

Royal Institute of British Architects

Department for Levelling Up, Housing and Communities:
The Future Homes and Buildings Standards – 2023 consultation
March 2024

The Royal Institute of British Architects is a global professional membership body driving excellence in architecture. We serve our members and society in order to deliver better buildings and places, stronger communities and a sustainable environment. Being inclusive, ethical, environmentally aware and collaborative underpins all that we do.

The Royal Institute of British Architects (RIBA) welcomes the opportunity to respond to this inquiry on the regulations governing the energy performance of new residential buildings and non-domestic buildings. Around 40% of global carbon emissions stem from buildings and architects have a significant role to play in reducing UK greenhouse gas emissions. RIBA joined the global declaration calling an environment and climate emergency on 29 June 2019; just two days after, the UK Government passed a law stipulating the UK end its contribution to global warming by 2050, by bringing all greenhouse gas emissions to net zero.

The climate emergency demands urgent action and leadership the Government, the built environment sector and the wider construction industry. While we welcome the positive direction of travel to improve the sustainability of the built environment undertaken by Government to date, we are disappointed by the proposals in the Future Homes and Buildings Standards, which will be insufficient to significantly improve the performance of new homes and non-domestic buildings. In developing our response to the Future Homes and Buildings Standards, we have built upon our existing policy positions and sought in-depth feedback from a number of RIBA expert members, working in practices across the country.

RIBA recommends that the Government:

- Uses operational energy as the principal metric for measuring energy efficiency of buildings and stops using primary energy.
- Raises fabric standards to guarantee that no new homes and buildings add to the existing retrofit burden.
- Strengthens requirements for material change of use (MCU) dwellings to ensure that they are high quality and sustainable.
- Introduces post occupancy evaluation (POE) as a mandatory requirement to support the continuous improvement of new homes.
- Brings forward the awaited consultation on the introduction of embodied carbon regulation.

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4. Performance requirements for new buildings

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

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

a. Option 1 (higher carbon and bill savings, higher capital cost)

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

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

X lower bills

X carbon savings

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

We do not support the current method for evaluating performance using the 'notional building' approach. We must move away from this method and adopt a system that assesses the total (operational) energy consumption of a building, measured in energy use intensity (EUI), in kWh/m²/yr.

Using this metric will encourage architects, engineers, developers and building owners to be innovative and will reward good design based on form, orientation and fabric performance and captures both regulated energy and unregulated energy. Targets for operational energy should be aligned with those that will be set out in the UK Net Zero Carbon Buildings Standard. Some standards, such as *Passivhaus*, are already using this metric.

If the notional building approach is retained, it must be better optimised – with option 1 preferable to option 2. Neither approach offers will be enough ambition to ensure new homes stand the test of time and will meet future needs. The advantage of option 1 over option 2 is that it offers higher carbon savings and lower energy bills for occupants. Compromising on capital costs will result in underperforming buildings, which fail to address important issues of fabric and systems.

The outcome of the Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings, which was published in 2021, recommitted to delivering a Futures Homes Standard that ensured new build homes were 'future-proofed with low carbon heating and world-leading levels of energy efficiency.' It noted that 'very high fabric standards' would be required to ensure homes were fit for the future and offer affordability to consumers. The proposals in this consultation do not deliver this.

Disappointingly, the proposals do not go further than the existing minimum building fabric set out in the 2021 uplift to Part L. No home built under the Future Homes Standard should add to the retrofit

burden because of poor fabric efficiency. The cost of improving fabric efficiency is relatively low. It is far more expensive to retrofit fabric efficiency measures further down the line than at the point of construction.

Fabric efficiency, building form and envelope must be the primary consideration when designing a building. Any delivery of heat must be secondary. We do not support the rationale of simply relying on the rapid decarbonisation of the electricity grid and the efficiency of heat pumps. Heat pumps and heat networks are two effective ways that new homes can achieve low carbon heating.

However, we should not rely on these alone to decarbonise homes. As research and development continue, there might be new technologies that become available offering similar results to heat pumps. These technologies should not be discounted.

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

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

a. Option 1 (higher carbon and bill savings, higher capital cost)

Any use of heat networks must assure that losses from distribution are minimised. Requirements around the installation of systems alongside the Future Homes Standard, including insulation, lagging and ventilation, must be improved.

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

- a. Option 1**
- b. Option 2**

a. Option 1

11. What are your priorities for the new specification?

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

x Carbon savings
x Lower bills

The primary consideration for the specification for future non-domestic buildings should be fabric efficiency.

As with dwellings, we must move towards energy demand reduction, by mandating energy performance requirements, measured in EUI, in kWh/m²/yr. This will help to ensure that good

joined-up design based on form, orientation, fabric and crucially functional performance of the building is rewarded through the measurement of actual energy usage, and not just regulated energy.

Targets for operational energy should be aligned with those that will be set out in the UK Net Zero Carbon Buildings Standard. Some standards, such as *Passivhaus*, are already using this metric. Metrics should be kept under review in line with the development of the UK Net Zero Carbon Buildings Standard, with additional metrics such as space heating and cooling demand considered.

5. Metrics

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

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

e. No for another reason

We recommend that operational energy, measured in EUI, in kWh/m²/yr, should be the principal metric for determining the energy efficiency of buildings. The metric is well-known and understood within the sector, as well as by building owners and occupiers. Targets for operational energy should be aligned with those that will be set out in the UK Net Zero Carbon Buildings Standard. Some standards, such as *Passivhaus*, are already using this metric.

We do not support the current proposals for metrics and do not support proposals for retaining the Target Emission Rate (TER) and Target Primary Energy Rate (TPER) as compliance metrics.

We support the inclusion of the fabric efficiency target (FEE), which remains a useful tool to deliver robust fabric efficiency in buildings. The marginal cost of improving fabric efficiency is low; and it is considerably more expensive to retrofit fabric efficiency measures post-construction. Retaining the FEE target is a positive measure to ensure new homes are equipped with energy efficient fabrics.

We do not support primary energy as a performance metric. Primary energy is a complex metric with factors that change over time and will become less relevant as the electricity grid decarbonises and is heavily dependent on the wider energy system. Instead, we must start regulating the amount of energy used by a building. We suggest that operational energy becomes the key metric.

Metrics should be kept under review in line with the development of the UK Net Zero Carbon Buildings Standard, with additional metrics such as space heating and cooling demand considered.

Additionally, it is disappointing that embodied carbon is out of scope for this consultation. As the grid continues to decarbonise, the carbon impact of our buildings will increasingly come from the materials used in its construction. RIBA continue to advocate for whole life carbon measurements to be set, aligned with the UK Net Zero Carbon Buildings Standard when it is released. We will not reach net zero without measuring and reducing the full carbon impact of our buildings.

The Government must bring forward the promised consultation on the approach and interventions to mainstream the measurement and reduction of embodied carbon in the built environment.

6. Updated guidance and minimum standards

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

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

b. Yes, and I want to provide additional suggestions or information to support my view

We would support the replacement of decentralised mechanical extract ventilation (dMEV) with mechanical ventilation with heat recovery (MVHR) in the notional building. This would ensure there is internal space and ducting for future upgrades to the home.

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

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

a. Yes

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

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

b. Yes, and I want to provide additional suggestions or information to support my view

Consideration should be given to the selected operating and maintenance information fixed to heat pump units in new home. There is limited space on the side of a piece of equipment.

Additionally, the operating and maintenance information should be available separately in full both in digital and paper form, with consideration given to varied accessibility needs.

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

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

a. Yes

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

a. Yes

b. Yes, and I want to provide additional suggestions or information to support my view

c. No (please provide justification)

b. Yes, and I want to provide additional suggestions or information to support my view

We recommend that heat loss targets for the HW cylinder should be expressed as thermal resistance or ErP rating (as preferably B or above) and not insulation thickness.

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

a. Yes

b. Yes, and I want to provide additional suggestions or information to support my view

c. No (please provide justification)

a. Yes

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

a. Yes

b. Yes, and I want to provide additional suggestions or information to support my view

c. No (please provide justification)

b. Yes, and I want to provide additional suggestions or information to support my view

We welcome these proposals to include lifts, escalators and moving walkways into the building regulations definition of 'fixed building services' for new buildings. These technologies involve significant energy demand, especially at peak times.

It is therefore necessary that lifts, escalators and moving walkways are all included in calculations to support energy reduction. This is not an exhaustive list and we recommend widening the scope as far as possible to guarantee calculations are as accurate as possible.

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

a. Yes (please provide comments)

b. No

a. Yes

It is disappointing that fabric requirements set do not improve on the 2021 standards, except for warehouses and sports halls, where enhanced levels of airtightness are proposed. Additionally, the

Government should urgently bring forward the promised consultation on the approach and interventions to mainstream the measurement and reduction of embodied carbon in the built environment.

7. Material Change of Use

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

a. Yes

b. No, an elemental standard should be set with an option to use a notional building if the designer prefers

c. No, for another reason (please provide justification)

a. Yes

We support the proposals to strengthen requirements on material change of use (MCU) buildings. MCU buildings should be treated similarly to new buildings and assess overall building performance.

Failure to set whole-building standards for these dwellings will leave many homes falling below the standard of decent homes. This is particularly important considering current permitted development rights have often resulted in sub-standard dwellings.

We need to ensure that standards are appropriate so that dwellings created through an MCU are high quality and sustainable homes. MCU dwellings should achieve a high level of performance, and the MCU standard should cover all types of use, including houses in multiple occupation (HMOs).

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

a. Yes

b. No, standards should also apply to non-dwelling accommodation e.g., student or patient accommodation, care homes, and hotels

c. No, the standard should be clearer that it applies to houses of multiple occupation (please recommend specific building types you think the standard should apply to and provide justification)

d. No, for another reason (please provide justification).

d. No, for another reason

The Government should widen the application of the MCU standard. The MCU should clearly state that it applies to HMOs. We recommend that the MCU standard is applied to all building types, except where exemptions are completely necessary. Lists, such as those set out in Approved Document L, Volume 1: Dwellings can be complex and result in loopholes.

Raising standards for MCU needs to be done in parallel with improving the requirements for existing building maintenance and replacement. If changes are made for MCU buildings, but not existing buildings, this could lead to unintended consequences.

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

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

a. Yes

All buildings and uses should be included in the first instance. There may be instances where exemptions need to be applied for certain buildings, but this should be for exceptions where all reasonable options have already been explored.

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

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

X whether the conversion is a part- or whole-building conversion

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

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

c. No

As mentioned above, we must move away from this method and adopt a system that assesses the total operational energy consumption of a building, measured in EUI, in kWh/m²/yr. We support the retention of the fabric energy efficiency rate, but do not support the continued use of primary energy as the principal metric.

As previously highlighted, we do not support the current method for evaluating performance using the 'notional building' approach. We must move away from this method and adopt a system that assesses the total (operational) energy consumption of a building, measured in EUI, in kWh/m²/yr. Targets for operational energy should be aligned with those that will be set out in the UK Net Zero Carbon Buildings Standard. Some standards, such as *Passivhaus*, are already using this metric.

Metrics should be kept under review in line with the development of the UK Net Zero Carbon Buildings Standard, with additional metrics such as space heating and cooling demand considered.

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

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

b. Building control bodies should be able to relax under the following circumstances

The relaxation of MCU standards should only be permitted in extreme cases where it is extremely hard for the building to comply, such as some specific heritage assets. Under no circumstances should exceptions become the norm.

It is critical that reasonable measures are taken first to demonstrate unviability.

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

Please select all that apply:

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

X there should be guidance on circumstances where relaxation of the notional standard may be appropriate

X there should be monitoring of how relaxation is applied

X only formal relaxation or dispensation through the local authority should be possibly

X other

It is important that the Government only permit formal relaxation. This will help to avoid over-relaxation becoming the norm. Relaxation of the MCU standard should only be possible in instances where it is not possible to comply.

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

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

a. Yes, but it is not strict enough

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

Please select all that apply:

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

X risk of moisture, damp and mould

X high energy demand and energy bills

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

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

b. Yes, and photographic evidence is needed

We agree that the signed standardised compliance report and the supporting photographic evidence should be provided to Building Control.

This information should be reviewed and acted on in accordance with the other information provided, such as air pressure test certificates. All the information provided should be reviewed as a whole, rather than via a piecemeal approach. Photographic evidence should not be used as a substitution for site attendance. A lack of supervision on site can lead to poor quality construction.

Whilst a photographic record is a step in the right direction, it will require a professional with the time and expertise to review the photographs and possess the relevant authority to compel contractors to address the issues.

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

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

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

It is important that we consider MCU in the same way that we look at new build or full retrofit. Consumers buying homes through a MCU should be given a Home User Guide (HUG).

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

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

a. Yes

8. Real-world performance of new homes

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

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

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

We welcome the focus on real-world performance of new homes. However, we strongly recommend that Post Occupancy Evaluation (POE) is introduced for new homes as a mandatory requirement to support the continuous improvement of new housing stock.

POE is an essential tool for the built environment and should be used to improve predictive energy modelling through verification and comparison in use. Without checking how buildings actually perform, the industry is relying on unverified predictions of performance.

Despite its clear benefits, POE is not widely embedded. Ensuring the widespread adoption of POE will require systemic cultural change which can be led through a top-down approach from government. We recommend that the Built Environment Carbon Database (BECD) is used to capture data that can help inform new projects and support continuous improvement within the built environment.

For some time, we have urged the Government to introduce POE as a condition of procurement for projects using public funding and as a condition of housebuilders receiving Help to Buy payments. This alternative and separate approach would be welcome and complement mandatory POE for public projects well.

One barrier cited to undertaking POE is the cost. This is despite the fact that the cost of POE is only a very small percentage of overall building costs. As POE becomes standard, the lessons learnt can help inform new projects. This enables continuous improvement within the built environment. As buildings improve, the cost of POE depreciates.

41. Do you think that the government should introduce a government-endorsed Future Homes Standard brand? And do you agree permission to use a government-endorsed Future Homes Standard brand should only be granted if a developer's homes perform well when performance tested? Please include any potential risks you foresee in your answer.

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

d. No

Our preference is that POE becomes a mandatory requirement. It is important that a government-endorsed brand does not become a way to suggest quality, without delivering a better product and maintaining quality across every site, in practice.

A standard cannot be a standard if parts of it remain voluntary.

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

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

a. Yes

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

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

a. Yes

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

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

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

We support proposals for installation, certification, inspection and testing of heat pumps systems that include appropriate routes to competence.

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

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

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

We support changes to the HUG, which ensure occupants are provided with the information they need to use heat pump systems appropriately, and potentially reduce bills and save energy.

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

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

a. Yes

We support the digital availability of HUGs, but it is important that they are available and accessible to all homeowners and occupants. To avoid barriers to access, paper copies should also be available. For the same reason, information should also be available in video and pictorial formats.

9. Heat networks

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

a. Yes

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

c. No (please provide justification)

a. Yes

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

a. Yes

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

a. Yes

11. Accounting for exceptional circumstances

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

a. Yes

b. No (please provide justification)

b. No

Developers should not be able to apply for a relaxation or dispensation of Regulation 26, which forms part of the requirements of Part L for new buildings. While there may be some buildings where it is difficult or financially challenging to achieve compliance, we do not believe this is grounds for local authorities or the Building Safety Regulator to lower the standards.

This could lead to delivery of underperforming and low-quality homes. Additionally, there is no clarity here about what exceptional circumstances that the Government are considering here.

12. Legislative changes to the energy efficiency requirements

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

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

a. Yes

13. A review of our approach to setting standards

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

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

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

Existing metrics do not provide a suitable basis for setting a minimum energy efficiency rating for ensuring affordability in use. The Standard Assessment Procedure (SAP) methodology does not include unregulated energy sources, which is a primary cause of the well-documented performance gap between design and the actual operation of a building.

We believe SAP to be inherently flawed. The data is misleading as it does not relate to real world operational outcomes. We are, in principle, supportive of the replacement of SAP with a model such as the HEM. This is on the basis that it results in homes which are fit for the future, in practice. As the HEM can simulate homes at a 30-minute time resolution, it is an improvement on the current SAP methodology. Nevertheless, it is important that the Government outlines how in-use measurement can exist with the HEM.

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

The notional building approach is highly flawed. As previously highlighted, we would welcome a shift away from this approach. The notional approach takes no account of form factor. If it is retained, the specification for the notional dwelling must be improved to prevent future governments having to mandate a further upgrade.

Neither approach included in the consultation is sufficient to ensure that new homes stand the test of time and meet future needs.

If the proposed notional building is adopted, it will need revision in the future. Industry has known the Future Homes Standard would be coming in for the past four years, so should be ready to implement improvements including with regards to fabric efficiency, renewables, systems, and technologies.

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

- a. Yes
- b. No

a. Yes

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

- a. Yes
- b. No

a. Yes

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

- a. Yes
- b. No

a. Yes

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

- a. Yes
- b. No

Please provide any further evidence.

a. Yes

Reputable window and door manufacturers can all provide bespoke calculations using EN standards. There is therefore no reason to rely on standard assumptions.

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

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

a. Yes

14. Transitional arrangements

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

- a. Option 1
- b. Option 2

a. Option 1

Option 1 provides a long lead time between publication and the end of the transition period. Given there is a 12-month transitional period in both options, we do not think a 12-month period is required between the laying date of the Future Homes and Buildings Standard regulations and publication of full technical specification and the regulations coming into force.

However, it is important that any associated documentation and software is readily available to industry and the wider sector to support an effective transition.

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

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

b. No

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

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

a. Yes

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

We strongly urge the Government to sunset previous transitional arrangements for new buildings. This will close an unnecessary loophole which allows malpractice.

15. Part O – call for evidence

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

- a. Yes
- b. Yes, but only for some types of conversion (please list from reg 5a-k or describe the type)
- c. No

a. Yes

There are many different cases where conversions of building use result in an increase in terms of the overheating risk. It is essential that steps to reduce overheating are implemented, ideally with a

focus on passive solutions, such as shading and ventilation, to avoid over reliance on energy use for cooling.

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

a. Yes (please provide justification)

b. No (please provide justification)

a. Yes

The current scope of Part O excludes provisions for roof lights. No other openings are as prone to solar gain than roof lights, and therefore they must be included within the scope of Part O.

The simplified method includes different provisions for vertical openings (windows etc.) and therefore it should also include the same requirements for horizontal openings (roof lights).

Best endeavours should be made for changes to existing buildings to be brought into line with requirements for new buildings to ensure their long-term habitability. This includes extensions and work on thermal elements. No other openings are as prone to solar gain as roof lights and sloped glazing. These should be regulated similarly to vertical glazing.

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

a. Yes (please provide justification)

b. No

a. Yes

There is a popular trend currently to highly glaze elevations facing gardens. These are often fully glazed. This level of glazing would be non-compliant in new buildings. It should therefore also be deemed non-compliant for both heat loss and heat gain in extensions.

We must stop over-glazing in both new buildings and extensions. As summer temperatures continue to rise it will lead to more frequent problems with overheating.

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

a. Yes (please provide justification)

b. No

a. Yes

There are existing issues with Part O and changes are necessary, particularly with regards to the simplified method. We want to see the dynamic thermal modelling method prioritised in Part O.

The dynamic thermal modelling method gives architects and designers greater design flexibility and allows them to address overheating risk alongside other needs more easily. To ensure new homes are meeting the required overheating standard, this should be verified through POE. We strongly recommend that higher risk designs are required to be assessed using dynamic thermal modelling in accordance with CIBSE TM59 guidance.

Part O must reflect that summer temperatures will rise in the coming years and decades. The urban heat island effect and increasing summer temperatures are already causing problems for occupants. It is important that people can safely ventilate dwellings at night. Single sided apartments are particularly at risk.

Plots assessed using the simplified method can result in drastically different results compared to the amount of glazing permitted using TM59. This has a huge impact on the design. The method can result in plots that are unable to have additional windows on the side elevation, meaning corner plots are unable to provide surveillance for security or break up a large gable to provide a more attractive elevation.

The use of thermal mass with ventilation as a means of limiting overheating is recognised in the dynamic thermal modelling route of Part O but not in the simplified method. This is an anomaly. This is a well-established strategy for passively reducing overheating and has been recognised by numerous academic and industry papers, including most recently the Future Homes Hub Technical guidance on Part O 2021.

Information should be provided on the time of day that different parts of any strategy for limiting overheating should be used. This needs to go into more detail to cover the basic principle of nighttime ventilation and how it can be used to remove heat that has accumulated in the building fabric.

We understand that the terminology used to describe the 'simplified method' has led some clients to assume it should be offered within scope without fee. This is problematic as the process can be far from simple. In cases where there are many house types in numerous orientations, it can in fact be particularly time consuming. The net result can be houses with compromised elevations and dark interior spaces.

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

a. Yes (please provide justification)

b. No.

a. Yes

The problems of the operability guidance in Approved Document O apply to both the simplified and dynamic methods.

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

a. Yes (please provide justification)

b. No

a. Yes

Part O is a welcome step forwards to mitigating overheating risk. The simplified method to achieve compliance, however, lacks the flexibility offered to architects by the dynamic thermal modelling. This should be prioritised.

Solutions to support overheating mitigation can compromise security and create unintended consequences. Alternative solutions should be explored to manage overheating.

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

a. Yes (please provide justification)

b. No

a. Yes

There is a lack of coordination over Approved Document B and Approved Document O. For example, most bedroom windows in houses must be purge windows, which may impair escape in the event of fire.

The 650mm restriction for window openings from the inside face of the wall can be very restrictive when building thicker walls.

It is important that Part O aligns with other parts of the building regulations such as Approved Document B.

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

a. Yes (please provide justification)

b. No

a. Yes

Small housebuilders typically use the simplified method, which can be difficult for them to comply with.

90. Does Regulation 40B require revision?

a. Yes (please provide justification)

b. No

a. Yes

This information should be more detailed and cover the basic principle of nighttime ventilation, as well as how it can be used to remove heat that has accumulated in the building fabric.

In general, information provided on the overall overheating mitigation strategy needs to be produced for a non-technical audience (as stated in Regulation 40B of Part O). However, this should not be at the expense of explaining the basic principles of overheating and the strategy used.

Occupants would be more likely to follow the guidance provided if they had a better understanding of the reasons for it. In this case, oversimplification could be counterproductive.

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

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

a. Yes

Our concerns are outlined above, in response to question 90.

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

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

a. Yes

See response to question 90.

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

- a. Yes**
- b. No**

a. Yes

We recommend that attention is given to regulation 40B, as set out in our response to question 90.