

UKGBC response to the Future Homes and Buildings Standard

Introduction:

The UK Green Building Council (UKGBC) is an industry network with a mission to radically improve the sustainability of the built environment by transforming the way it is planned, designed, constructed, maintained and operated. As a charity with over 700 member organisations spanning the entire sector, and including some of the UK's biggest banks, landowners and developers, we represent the voice of the industry's current and future leaders who are striving for transformational change.

The Future Homes and Buildings Consultation (FHS) was published as COP28 closed, where it was highlighted there's only a small chance of keeping 1.5 degrees alive and avoiding the most devastating impacts of climate breakdown. The FHS was the chance to ensure every new building in Britain is part of the solution, not the problem. With 'world leading levels of energy efficiency' promised by the Government¹, it was a chance to accelerate the shift away from fossil fuels, bring energy bills down, and reduce the cost of expanding the electricity grid. It could have driven down unregulated embodied carbon emissions and helped tackle flood hazards, water shortages and polluting wastewater from new developments.

But the consultation hasn't done this. Instead the Government has offered a choice between the two weakest options set out by the Future Homes Hub (FHH) Ready for Zero report². Neither can be considered genuinely 'future' as many buildings in the UK are already built to a higher standard. Individual developers, many of which are our members, have invested years and millions of pounds developing skills, technologies and supply chains to deliver more. This is a huge missed opportunity. It means a further Standard will be necessary shortly after the FHS to finish the job. This brings continued uncertainty for our members and the sector, making investment planning impossible and creating bottle-necks of skills and supplies, which make the next phase of development more expensive than it needed to be.

The consultation states concern about the additional costs of higher standards which might limit housing supply. However, evidence shows this is not the case. Several Government studies³ have not found higher standards to be a reason for constraint on housing supply, and as the capability of the sector grows evidence indicates the costs of deployment will fall dramatically.⁴ The FHS impact assessment estimates a reduction in costs of 60% for solar PV and 70% for heat pumps over ten years⁵. It is also worth noting the sector has demonstrated an ability⁶ to ensure additional future costs are factored into land valuations, negating any meaningful impact on their net cost position.

Within the limited scope of the consultation, we provide evidence in our response in favour of option one. We welcome the end of all fossil fuel burning as a crucial but long overdue step (given heat pumps and other low-carbon heating technologies are common in the UK and being installed at scale in other countries), and support integrated renewables for new homes and energy efficiency measures for homes built under material change of use.

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/424242/Future_Homes_Standard_2019_Consultation.pdf

² <https://files.uploaded/Ready+for+Zero+-+Evidence+to+inform+the+2025+Future+Homes+Standard+-+Task+Group+Report+FINAL-+280223-+MID+RES.pdf>

³ <https://www.gov.uk/government/publications/independent-review-of-build-out-final-report>

⁴ <https://www.ucl.ac.uk/bartlett/public-purpose/publications/2021/jan/deciding-how-decide-risk-opportunity-analysis-generalisation-cost-benefit>

⁵ https://assets.publishing.service.gov.uk/media/65cc90e1/Future_Homes_Standard_consultation_stage_impact_assessment.pdf

⁶ Hansard, Business, Energy and Industrial Strategy Committee Oral evidence: Energy Efficiency, HC 1730 Tuesday 12 March 2019

We consider option two completely unacceptable. We see no justification for ending requirements which have made rooftop solar commonplace, reducing energy bills for households and occupiers, and shifting national reliance away from fossil fuels to clean energy.

The 'transitional' arrangements consulted on here, in effect, represent a delay to implementation of a truly 'future' standard. We propose a pathway for a higher standard, not delaying the uptake of option one, which should be implemented from 2025 with no further delay, but providing a genuine transition so by the early 2030s the UK could be host to new homes that are comfortable to live in, affordable to run, and at the cutting edge of low- and zero-carbon.

A truly 'future' standard should:

- Improve fabric performance of homes to include U-values and air tightness in line with the Climate Change Committee's recommendations limiting heat demand to 15-20kwh/m²/year.
- Capitalise on the benefits of mechanical ventilation with heat recovery (MVHR) to improve air quality, comfort, and heating efficiencies.
- Introduce in-use energy performance as the basis of compliance with energy use intensity targets, with the deployment of locationally appropriate technologies.
- Utilise the energy generation and cost saving benefits of solar PV with mandatory installation, reflecting the evidence of cost benefits^{7 8} and wide public support.⁹
- Introduce regulation for whole life and embodied carbon assessments as proposed by industry.^{10 11}

Adopting these approaches for a higher standard beyond the transitional implementation of option one would allow for further benefits:

- A continued reduction in energy bills at a time of cost-of-living crisis, with savings of up to £400 per year on energy bills.¹²
- Give consumers the opportunity to participate in new markets for flexibility.
- A reduction in the future costs of retrofit by ensuring new buildings do not require further attention to reduce emissions.
- Accelerate carbon reductions from buildings and increase reliance on the UK's clean energy supply (which could displace marginal coal use in other parts of Europe during winter peaks), supporting the legislated Net Zero target.
- Reduce some of the capital costs associated with building additional low carbon generating capacity,¹³ and amount to savings of more than £23 billion¹⁴ in electricity generation investment over 20 years.
- Supporting the sector to future proof, building the necessary skills and supply chains which would allow the UK to be a leader in building innovations and new technology deployment.

⁷ <https://solarenergyuk.org/resource/the-value-of-new-build-solar/>

⁸ <https://www.gov.uk/government/publications/2021-uplift-to-energy-efficiency-standards-improved-ventilation-and-new-overheating-requirement>

⁹ <https://mcsfoundation.org.uk/news/poll-shows-majority-back-key-renewable-measures-on-new-builds/>

¹⁰ <https://part-z.uk/proposal>

¹¹ <https://www.ukgbc.org/wp-content/uploads/2021/11/UKGBC-Whole-Life-Carbon-Roadmap-A-Pathway-to-Net-Zero.pdf>

¹² <https://files.uploaded/Ready+for+Zero+-+Evidence+to+inform+the+2025+Future+Homes+Standard+-+Task+Group+Report+FINAL+-+280223+-+MID+RES.pdf>

¹³ <https://ukerc.ac.uk/publications/local-gas-demand-vs-electricity-supply/>

¹⁴ UKGBC calculation

FHS consultation response:

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

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

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

- Other (UK wide)

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

N/A

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

UK Green Building Council

Question 5. If you are responding on behalf of a business/organisation, where is your business/organisation based/registered?

London

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

- your name: Kirsty Girvan
- your position (if applicable): Policy Advisor
- the name of organisation (if applicable): UK Green Building Council
- an address (including post-code): The Building Centre, 26 Store St, WC1E 7BT
- an email address: Kirsty.girvan@ukgbc.org
- a contact telephone number: 07914476123

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

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

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

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

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

As the economy, as well as domestic mobility, electrifies there will be an increased expectation of home electrification. Evidence already suggests EV owners retrofitting their homes with solar PV and battery storage to help power their car, and vice versa. New homes will increasingly be expected to provide the whole electric package of capabilities.

Part S already requires EV charge point installation; Option one will increase solar PV and Heat Pump deployment, yet without all three being installed in parallel it will miss the significant opportunity of an integrated home energy system, denying the homeowner the opportunity to benefit from, and provide flexibility to the system. Un-smart installation creates further risks of parasitic demand on the local grid while driving the overall system to be much larger than it otherwise needs to be to meet their demands.

We strongly disagree with the Option two notional specifications because they will lead to higher bills for new home residents and do not make the most of the opportunity to reduce pressure on the electricity grid. The Government has a public sector equality duty to ensure that this new policy does not unduly affect those on lower incomes, or with protected characteristics. In addition, the electrification of heat, transport and industry means that demand for electricity is expected to grow four times higher than today. Our members support all new homes with rooftop solar as standard. As the cost of installing solar panels continues to plummet, mandating them should be seen as a no regrets choice.

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

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

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

As above.

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

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

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

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

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

The rapid decarbonisation of the electricity grid will on its own drive significant reductions in in non-domestic CO₂ emissions. However, this should not lead us to be complacent. Our members agree that grid decarbonisation has to be accompanied by meaningful fabric improvements and the introduction of targets for reducing both regulated and unregulated energy in-use for non-domestic buildings. Specifically this should:

- Tighten air permeability standards to 3m³/m².hr at 50Pa, as suggested by our members
- Introduce energy use intensity targets covering regulated and unregulated energy
- EUI targets should be developed rapidly for each building type – work which should be done in parallel with developing rating scales for the BEIS mandatory performance-based rating scheme. We would also point out that building occupancy should be factored into an EUI metric. By way of illustration, let us consider two identical 12-storey buildings, one of which is only used for one month of the year, while the other is in use constantly throughout the year. If both buildings have the same annual energy use per m², then it is clear that the one that is only in use for one month is far less efficient. Together for a better built environment www.ukgbc.org 2 However, this is currently not captured in a /m² metric. Government and industry should therefore look to develop occupancy-related EUI metrics for buildings.
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- Make in-use performance the basis for compliance with Part L in relation to regulated energy, starting with requirements for the monitoring and disclosure of in-use performance in all buildings over 1,000m²
- Introduce requirements for all developments to assess and disclose whole life carbon impacts, and phase in targets for reductions, starting with larger developments.

Regardless of the decarbonisation of the grid, the above approach leads to a long-term prudent approach to limited electricity use.

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

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

Our members from across the industry disagree with the choice of Primary Energy over Delivered Energy as the key energy metric: There is no evidence to justify this choice while significant evidence has been published in favour of Delivered Energy and a vast majority of the industry (75% of respondents in your last FHS consultation) is opposed to Primary Energy.

Calculation of primary energy requires the multiplication of energy use by a factor, which varies over time and can mask the actual energy consumption of a building. Instead, we recommend energy use intensity (EUI) (measured in kWh/m²/yr) be the principal metric, to ensure that compliance is based on actual in-use performance, rather than theoretical models, and to allow us to understand the scale of renewable generation required. Research has looked at the difference between modelled energy use and predicted emissions at design and the actual energy use of the buildings in operation, and found carbon emissions were 2-5 times higher than design estimates across a range of buildings and only 1 of the 49 buildings had actual carbon emissions that matched the design estimate.^{15 16}

Initially the primary energy metric should be accompanied by a requirement for the calculation and disclosure of an EUI figure, and as we move towards 2025 we should transition to using an EUI metric based on metered energy and covering both regulated and unregulated energy. EUI targets should be developed rapidly for each building type and building occupancy be factored into an EUI metric. This will allow for a better understanding of a building's actual performance and better comparison between buildings, similar to those being created through the Net Zero Carbon Buildings Standard.¹⁷

The Target Fabric Energy Efficiency rate (FEE) should be improved to include U values and air tightness in line with current good practice, as advised by our members who have commented that the external wall minimum can be pushed down from the proposed 0.26W/m² .K to 0.15 and the air permeability minimum (8m³ /m² .K at 50Pa) is well out of step with what developers are already delivering (5 for naturally ventilated buildings and 3 with mechanical ventilation). The proposed minimum elemental fabric standards are currently lower than those proposed by the Welsh Government in their Part L consultation¹⁸ and well below the Scottish equivalent of a Passivhaus standard¹⁹. They are too low to drive good fabric performance overall, and as well as leading to avoidable demand on the grid and the need for costly retrofit in the future.

¹⁵ <https://www.ukri.org/wp-content/uploads/2021/12/NonDomesticBuildingPerformanceFullReport2016.pdf>

¹⁶ https://green-alliance.org.uk/wp-content/uploads/2021/11/The_local_climate_challenge.pdf

¹⁷ <https://www.nzcbuildings.co.uk/>

¹⁸ <https://www.gov.wales/sites/default/files/consultations/2019-12/consultation-document-building-regulations-part-l-review.pdf>

¹⁹ <https://www.parliament.scot/bills-and-laws/proposals-for-bills/proposed-domestic-building-environmental-standards-scotland-bill>

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

Question 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?

No response.

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

No response.

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

No response.

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

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

Yes. It is important that all dwellings achieve a higher energy efficiency standard, and whilst it may be more challenging to carry this out in a dwelling created through a material change of use than a new build dwelling, it is considerably easier than having to retrofit at a later date. The Standard must ensure that building practices are in place to negate the need for further retrofit in the future, ensuring that all homes are future ready and affordable.

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

- a. Yes**

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

The new MCU standard should apply to any conversion, regardless of the building type, if the intention is to become a domestic dwelling.

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

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

For ease the requirements should be the same across different categories.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

Question 35. If a limiting standard is retained, what should the limiting standard safeguard against? Please select all that apply:

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

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

c. No (please provide justification)

Considering the poor uptake of voluntary real performance measures in the Energy Company Obligation (ECO4), it is disappointing to see the Government proposing that post-occupancy performance testing remain voluntary. Carrying out post-build occupancy performance testing has some significant challenges as it is very difficult to standardise a methodology with so many variables and determine against what baseline it will be tested.

As outlined in UKGBC's new homes policy playbook²⁰, our members support mandatory measurement of real-life performance as a result of sufficient monitoring during the build process, with resources provided to enforce the Standard's regulation. A wholly voluntary approach will not bring the necessary protection that the consumer needs from homes being built to a sub-standard.

The smart meter enabled thermal efficiency ratings (SMETER) innovation competition used 30 occupied homes to test how accurately SMETER methods measure the thermal performance of a home compared to existing methods. Overall, the SMETER technologies were successful for between 70% and 97% of the homes, with average confidence intervals between 12% and 33%. This work has shown that the concept of using smart meter data to calculate HTCs clearly has merit. The use of the SMETERs might provide a more robust procedure, with more clearly defined error characteristics, than HTCs derived by surveyors and RdSAP.²¹

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

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

We have concerns with the introduction of a government endorsed Future Homes Standard brand because it sends the wrong message about the FHS, as every home should be reaching these standards. Building regulations are not an aspiration, they are a basic, minimal requirement.

A brand that drives great performance could be beneficial, but only if verified to perform at a higher standard the one currently being consulted on (i.e. to the level of performance outlined in the introduction and in answer to question 11).

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

No response.

²⁰ <https://ukgbc.org/resources/new-homes-policy-playbook/>

²¹ <https://assets.publishing.service.gov.uk/media/61f2cc6ee90e0768a90f1f9b/smeter-innovation-competition-report.pdf>

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

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

We support the move away from fossil fuels to electricity-based systems, such as heat pumps. However, it is vital that the use of such technologies be underpinned by a robust Fabric Energy Efficiency Standard (FEES) – otherwise demand on the grid and household energy bills will be unnecessarily high.

Heat networks will only be appropriate in some locations, e.g. high density areas, and appropriateness must be established on a case-by-case basis. It is also vital to consider the energy sources supplying networks and ensure that they are only used if they are truly low carbon (currently over 80% of heat networks are fired by gas or gas CHP). A number of our members have also highlighted the issue whereby some development projects are being required to connect to heat networks which are both higher carbon and more expensive. Decarbonisation needs a joined up approach, not just one or the other. Plans must be put in place to decarbonise heat networks as well as reducing carbon emissions through building-level solutions.

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

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

Yes, provided that they are also net-zero ready and can demonstrate that they will be decarbonised in line with the decarbonisation of the grid in 2035. Direct electric heating should only be used exceptionally in hard-to-heat spaces, in which energy efficiency has been maximised through building and process design (extremely high fabric efficiency), and heating demand is therefore minimal and implications for fuel costs are punitive. An example would be the use of electric radiant heating controlled on occupancy within an intermittently occupied, highly insulated building.

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

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

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

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

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

More must be done to incentivise heat network decarbonisation. From 2021, Building Regulations should therefore specify a baseline network that has all or the majority of its heat delivered by a heat pump, not just the 20% proposed in the consultation. This in turn should pave the way for the Standard to assess networks on the basis of their actual absolute performance in kgCO₂/kWh heat delivered.

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

No response.

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

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

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

Yes, the advice overall seems very comprehensive. UKGBC members have recommended incentivising the deployment of on-site renewable generation and Demand Side Response (DSR) technologies and approaches, such as smart appliances, and managed/V2G electric vehicle charging. This should include a consideration of the diurnal variability of carbon intensity and cost of electricity to enable the ability of such solutions to both reduce carbon emissions and energy bills to be estimated.

The potential for households to benefit from the advantages of the net zero transition is contingent on them having a smart meter, the next era of domestic demand-side response is contingent on the success of the smart meter rollout. If consumers are to be rewarded for reducing their consumption during peak times, suppliers need to be able to measure their energy use from half-hourly data. In addition, access to the ready flow of smart meter data will be key to the smart operation of homes in line with time of use energy tariffs in the draft guidance.²²

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

- a. Yes**
- b. No

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

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

We do not believe that there should be any exceptions for new buildings to be connected to the gas grid or exceed target CO2 emission rates. UKGBC's members (and the wider sector) agree that heat pumps should be the focus of Government heat decarbonisation policy over the next decade.^{23 24}

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

N/A

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

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

²² <https://ukgbc.org/resources/renewable-energy-procurement-carbon-offsetting-guidance-for-net-zero-carbon-buildings/>

²³ <https://spiral.imperial.ac.uk/handle/10044/1/93856>

²⁴ <https://www.ukgbc.org/wp-content/uploads/2021/11/UKGBC-Whole-Life-Carbon-Roadmap-A-Pathway-to-Net-Zero.pdf>

c. No (please provide justification)

If the Government does decide to allow certain relaxations or dispensations (which our members strongly advise against), local authorities should have to defend their decision. However, if local authorities are going to take on this extra responsibility, it is important that they are resourced appropriately.

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

No response.

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

No response.

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

No response.

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

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

Yes, our members support the move away from SAP, but more work needs to be done on HEM. In-use performance measurement and fabric efficiency should be the norm to ensure there is no fabric performance gap, and a robust method of guaranteeing high heat pump efficiency is required (e.g. with a heat meter to monitor SCOP).

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

If this notional building is to truly represent zero carbon ready homes, then backstops should be tightened from the current proposed level and real performance fabric measurement should become the norm.

The Target Fabric Energy Efficiency rate (FEE) should be improved to include U values and air tightness in line with current good practice. Our members have suggested that the figure should be 3m³/m².hr at 50Pa; a level which is already widely delivered across the market.

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

- a. Yes
- b. No

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

Yes, using local weather will ensure efficient heat pump operation and sizing which are essential for delivering homes that are low-cost to run, low-carbon, warm, and comfortable.

The Government must ensure up-to-date data is available on localised overheating risk (including for, and factored in to, planning) and underpins Dynamic Thermal Modelling e.g., London TM 49 weather data uses more up to date figures than TM 59.²⁵

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

No response.

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

No response.

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

No response.

²⁵ <https://ukgbc.org/wp-content/uploads/2023/12/UKGBC-NAP-Scorecard-Final.pdf>

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

a. Option 1

b. Option 2

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

We agree that it is key to give developers time to transition, the Standard is already delayed and longer we wait, the more homes that will need to be retrofitted in the future.

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

No response.

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

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

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

Any development that wishes to build to the transitional standard must complete works within 6 months of the implementation of the FHS. We need to ensure that homes being built now are fit for future and zero-carbon ready to limit the number of homes that will need to be retrofitted in the future to be net zero in 2050.

The adoption of option one as soon as possible would help facilitate a transition pathway to the higher standard outlined in our introduction. This higher standard should be introduced progressively from 2028 rather than the current 'advanced warning', so called transitional arrangements, proposed for FHS 2025. A progressive system could, for example, require: 30% of homes built in 2028 to meet the higher standard, 60% in 2029, and 100% in 2030. Our members are in favour of this progressive implementation approach which supports wider industry learning, skills development and their own innovation in design and supply chain development, unlike the 'advance warning' system as is currently used. These benefits will bring better homes as well as wider economic benefits of greater productivity and export opportunities.

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

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

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

Applying Part O to material change of use will be essential if we are to ensure our buildings are suitable for our changing climate, at the pace required. Of the eight priority climate risks in the CCR3 that should be tackled in the next two years, the risks to human health, wellbeing, and productivity from increased exposure to heat in homes and other buildings were identified as amongst the most urgent to address and most severe.²⁶ Likewise at current weather levels, more than half (55%) of UK homes suffer from overheating risk.²⁷ Extreme heat already kills thousands of people every summer and is

²⁶ <https://www.theccc.org.uk/wp-content/uploads/2021/07/Independent-Assessment-of-UK-Climate-Risk-Advice-to-Govt-for-CCRA3-CCC.pdf>

²⁷ <https://www.theccc.org.uk/publication/addressing-overheating-risk-in-existing-uk-homes-arup/>

projected to increase by 250%.²⁸ To address the severity of this public health challenge, it is vital that material change of use is brought into scope, to ensure as much development as possible addresses the risk associated with overheating, in order to the impacts of climate change.

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

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

Part O regulations must be extended to cover new nondomestic and extensions to existing buildings.

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

No response.

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

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

UKGBC supports the simplified method for small developers and small to medium risk areas (due to burdens of complexity), but it needs to be refined and developed to better reflect the options for reducing overheating.

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

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

The more ambitious, high-risk approach and categorisation must be implemented outside London, and the system must move beyond the current risk categorisation based on London as distinct from other major urban areas/ uniquely at high-risk vis a vis the rest of the country. Local authorities should be able to require the TM59 approach. TM 59 should be used for domestic developments and TM 52 should be used for non-domestic developments. in relation to key building typologies and heating systems.

Ensuring underpinning data is up to date and factors in predicated climate change is crucial. The Government must ensure up-to-date data is available on localised overheating risk (including for, and

²⁸ <https://www.ons.gov.uk/people/excessmortalityduringheatperiods/englandandwales1juneto31august2022>

factored in to, planning) and underpins Dynamic Thermal Modelling e.g., London TM 49 weather data uses more up to date figures than TM 59, and local authorities are equipped to ensure up-to-date data is fully integrated and considered.

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

No response.

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

No response.

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

No response.

Question 90. Does Regulation 40B require revision?

No response.

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

No response.

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

No response.

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

No response.

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

No response.

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

No response.

For further information please contact:

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