The Future Homes and Buildings Standards consultation

Briefing for housing associations

16 January 2024

Summary

In December 2023, the government launched a consultation to set out their plans for achieving the Future Homes Standard and Future Buildings Standard.

Through this consultation, the Department for Levelling Up, Homes and Communities is seeking views from the sector on ambitious requirements for energy efficiency and heating in new homes and non-domestic buildings, to shape our response.

In this consultation, the government is seeking views on proposals to:

- Ensure the construction of new buildings aligns with the country's net zero target, by focusing on improving heating, hot water systems, building fabrics, and reducing heat waste.
- Introduce low carbon alternatives, such as solar PV panels and heat pumps to replace current technologies. Select between two **Domestic notional building options**. Option 1 balances higher additional build costs against lower consumer bills. Option 2 offers lower additional build costs but be less beneficial in terms of consumer bills, although these would still be lower than bills in typical existing homes.
- Retain the current metrics used to measure varying efficiency rates.
- All space heating and hot water demand should be met through low-carbon sources.
- Uplift material change of use (MCU) standards to protect consumers from high bills and reduce emissions as far as practical.
- Change the way that mechanical ventilation systems are inspected.
- Enable new homes and non-domestic buildings to be connected to existing and new heat networks.

- Adopt the new Home Energy Model: Future Homes Standard assessment as the approved calculation methodology to demonstrate compliance of new homes with the Future Homes Standard, replacing SAP.
- Seek views regarding transitional arrangements. They provide two time frames options for laying the regulations and them coming into force.

This consultation runs until 6 March 2024, and we will be submitting a response to the consultation on behalf of the sector. **To help shape our response, please send any feedback or questions to Marie Chadwick, Supply Policy Leader, by 20 February.**

Introduction

In January 2021, the government released the outcome of a consultation on the Future Homes Standard, which requires all new build domestic properties to meet higher standards of insulation and prohibit fossil fuel heating systems.

In December 2021 the government implemented an interim uplift to building regulations to make sure homes emit less carbon, protect against over-heating and improve ventilation before the Future Homes Standard comes into effect. The interim uplift came into force in June 2022.

In December 2023, the government launched a consultation that sets out their plans for achieving the Future Homes Standard and Future Buildings Standard. The 2025 Future Homes and Buildings Standards aim to build on the 2021 Part L uplift and set more ambitious requirements for energy efficiency and heating in new homes and non-domestic buildings.

Alongside this consultation, the government also launched a consultation on the Home Energy Model: replacement for the Standard Assessment Procedure (SAP). This model is a calculation methodology designed to assess the energy performance of homes. This will replace the Standard Assessment Procedure (SAP). The NHF will not be producing a separate briefing on this consultation, but we encourage members to read the consultation and share any feedback or concerns with us.

Key proposals and questions posed

Performance requirements for new buildings

The consultation aims to ensure that the construction of new homes and non-domestic buildings aligns with the country's net zero target without compromising on high-quality building. Under the proposed standards, new homes will deliver significant carbon savings. They will be 'zero-carbon' ready and therefore will not need to be retrofitted to achieve zero carbon emissions.

The proposed building specifications aim to deliver:

- Significant carbon savings.
- New homes that are high-quality and affordable to run, with efficient, low-carbon heating, the option of renewable energy generation, and good levels of building fabric.
- New homes that are 'zero-carbon ready', meaning no work will be necessary to allow them to achieve zero carbon emissions when the electricity grid is fully decarbonised. This means gas boilers, including hybrid and hydrogen-ready boilers, will not meet the proposed standards.
- Cost-effective, affordable, practical and safe building solutions.

The consultation proposes performance requirements considering technologies best suited to houses as well as single and multistorey flats. These specifications are of the notional building and developers will continue to have flexibility to meet performance requirements in other ways.

Heat source, solar PV panels and fabric are major variables across the specifications.

Heat source

All performance requirements are based on notional buildings with an efficient air source heat pump or a 4th generation heat network that uses air source heat pumps.

The consultation proposes that fossil fuel heating, such as gas, hybrid heat pumps and hydrogen-ready boilers, will not meet the proposed standards. In addition, they are unlikely to allow the installation of biofuel systems, including wood and manufactured solid fuels.

For blocks of flats, it is proposed that low-carbon communal and district heat networks will likely be the preferred way of providing heating and hot water. The consultation proposes a concurrent notional building to set the standard for new heat networks.

Solar PV panels

Two options are proposed, one with and one without solar PV panels. Solar PV panels

decrease the target emission rate for a building and deliver higher bill savings for households. Self-generation and consumption also offer households security from fluctuations in wholesale electricity prices and offsets some of the increased electricity demand on the grid. However, the pace of electricity grid decarbonisation means that solar PV panels make a relatively small contribution to the carbon savings of individual homes compared with the switch to low-carbon heating. The installation of solar PV panels represents a trade-off between upfront capital costs and longer-term benefit of reduced carbon emissions and bills to occupants.

DLUHC suggest that neither option is expected to have a significant impact on housing supply or affordability. However, they would like to hear evidence about possible impacts on viability and deliverability of housing developments, along with the benefits for occupants and grid resilience. Other improvements considered, including better walls, floors, roofs, triple-glazing and improved thermal bridging, are not included in the proposals.

Fabric

The performance requirements in this consultation closely resemble the fabric standards in the 2021 Part L uplift to the Building Regulations. The consultation does not propose further improvements other than an improvement in airtightness, as this was deemed to be the only cost-effective and practical improvement.

Domestic notional building options

DLUHC are consulting on two options, both of which would minimise energy bills and make it cheaper for households to heat their homes. Option 1 balances higher additional build costs against lower consumer bills by including solar PV panels, a wastewater heat recovery system, increased airtightness and a decentralised mechanical ventilation (dMEV) system. Option 2, which does not include those elements, would have lower additional build costs but be less beneficial in terms of consumer bills, although these would still be lower than bills in typical existing homes.

Option 1

- Most cost-effective option to maximise carbon savings, balanced against reducing energy bills for households.
- Comes with additional upfront costs for developers and may therefore affect overall housing supply.
- Recognises the practical barriers of including solar PV panels and wastewater heat recovery in some circumstances. For blocks of flats over 15 storeys, solar PV

panels will be removed. **DLUHC would welcome views on the height threshold of 15 storeys.** For single storey dwellings, including single storey flats and bungalows, wastewater heat recovery systems will be removed.

Option 2

- The minimal approach to achieve 'zero-carbon ready' homes that deliver at least 75% carbon savings compared to 2013 energy efficiency requirements.
- While a home built to Option 2 would be more expensive to run than Option 1, Option 2 still delivers expected bill savings for households moving from a typical home.

Full details of the notional buildings are included in The Future Homes Standard 2025: dwelling notional buildings for consultation.

A concurrent notional building is being proposed to set the standard for heat networks. The two options mirror the notional buildings for dwellings not connected to heat networks. Both options have the same fabric and heat network emission and primary energy standards, while Option 1 also includes improved air tightness, wastewater heat recovery for multi-storey dwellings, mechanical ventilation, and high efficiency solar panels for buildings 15 storeys and below.

We are seeking member views on:

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?

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)

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

Metrics

Currently, performance requirements for individual homes and non-domestic buildings are set using a combination of the metrics set out in the table below. The consultation proposes to retain these metrics as they have been assessed to effectively support the policy priorities for the Future Homes and Future Buildings Standards. DLUHC suggests that any change in metrics could create a burden for developers, who need to understand these metrics and how dwelling design is impacted by them.

Table 5.1: Metrics used for homes

Dwelling Metrics	Target	What the metric assesses
Dwelling emission rate (DER)	Target Emission Rate (TER)	Greenhouse gas emissions (includes upstream emissions, e.g., at power station or via energy lost distribution network)
Dwelling primary energy rate (DPER)	Target primary energy rate (TPER)	Consumption of energy prior to conversion or transformation (takes account of upstream losses e.g., at power station or distribution network)
Dwelling fabric energy efficiency rate (FEE)	Target fabric energy efficiency rate (TFEE)	Useful energy demand for space heating and cooling of the dwelling (does not account for upstream energy losses or local losses from heating/cooling systems)

Each metric allows the assessment and control of different aspects of building performance. There is a choice about what metrics are used depending on which aspects we want to prioritise. The metrics proposed in the consultation aim to:

- Protect occupants against high energy bills.
- Reduce energy demand of homes and non-domestic buildings by requiring high performing building fabric and building services in new buildings, thereby improving energy security.
- Reduce total operational carbon emissions and produce net-zero ready buildings by requiring low-carbon heating and increasing general electrification of buildings.
- Be simple to understand and use by the industry and to provide developers with flexibility in meeting consumer preference regarding design, form and operation.

- Consider peak electricity demand to reduce costs associated with national and local grid infrastructure upgrades.

The consultation also considers other metrics including Energy Use Intensity (EUI) and Delivered Energy. EUI is the total energy consumption of a dwelling, including both regulated and unregulated end-uses of energy, per square metre of the floor area of the dwelling, Delivered Energy is based just on the regulated end-uses of energy. The consultation proposes that these metrics are not suitable because designers and housebuilders have little or no control over the end-uses of energy.

We are seeking member views on:

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?

Updated guidance and minimum standards

Under the Future Homes Standard, all space heating and hot water demand should be met through low-carbon sources. This means fossil fuel heating will not meet this standard (including hydrogen-ready and hybrid boilers). Guidance in draft Approved Document L, Volume 1: Dwellings outlines the proposed changes to the minimum standards for new homes and includes more details for common low-carbon technologies.

Some of the proposed changes below will apply to existing as well as new homes. These changes are:

- Heat pump efficiencies and controls.
- Comfort cooling efficiencies.
- Ventilation system efficiencies.
- Lighting efficacies and fixed external lighting controls.
- Guidance on pipework insulation.

Providing additional information about heat pump systems in new homes

The consultation proposes that operating and maintenance information, as set out in

Section 10 of draft Approved Document L, Volume 1: Dwellings, should be fixed to the heat pump unit or hot water storage vessel. This helps to ensure that heat pumps continue to work efficiently and are maintained correctly, throughout their lifetime and across different occupancies.

The consultation proposes that this information should include the heat loss calculations and design conditions, whether a member of an approved competent person scheme commissioned the heat pump, the size of the emitter circuit and the minimum set back temperatures.

We are seeking member views on:

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

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?

Changes to guidance to limit heat loss in new homes

Section 4 of draft Approved Document L, Volume 1: Dwellings also include other changes to facilitate the installation of low-carbon heating systems by limiting heat loss. The changes include adding guidance on pipework insulation, Heat Interface Units and the placement of heat pumps to minimise heat loss, as well as new minimum standards for hot water storage vessel insulation.

We are seeking member views on:

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?

Lifts, escalators and moving walkways

The consultation proposes to set minimum standards, using approved document guidance, for the energy efficiency of lifts, escalators and moving walkways . These services ought to be included in the Building Regulations definition of ‘fixed building services’ for new buildings (including communal areas in flats/mixed use buildings though not where they are installed within a dwelling). These services will need to comply with the requirements of Part L. There is new guidance in Approved Document

L, Volume 2: Buildings other than dwellings to support this.

We are seeking member views on:

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?

Material change of use

The consultation proposes to uplift material change of use (MCU) standards to protect consumers from high bills and reduce emissions as far as practical. DLUHC are seeking views on whether we should move to setting whole-dwelling performance targets for MCU to drive better performance. Alternatively, they propose that elemental standards could initially be set. DLUHC are also seeking views on the scope of MCU standards. Approved Document L, Volume 1: Dwellings currently sets standards for the following types of MCU:

- The building is used as a dwelling, where previously it was not (e.g. office to flats).
- The building contains a flat, where previously it did not (e.g. house to flats).
- The building, which contains at least one dwelling, contains a greater or lesser number of dwellings than it did previously.

We are seeking member views on:

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

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

Performance requirements for MCU – Notional specifications

The consultation presents two illustrative notional specifications, one for a low-rise MCU and one for a mid-high-rise MCU. The illustrative notional specifications include improved fabric, solar PV panels and low-carbon heating. Full details of the specifications can be found in table 7.1 within the consultation document.

We are seeking member views on:

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

Real-world performance of homes

Installation and commissioning of mechanical ventilation systems

DLUHC propose to change the way that mechanical ventilation systems are inspected. They propose the following key changes:

- Static pressure and total power consumption to be measured on installation.
- When conducting air flow rate testing, cMEV and cMVHR systems should be tested and commissioned using calibrated powered flow hoods instead of rotating vane anemometers with hoods.
- Stating that rigid or semi-rigid ductwork should be used in decentralised MEV systems or intermittent extract ventilation fans, and that flexible ducting should not be used.
- Stating that duct runs for decentralised MEV systems should be kept short (less than 2 metres) to improve system performance.

All these changes would apply to mechanical ventilation systems installed in new and existing homes. These changes are expected to lead to some additional upfront and ongoing maintenance costs for commissioning engineers.

We are seeking member views on:

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?

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

DLUHC also intend to extend Regulation 42 to work in existing dwellings. This means that air flow rate testing would have to be conducted as part of the commissioning process for cMEV and cMVHR systems in existing homes, as well as new homes. Notice of the results of the test would have to be given to the building control body within 5 days.

Heat networks

DLUHC are proposing that the Future Homes and Buildings Standards will enable new homes and non-domestic buildings to be connected to existing and new heat networks, where they can demonstrate that they are adding new low-carbon technologies or are able to make use of existing low-carbon heat which is currently unused. They propose to remove the distinction between existing and new networks with different standards applying to each, which currently exist under the 2021 Part L notional building standards.

They also propose a 'sleeving' system to apply to all heat network new build connections. This should ensure the heat required by any additional new homes and non-domestic buildings connected to an existing heat network (using a calculation of the 'diversified heat demand'), matches the new or unused existing low-carbon heat generation capacity of the network.

Management of the sleeving process will be led by the Department for Energy Security and Net Zero. Heat networks will need to be registered as part of a rebuilt Products Characteristic Database (PCDB). These PCDB entries will demonstrate where heat networks have new or existing unused capacity to deliver heat at sufficiently low levels of CO2 and Primary Energy to comply with the Future Homes and Buildings Standards.

We are seeking member views on:

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?

National Calculation Methodologies for Homes

DLUHC propose to adopt the new Home Energy Model: Future Homes Standard assessment as the approved calculation methodology to demonstrate compliance of new homes with the Future Homes Standard, replacing SAP. You can find further details of the proposed Home Energy Model in the Home Energy Model Consultation.

We are seeking member views on:

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?

Transitional arrangements

For the 2021 Part L uplift, there was a 6-month period between the laying date of the new legislation and the date that the legislation came into force. This was followed by a 12-month transitional period. DLUHC are seeking views on whether the same arrangements for the 2021 Part L uplift, are proportionate for the new standards. Or whether a longer period of up to 12 months, between laying the regulations and them coming into force, is more suitable. They are consulting on two options:

- **Option 1:** a 6-month period between the laying date of the Future Homes and Buildings Standard regulations and publication of full technical specification and the regulations coming into force.

- **Option 2:** up to 12-months between the laying date of the Future Homes and Buildings Standard regulations and publication of full technical specification and the regulation coming into force.

Both options would be followed by a 12-month transitional period.

We are seeking member views on:

Question 78. Which option describing transitional arrangements for the Future Homes and Buildings Standard do you prefer?

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?