above and below 30kW, then there would be the following outcome.

1. The temperature of the water would need to drop to a level where the water heater could come on or the flow rate of the system would need to increase to allow for the higher input requirement. This scenario would increase the CO2 contribution as it would mean that more energy would be used compared to a water heater that can modulate down expansively to maintain a small kW demand.

See below for an example of two Gas Appliances with the same efficiency but different modulation range.

Appliance.1. – 96% Gross Efficiency, 60kW Input, modulation range of 13:1. Min heat input is 4.6kW
Appliance.2. – 96% Gross Efficiency, 60kW input, modulation range of 6:1. Min heat input is 10kW

We therefore recommend that the heating efficiency credits are kept in place and extended to include modulation and best practice whilst supporting greater system efficiency. This should be used in conjunction with our replies in Question.41.

Decentralization – The benefits of decentralized hot water are well documented and support the need to size water heating equipment appropriately. In existing buildings, centralised heating and hot water systems have traditionally adopted the thermal storage design. These systems are frequently over-sized at the design stage creating safety margins in design. Ultimately resulting in higher energy usage and losses from the need to store and pump hot water around a buildings for anti-legionella good practice.

Findings in an independent report by AECOM calculated that direct fired water heaters are 7.5% more economical when used in a decentralised arrangement.

As noted in our reply to question.41. the heating efficiency credits are also an opportunity to recognise the impact of water heaters and boilers that are developing at speed to incorporate hydrogen fuel for combustion. The blending of hydrogen with methane is being discussed as starting in 2023 in the northwest of England with other regions to follow.

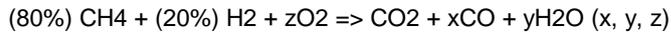
The blending of hydrogen presents large scale potential for decarbonisation. Using the calculation below we can establish that a 20% Hydrogen Blend with methane will deliver a near 8% reduction in carbon emissions.

With a 'clean' combustion: $\text{CH}_4 + 2\text{O}_2 \Rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$ => the numbers must match
As a result ($\text{CH}_4 = [12+4]$, $\text{O}_2 = [32]$, $\text{H}_2\text{O} = [2+16]$) => $16+64 \Rightarrow 44 + 36$

Now with 'clean' combustion and using the mix of Natural gas + 20% Hydrogen (80%) $\text{CH}_4 + (20\%) \text{H}_2$
 $8\text{CH}_4 + 2\text{H}_2 + 16\text{O}_2 \Rightarrow 8\text{CO}_2 + 18\text{H}_2\text{O}$ => the numbers must match again

Q100. If you answered yes, please explain your reasoning.

Unfortunately we don't have 'clean' combustion but we have also components like CO.
For each appliance we should have the emission number of x CO g/mol
Now with Hydrogen we can calculate;



Summary

We propose that the heating efficiency credits, remain and are extended to support the development of best practice and recognition of future energy vectors that will impact the heating and hot water market from now until 2025 and beyond. Consideration should be given to our response to question.41. considering the technological and economic feasibility issues the current proposal will create in the less than 30kw direct fired water heater efficiencies in section.6.

Q101. Q43) 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

Q102. If you answered no (b or c), please explain your reasoning.

No Response

Q103. Q44) 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?

b) No

Q104. If you answered no, please explain your reasoning.

Decentralised heating systems, such as radiant or warm air are inherently self-regulating, as each heater (or set of heaters) are in their own zone.

Q105. Q45) 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

Q106. If you answered no (b or c), please explain your reasoning.

No Response

Q107. Q46) Do you agree with the proposals for cooling in existing non-domestic buildings in Section 6 of draft Approved Document L, volume 2: buildings other than dwellings?

a) Yes

Q108. If you answered no (b or c), please explain your reasoning.

No Response

Q109. Q47) 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?

d) No, for another reason

Q110. If you answered no (b, c or d), please explain your reasoning and provide alternative suggestions.

Existing buildings may already have Class B or C controls and replacement prohibitively expensive. The difference between say B and A is likely insignificant if the fabric of the building is not upgraded. (fabric first approach)

BACS systems could be the prohibitive equipment in upgrading a system in the first instance.

The level of 295kW is also too low and not at a point where adjustment is possible or capable enough to guarantee savings or indeed not save money.

Advances in manufacturers controller coupled with low Class BACS could provide savings in buildings that are not insulated to the same level A as the controller.

SMEs will be affected the most especially where heat is essential as comfort (large nursing homes and care facilities) Heat is more effectively controlled by a lower class controller. And point of use for the incumbent.

The whole decision process should be based on use and occupancy case. Offices are suitable for Class 2 predominantly, but celebration venues are only suitable for Class A, based on intermittent demand – therefore use case and occupancy are not taken into consideration.

The trigger point is too low and could be better managed by manufacturers controllers to control the efficiency of the product and system efficiency, whilst the existing lower class BEMS not suited to modern boilers but suitably be left working to determine occupancy and system comfort levels. This is not taken into account with the current proposal.

Q111. Q48) 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

Q112. If you answered no (b or c), please explain your reasoning.

No Response

Q113. Q49): 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

Q114. If you answered no (b or c), please explain your reasoning.

No Response

Q115. Q50) 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?

f) No, I disagree for another reason

Q116. Please explain your reasoning.

The question assumes that all the radiators are removed and discarded or that there are no other type of emitter such as Fan Coils underfloor heating even, these may be already oversized and able to work on reduced flow temperatures due to improvements in building fabric such as insulation or glazing. Simply removing and replacing has a negative embedded carbon or carbon footprint of the installation if they are capable to be calculated as suitable.

If the building is suitably upgraded to accept radiators sized at 50C utilising the Fabric first approach must be considered. There are many installations where an upgrade to a temperature of 55C, is prohibitive to the size of the emitter. – too large to fit or not enough room to accommodate.

The option to keep them if practicable or suitable should always be an option

Change of use for domestic to small retail premises is likely to be the only use case – however the statement is too wide and too assuming.

The cost to achieve this target will be very high, making the refurbishment of the building not anymore an option or postponing as much as possible the activity, having a negative effect for CO2 emissions saving.

Q117. Q51) 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

Q118. If you answered no, please explain your reasoning.

Despite a yes answer there is a need to centrally control the guidance and work to define standards and practices from an technology agnostic perspective.

Q119. Q52) 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

Q120. If you answered no (b or c), please explain your reasoning.

NOT ALL BUILDING SERVICE ARE CURRENTLY COVERED BY THE ECO-DESIGN REQUIREMENTS. Where the building services are covered by Eco-design regulations then the requirements in the building regulations should be based on the declared values under the ErP and not require further testing. If the calculations for the requirements differ from those in the ErP then it would be cost effective if these are aligned across all devolved nations.

The ErP directive effectively controls the minimum efficiency of appliances that can be put on the market. Even though we agree with the position the Government should continue to give guidance, the basis of the Eco-design should still be adopted in its spirit. Although the efficiency of products is different using L2 efficiencies for example the UK should adopt a more system based approach.

Interim uplift to Part L standards for non-domestic buildings: Part L guidance

Q121. Q53) 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

Q122. 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.

No Response

Q123. Q54) 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

Q124. If you answered no, please explain your reasoning.

No Response

Interim uplift to Part L standards for non-domestic buildings: Modular and portable buildings

Q125. Q55) 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

Q126. If you answered no (b or c), please explain your reasoning and provide supporting evidence or alternative suggestions.

Clarity needs to be given as to what constitutes a modular building i.e. mobile shower units for festivals? Electric hot water supply will struggle to supply the demand for high volumes of hot water in such a small building envelope.

Q127. Please upload any evidence here.

No Response

Interim uplift to Part L standards for non-domestic buildings: Airtightness

Q128. Q56) Do you think the pulse methodology should be an approved means of demonstrating airtightness for non-domestic buildings?

No Response

Q129. If you answered no, please explain your reasoning and provide supporting evidence.

No comment

Q130. Please upload any evidence here.

No Response

Q131. Q57) Do you agree that we should adopt an independent approved airtightness methodology such as the CIBSE draft methodology for non-domestic buildings?

No Response

Q132. If you answered no, please explain your reasoning.

No comment

Q133. Q58) Do you agree with the proposal for guidance on the calibration of devices that carry out airtightness testing in new and existing non-domestic buildings?

No Response

Q134. If you answered no, please explain your reasoning and provide alternative suggestions.

No comment

Interim uplift to Part L standards for non-domestic buildings: Monitoring the as-built performance of non-domestic buildings

Q135. Q59) 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

Q136. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q137. Q60) 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

Q138. If you answered no (b or c), please explain your reasoning and provide alternative suggestions.

No Response

Interim uplift to Part L standards for non-domestic buildings: Transitional Arrangements

Q139. Q61) Do you agree with the proposals for transitional arrangements for buildings other than dwellings?

a) Yes

Q140. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Interim uplift to Part F standards for non-domestic buildings

Q141. Do you wish to answer any of the questions in this chapter?

No

Interim uplift to Part F standards for non-domestic buildings: Guidance

Q142. Q62) 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?

No Response

Q143. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q144. Q63) Do you agree with the proposed guidance for reducing noise nuisance for ventilation systems in non-domestic buildings?

No Response

Q145. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q146. Q64) 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?

No Response

Q147. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q148. Q65) 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?

No Response

Q149. If you answered no, please explain your reasoning.

No Response

Q150. Q66) Do you agree with the list of industry guidance presented in Section 1 of draft Approved Document F, volume 2: buildings other than dwellings?

No Response

Q151. Please explain your reasoning and where relevant provide alternative suggestions for guidance.

No Response

Q152. Q67) 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?

No Response

Q153. If you answered no (b or c), please explain your reasoning and provide alternative suggestions.

No Response

Q154. Q68) 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?

No Response

Q155. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q156. Q69) Do you agree that purge ventilation in offices should be designed to provide at least four air changes per hour?

No Response

Q157. If you answered no (b or c), please explain your reasoning.

No Response

Q158. Q70) 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?

No Response

Q159. If you answered b or c, please explain your reasoning. Please note that the appropriate questions on measures to prevent the spread of infection are detailed in Section 4.4 of the consultation document.

No Response

Q160. Q71) 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?

No Response

Q161. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q162. Q72) 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?

No Response

Q163. If you answered no, please explain your reasoning.

No Response

Interim uplift to Part F standards for non-domestic buildings: Reducing the risk of transmission of infection via aerosols

Q164. Q73) 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?

No Response

Q165. If you answered b, c, d or e, please explain your reasoning.

No Response

Q166. Q74) 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?

No Response

Q167. If you answered b or c, please explain your reasoning.

No Response

Q168. Q75) Do you agree that extract ventilation in bathrooms, WCs, and other sanitary accommodation should be capable of operating in a continuous mode if necessary?

No Response

Q169. If you answered no, please explain your reasoning.

No Response

Q170. Q76) 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?

No Response

Q171. If you answered b or c, please explain your reasoning.

No Response

Q172. Q77) If applicable, please provide any suggestions for guidance for indoor air quality monitoring (e.g. CO2 monitoring) in non-domestic buildings.

No Response

Q173. Q78) 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?

No Response

Q174. If you answered no, please explain your reasoning.

No Response

Q175. Q79) 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.

No Response

Q176. If you answered no, please explain your reasoning.

No Response

Q177. Q80) 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?

No Response

Q178. If you answered yes, please explain your reasoning and provide evidence to support this.

No Response

Q179. Please upload any evidence here.

No Response

Section B: Domestic Buildings

Q180. Do you wish to answer any of the questions found in Section B of the Consultation Document?

No

Standards for overheating in new residential buildings in 2021

Q181. Do you wish to answer any of the questions in this chapter?

No Response

Standards for overheating in new residential buildings in 2021: A new legal requirement

Q182. Q81) How should the Government address the overheating risk?

No Response

Q183. Please explain your reasoning and provide alternative suggestions where applicable.

No Response

Standards for overheating in new residential buildings in 2021: Residential buildings in scope

Q184. Q82) Do you agree with the buildings that are in scope of this new part of the Building Regulations?

No Response

Q185. Please explain your reasoning.

No Response

Standards for overheating in new residential buildings in 2021: Compliance methods

Q186. Q83) Do you agree that the division of England based on overheating risk detailed in paragraph 5.6.3 of the consultation document is correct?

No Response

Q187. If you answered no (b or c), please explain your reasoning and provide supporting evidence.

No Response

Q188. Please upload any evidence here.

No Response

Q189. Q84) Do you agree with the categorisation of buildings into Group A and Group B as detailed in paragraph 5.6.5 of the consultation document?

No Response

Q190. If you answered no, please explain how buildings should be re-categorised.

No Response

Q191. Q85) Do you agree with the simplified method as a means of compliance with the proposed new requirement to reduce overheating risk?

No Response

Q192. If you answered no (b, c or d), please explain your reasoning and provide supporting evidence.

No Response

Q193. Please upload any evidence here.

No Response

Q194. Q86) 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?

No Response

Q195. If you answered no, please explain your reasoning and provide supporting evidence.

No Response

Q196. Please upload any evidence here.

No Response

Q197. Q87) 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?

No Response

Q198. If you answered no, please explain your reasoning and provide supporting evidence.

No Response

Q199. Please upload any evidence here.

No Response

Q200. Q88) Do you think that adequate levels of daylight will be provided and that homes will be acceptable to purchasers while meeting these proposed standards?

No Response

Q201. Please explain your reasoning.

No Response

Q202. Q89) Do you agree with offering dynamic thermal analysis as a means of compliance with the proposed new requirement to reduce overheating risk?

No Response

Q203. Please explain your reasoning and provide alternative suggestions where applicable.

No Response

Q204. Q90) Please detail any information you have about the likelihood of occupants opening doors and windows at night in unoccupied rooms.

No Response

Standards for overheating in new residential buildings in 2021: Acceptable strategies for reducing overheating risk

Q205. Q91) 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?

No Response

Q206. Please explain your reasoning and provide any suggested amendments where applicable.

No Response

Q207. Q92) Do you agree that the overheating standard should not account for the effect of curtains, blinds and tree cover?

No Response

Q208. If you answered b, c or d, please explain your reasoning.

No Response

Q209. Q93) Do you agree that the building should be constructed to meet the overheating requirement without the need for mechanical cooling?

No Response

Q210. If you answered no, please explain your reasoning.

No Response

Standards for overheating in new residential buildings in 2021: Usability for occupants

Q211. Q94) 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?

No Response

Q212. If you answered b or c, please explain your reasoning and provide alternative suggestions.

No Response

Q213. Q95) 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?

No Response

Q214. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q215. Q96) Do you agree with the proposals on security in Section 3 of the draft Overheating Approved Document in new residential buildings?

No Response

Q216. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q217. Q97) Do you agree with the protection from falling guidance proposed in Section 3 of the draft Overheating Approved Document?

No Response

Q218. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q219. Q98) Do you agree with the guidance on protection from entrapment proposed in Section 3 of the draft Overheating Approved Document?

No Response

Q220. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q221. Q99) Are there any further issues which affect usability that should be included in the Overheating Approved Document?

No Response

Q222. Please explain your reasoning and provide supporting evidence.

No Response

Q223. Please upload any evidence here.

No Response

Standards for overheating in new residential buildings in 2021: Providing information

Q224. Q100) Do you agree with the proposed requirement to provide information on the overheating strategy to the building owner?

No Response

Q225. Please explain your reasoning and provide alternative suggestions where applicable.

No Response

Standards for overheating in new residential buildings in 2021: Policy interactions

Q226. Q101) How do you see this new Building Regulation interacting with policies in local plans?

No Response

Q227. Q102) 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?

No Response

Q228. If you answered no, please explain your reasoning.

No Response

Standards for overheating in new residential buildings in 2021: Transitional arrangements

Q229. Q103) 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 the consultation document?

No Response

Q230. Please explain your reasoning and provide alternative suggestions where applicable. If you answered no, please also propose an alternative reasonable period that could apply.

No Response

Part L standards for domestic buildings in 2021

Q231. Do you wish to answer any of the questions in this chapter?

No Response

Part L standards for domestic buildings in 2021: Minimum standards for new and replacement thermal elements, windows and doors in existing homes

Q232. Q104) Do you agree with the proposed minimum fabric standards for existing domestic buildings set out in Table 6.1 of the consultation document?

No Response

Q233. If you answered no, please explain your reasoning and provide supporting evidence.

No Response

Q234. Please upload any evidence here.

No Response

Q235. Q105) 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?

No Response

Q236. If you answered no, please explain your reasoning.

No Response

Q237. Q106) 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?

No Response

Q238. If you answered no, please explain your reasoning.

No Response

Part L standards for domestic buildings in 2021: Limiting U-value calculations for rooflights in existing homes

Q239. Q107) 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?

No Response

Q240. If you answered no, please explain your reasoning.

No Response

Q241. Q108) 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?

No Response

Q242. If you answered no, please explain your reasoning.

No Response

Part L standards for domestic buildings in 2021: Minimum standards for the renovation of thermal elements in existing homes

Q243. Q109) Do you agree with the proposed minimum fabric standards set out in Table 6.2 of the consultation document, and Sections 4 and 11 of draft Approved Document L, volume 1: dwellings?

No Response

Q244. If you answered no, please explain your reasoning and provide supporting evidence.

No Response

Q245. Please upload any evidence here.

No Response

Part L standards for domestic buildings in 2021: Setting the Fabric Energy Efficiency Standard (FEES) in new homes

Q246. Q110) What level of FEES should be used for Part L 2021?

No Response

Q247. 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.

No Response

Q248. Please upload any evidence here.

No Response

Part L standards for domestic buildings in 2021: Building services in new and existing homes

Q249. Q111) 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?

No Response

Q250. If you answered no, please explain which matters are not adequately covered.

No Response

Q251. Q112) 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?

No Response

Q252. If you answered no (b or c), please explain your reasoning.

No Response

Q253. Q113) 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?

No Response

Q254. If you answered no, please explain your reasoning.

No Response

Q255. Q114) Do you agree with our proposed approach to mandating self-regulating 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?

No Response

Q256. If you answered no, please explain your reasoning.

No Response

Q257. Q115) 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?

No Response

Q258. If you answered no, please explain your reasoning.

No Response

Q259. Q116) 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?

No Response

Q260. If you answered no, please explain your reasoning.

No Response

Q261. Q117) 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?

No Response

Q262. If you answered no (b or c), please explain your reasoning.

No Response

Q263. Q118) Do you agree with the proposed changes to water treatment guidance and removing formal guidance on water softening?

No Response

Q264. If you answered no, please explain your reasoning.

No Response

Q265. Q119) 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?

No Response

Q266. If you answered no (b or c), please explain your reasoning.

No Response

Q267. Q120) 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?

No Response

Q268. If you answered no (b or c), please explain your reasoning.

No Response

Part L standards for domestic buildings in 2021: Part L guidance changes for existing homes

Q269. Q121) 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.?

No Response

Q270. If you answered b, c or d, please explain your reasoning.

No Response

Part L standards for domestic buildings in 2021: Airtightness testing

Q271. Q122) Do you agree with the proposal for guidance on the calibration of devices that carry out airtightness testing in new and existing domestic buildings?

No Response

Q272. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Part F standards for existing domestic buildings in 2021

Q273. Do you wish to answer any of the questions in this chapter?

No Response

Part F standards for existing domestic buildings in 2021: Guidance

Q274. Q123) 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?

No Response

Q275. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q276. Q124) 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?

No Response

Q277. If you answered b, c or d, please explain your reasoning and provide alternative suggestions.

No Response

Part F standards for existing domestic buildings in 2021: Work on existing homes

Q278. Q125) 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?

No Response

Q279. If you answered no, please explain your reasoning and provide supporting evidence.

No Response

Q280. Please upload any evidence here.

No Response

Q281. Q126) 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?

No Response

Q282. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q283. Q127) 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?

No Response

Q284. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

Q285. Q128) 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?

No Response

Q286. If you answered no (b or c), please explain your reasoning.

No Response

Q287. Q129) Do you agree with the proposals in paragraphs 3.29 to 3.31 of draft Approved Document F, volume 1: dwellings and in 7.4.11 of the consultation document on work to existing kitchens or bathrooms?

No Response

Q288. If you answered no (b or c), please explain your reasoning and provide alternative suggestions.

No Response

Q289. Q130) 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?

No Response

Q290. If you answered no, please explain your reasoning and provide alternative suggestions.

No Response

The Impact Assessment and Equalities Impacts

Q291. Q131) 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.

No comment

Q292. Please upload any evidence here.

No Response

Q293. Q132) 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.

No comment

Q294. Please upload any evidence here.

No Response