The Future Homes Standard

Changes to Part L and Part F of the Building Regulations for new dwellings

NHF consultation response | 7 February 2020

Summary

- We welcome the government's proposals for delivering the Future Homes Standard by 2025, and its proposed options to raise the energy efficiency of new homes in 2020.
- This consultation response describes the housing association sector's diversity in order to demonstrate the potential challenges our sector might face in adopting the proposals, so that we can work with the government to overcome them and meet our responsibilities in full.
- We say where we believe the proposals need further consideration so that housing associations have clarity and can begin to plan and build capacity.
- We also set out how the government can work with housing associations to balance support and resources for delivering the proposals against competing requirements.
- Specific feedback from our housing association members includes:
    - Agreement that proposals for uplifting Part L standards and a Future Homes Standard do not currently go far enough to meet the reduction in emissions required to achieve net zero emissions in 2050.
    - Support for a fabric-first approach to the development of new Part L and Future Homes standards to minimise future longer-term maintenance and service charge costs.
    - Advocacy for the levelling up of existing local standards to help build sector capacity, skills, expertise and supply chains.
    - Support for striking a balance between a higher uplift in Part L standards in 2020 and a longer transition period to increase clarity and preparation but minimise future retrofit requirements.
    - Support for sharing the Future Homes Standard requirements as soon as practicable to maximise clarity, guidance and support.
    - A commitment to work in partnership with residents to recognise the impact of proposed changes on their lives and homes.

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NATIONAL HOUSING FEDERATION

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NATIONAL HOUSING FEDERATION

Introduction

The National Housing Federation (NHF) is the voice of housing associations across England. We represent a sector of almost 800 housing associations that own and manage more than two and a half million homes for around six million people. Our members also provide vital care, support and community services.

Housing associations are independent, not-for-profit organisations driven by their social purpose – to ensure everyone in the country has the opportunity to live in a good quality home that they can afford.

This consultation response has been written in collaboration with our members in order to form a sector-wide response to the government's proposals.

We support the government's ambition to ensure that the homes this country needs will be fit for the future, better for the environment, and affordable for residents to heat. Our sector is fully committed to making sure that quality, sustainability and long-term value are at the heart of constructing new homes, and that maintenance and asset management functions operate with a meaningful and lasting focus on residents.

In this consultation response we welcome the government's planned proposals and share views on where the proposals need further consideration. We also set out where there could be challenges for housing associations and, where possible, suggest potential solutions or other work for the government to consider in order to address these challenges.

Our sector is committed to constructively working with the government, its partners and other key stakeholders to address the climate crisis and its impact. This includes taking steps to reduce the carbon emissions of new and existing homes, and designing and adapting homes to deal with changes to the climate that affect the condition of homes – such as increased flooding and warmer wetter winters.

We recognise that the proposals in this government consultation are an important step towards meeting net zero targets, and our sector is committed to adopting new responsibilities and collaborating with the government and other partners in order to achieve our shared ambition of tackling the climate crisis.

Background and policy context

The government has committed to the introduction of a Future Homes Standard for new build homes by 2025, with the ambition of future-proofing homes and scaling up low-carbon technologies to decarbonise existing homes.

This government consultation sets out what a Future Home Standard will look like. Proposals include the use of high fabric standards (e.g. structural materials, cladding, insulation and finishes that enclose the interior of a building) and the use of low carbon heating systems. This means new homes built to this standard may have a heat pump rather than a gas boiler, triple glazing, and new standards for walls, floors and roofs that significantly limit heat loss.

We support the government's commitment to introduce a Future Homes Standard by 2025 and recognise the work required before that in order to 'future proof' new homes as an important first step in reducing future emissions. Housing associations understand the importance of sustainability and ensuring the quality of homes in the longer term – including homes' safety, carbon emissions and, crucially, that they remain fit for purpose for their residents.

Our members recognise the scale and scope of the work required over the next decade to order to meet sector emission targets. They also understand that success will depend on clear, deliverable regulation and standards, alongside collaboration with others and cultural change.

In particular, our members have highlighted the need for sensible decision making and enabling work in order to support the scale of change required, and to mitigate any unintended consequences. We have set out further detail in our main response starting on page 9 – for example, the importance of standards that go far enough to remove the need for retrofitting relatively new homes in the future.

Our members also recognise that investment in new and existing homes will need to increase in future years to meet building safety requirements, energy efficiency targets and deliver the new homes our country needs. To deliver across all these areas will require investment and new innovative approaches.

Below we provide examples of work our members are already doing to reduce carbon emissions, important context on the diversity of our sector, the opportunities and challenges for our sector, and how the government can provide further support.

Housing associations' work to reduce carbon emissions

Housing associations are already exploring ways to help decrease the country's carbon emissions. They are committed to making their homes cheaper to heat for residents, tackling fuel poverty. They are also adapting the homes they own and manage to protect against the consequences of the climate crisis, such as greater frequency of flooding, in recognition of the significant impact this will have on their residents.

Housing association homes are far more energy efficient than other homes. The recently published English Housing Survey Housing 2018-19 confirms they have the highest mean SAP rating of all tenures – the SAP methodology is used by the government to assess and compare the energy and environmental performance of homes.

We've included three case studies on how housing associations are working to reduce carbon emissions and prepare for the climate crisis at the end of this document.

Important context on the diversity of our sector

The following list provides key information on the diversity of our section, which is important context when considering the rollout of any new regulations and requirements. You can find out more about housing associations on our website.

- **Diversity in size**. As organisations, housing associations vary considerably in terms of their size, how they are funded, the homes they own, and the residents they house. We represent almost 800 members, from housing associations providing a small number of homes for a specific client group or in a specific location, to our largest member that provides 125,000 homes across all tenures over a wide geographic spread. This diversity doesn't change their commitment or ambition, but it does create variation in how they can approach the adoption of new regulations and standards.

- **Diversity in how homes are built or acquired.** Our members manage over 2.7 million sub-market homes (including social rent, affordable rent and shared ownership), and in 2018/19 built more than 45,000 homes in England. Some housing associations build their own homes as part of a development

made up of a range of tenures, whereas others buy homes under Section 106 agreements through the planning system. Some may only provide supported housing, while others may provide support as part of a larger multi-tenure portfolio.

Diversity in how homes are managed. Some housing associations manage small schemes of homes offered exclusively at social rent, whereas others manage large developments made up of multiple buildings with a mix of tenures in each. In addition, some housing associations only manage homes, without owning the building itself.

Opportunities and challenges for our sector

This section underpins our consultation response, and provides supporting context to our detailed commentary on the implementation of consultation proposals starting on page 9.

Despite the work already being done by housing associations to reduce carbon emissions and tackle the climate crisis, particular challenges and opportunities exist for our sector in implementing the new standards and regulation proposed in this government consultation. These are detailed below and include:

- Balancing support and resources against competing requirements.
- Ensuring timely access to the necessary capacity and skills to deliver change.
- The impact of proposals on residents.

Balancing support and resources against competing requirements

The resources available to housing associations and the way they manage their organisations varies widely, as outlined in the section above. However, as their business models are driven by the management of homes throughout their lifecycle, they all have in common that advanced planning is vital.

As investment in new and existing homes will need to increase in future years to meet building safety requirements, energy efficiency targets and deliver the new homes our country needs, housing associations will need to balance delivering across all these areas. Investment and new innovative approaches will be required.

Ensuring timely access to the necessary capacity and skills

Although housing associations agree in principle with the government's proposals, they have concerns about their capacity to achieve new requirements, while simultaneously building as many new homes as possible in order to address our country's housing need, without additional support. Case study four, at the end this document, provides an illustration of this.

Housing associations don't only procure skills, they also employ large numbers of staff to develop and maintain the homes they build, own and manage. The scale and nature of the government's proposals to change the way homes are constructed and maintained will require high levels of staff retraining, as new skills will be required. For example, moving away from gas heating means that those employed in supporting the current gas safety regime will need to be upskilled so they can service and maintain alternative technologies.

The impact of proposals on residents

Further innovation is needed to address resident concerns about the adoption of new technologies. For example, our members have reported that residents often have concerns about newer technologies – such as air source heat pumps that can produce a lower heat supply compared to traditionally used oil and gas boilers, but take longer to heat up in the morning and can be noisy. The impact of changing technology on resident wellbeing, fuel poverty and behavioural impacts needs to be better understood in order to ensure that landlords and their residents can work in partnership to address the climate crisis.

Despite the challenges set out above, the scale, ambition and organisational structures of housing associations present well placed opportunities to collaborate and partner with others to maximise the reduction of carbon emissions. These include the potential to develop, test and adopt innovative solutions to normalise technology, while driving supply chains and skills development.

How the government can further support our sector

Our members have identified a number of ways that the government could support housing associations and the wider built environment sector to deliver its zero carbon ambitions. These include:

- **Provision of additional grant funding**, to make up the recognised costs set out in the consultation to achieve higher standards. This is particularly important during initial transition periods to new standards, where sector capacity is developing and land has already been purchased factoring in lower regulatory standards. In addition, the government should consider where additional consistent longer-term funding or loan support might be required to enable and incentivise action.

- **Consideration of any longer-term or ongoing cost impacts for implementing the proposed standards** for housing associations as landlords and their residents. For example, seeking to investigate the balance of higher build costs to achieve higher levels of energy efficiency and the energy savings and potentially lower bills received by the resident. This is of particular importance within a rent setting regime and must of course take account of any impact on fuel poverty. Further detail is set out in the section below on what might the proposals mean for housing association residents.

- **Recognition of the wider impacts and consequences of transitioning from one national energy strategy to another**, including the importance of government leadership and clear communication.

- **The importance of applying learning from other areas of regulatory and policy development**. For example, the building safety programme, where there is overlap on:
    - The importance of build quality (to minimise the performance gap between what is designed and then built).
    - Product testing and the need for transparency and clear communication of performance in order to build trust.
    - The role of monitoring and feedback to improve both processes and outcomes.

Our sector response

We have structured our response in line with the chapters covered in The Future Homes Standard consultation. For reference, this covers proposals for:

- The Future Homes Standard and its implementation.
- Part L standards for new homes in 2020.
- Part F (ventilation) changes.
- Airtightness.
- Compliance, performance and providing information.
- Transitional arrangements.
- The impact assessment (including supporting documents).

The Future Homes Standard and its implementation (chapter 2)

The Future Homes Standard and levels of reductions in CO_2 emissions

Housing associations broadly support the consultation proposals setting out the outline specification for the Future Homes Standard, and the welcome the publication of a strategic roadmap to support decarbonisation. However, our members raised a number of specific, important issues and considerations in respect of the fitness for purpose and longer-term value of the proposals to ensure new standards deliver the best outcomes. Further detail is provided on page 16.

There is sector recognition of the importance of a clear strategy for carbon reduction in new homes, as part of a wider strategy to achieve net zero carbon emissions, with progress in the next decade being pivotal to success. Housing associations continue to be committed to playing their part in reducing emissions to meet national targets.

Housing associations welcome the government's acknowledgment that:

- The reduction of heat use through improved fabric standards in homes alone will not meet its ambition for a Future Homes Standard or a net zero emissions target by 2050.
- Low carbon heating systems, moving away from the use of gas, will be integral to any new standard.

However, our members have articulated concerns that current government proposals fall short of what is required for achieving zero carbon new homes by 2030 and taking the necessary steps to contribute to meeting 2050 targets.

Our members have raised the need to close the emissions gap between the proposed Future Homes Standard (a 75-80% reduction in carbon emissions than a home built to current Part L 2013 requirements), **and the standard required to achieve net zero emissions in 2050**. Without addressing this issue, housing associations have highlighted that there will be costly future retrofit work required to fill any gap between standards and targets, which would be an inefficient use of time and resource, and will impact the delivery of new homes.

There are potential whole-life cost implications associated with the proposed changes that must be taken into account when finalising future standards policies. Our members have pointed to examples where they have inherited technology in homes from other developers and consequentially had to address exceptionally long pay-back periods plus high maintenance and repair bills. Therefore, additional cost impacts need to be taken into consideration.

Building on their ambition to future-proof their homes, **housing associations would like a greater emphasis on a fabric-first approach** or hierarchy to support raising energy efficiency standards. This prioritises reduction of energy use at source, through higher levels of specification and build quality to achieve high levels of airtightness, rather than placing primary reliance on specific eco-technologies such as photovoltaic panels. Poor technology choices – in respect of specification, component quality and lifespan, or those driven by policy – can have detrimental long-term cost and use implications. This includes increased resident service charges, removing the benefit of lower energy bills and raising landlord maintenance costs.

In addition, and in respect of the decarbonisation of heating systems, **our members broadly support the use of heat pumps and heat networks supported by Mechanical Ventilation and Heat Recovery (MVHR)** to provide adequate home ventilation. Additional comments regarding the use of heat pumps and networks focused on the importance of:

- Consideration of the impact of increased supply and management of technology as it becomes more widespread, as well as considering opportunities to test technologies at scale.

- Understanding the management and maintenance of systems once they are fitted, including longevity of components, as well as the supporting residents to understand and use systems they may not be familiar with.
- Early engagement with technology suppliers at design stage.
- The added benefit of air source heat pumps being able to provide cooling.
- Understanding where heat networks isn't a viable option for developments, especially in rural areas. Our members have direct experience of heat networks still being run with gas and are not therefore contributing to reducing carbon emissions as envisaged.

More specifically, **housing associations raise the importance of recognising the current gap that often exists between the design of homes and their performance at completion.** Both in terms of the build quality achieved and the efficiency of technology operation such as heat pumps, which can have implications for affordability, maintenance and use.

In respect of future technology choices, housing associations are clear that **the implementation of new standards and strategic targets have the potential to encourage technology use while driving supply chains**. Our members recognise that considerations such as building type, tenure, management and occupancy need to feed into regulatory decision making.

In addition, they recognise that **the simplification of requirements or changes to assessment tools should not adversely impact fair consideration of other energy, efficient, low carbon technologies**. For example, the potential to consider the future role of other forms of on-site renewable energy and the potential for thermal and battery storage solutions to take account of location-specific considerations and help broaden market capacity, supply chains and professional skill bases. Our members have also highlighted that new requirements need to be supported by standardised guidance, particularly in relation to the measuring performance.

Our members have raised the importance of thinking through how heating systems can be future-proofed, providing security in decision making and guarding against future costs and impact on resident comfort. A particular concern is the potential increased risk of legionella in systems that run at lower temperatures, and the attendant costs of appropriate risk mitigation and management.

Our members agree that consideration should be given to any potential unintended consequences of new regulations and how they are met, such as the enforcement of particular technologies or solutions, and the impact this could have on deliverability and future-proofing homes. Regulation should encourage and reward sensible choices that don't store up future problems, such as the fitting of technology where the associated cost of service charges and maintenance cancels out the benefit of lower bills for residents and longer-term value for building owners and leaseholders.

Considering the Future Homes Standard proposals more broadly, **our members welcomed a greater focus on combatting overheating and consideration of air quality** (additional detail is provided on page 18) and agree there is more work to do to ensure future standards are fit for purpose. Overall, linking new standards to wider issues associated with the design of homes such as accessibility and transport would be welcomed, but it is recognised that these considerations are better placed in planning policy as opposed to building regulations.

Consistency of standards

As mentioned earlier in this document, the additional capital costs associated with achieving and supporting new standards may have an impact on development programmes and other budgets. These are expected to be shorter term due to new standards becoming mandatory for all new homes through building regulation, the impact of the initial transition to the new regime, and the potential for cost savings as supply chains develop. Housing associations do however understand that they, and their residents, stand to benefit from the proposed increase in standards in the longer-term, as sensible investment in fabric standards and energy efficiency can reduce repair and maintenance costs and lower energy bills.

Our members recognise the importance of the equal application of standards to increase certainty for those developing new homes and to mitigate disproportionate cost impacts. As proposed, for new homes, there is agreement with the use of building regulations to mandate raising standards, ensuring equal application across all new homes, not skewing market costs and land value. Many of our members work to build and acquire homes across regions, and standardisation through building regulation can help to provide clarity and consistency.

However, steps to restrict Local Planning Authorities (LPAs) from setting higher energy standards for new homes to increase national clarity could stop those with particular locational needs and ambition from trailblazing standards beyond those set

out in regulation. **There is a particular need to carefully consider the impact of changes that may reduce existing local policy and ambition**, particularly where this has already built capacity, expertise and skills, and enabled collaborative working and lesson sharing.
A number of good examples are already established, and our members report that they are already delivering to higher standards in a number of regions, including London through the London Plan, Greater Manchester, Bristol and Oxford. Our members based in London cite that they are already achieving a 35% carbon reduction under the London Plan, and believe that a 65% reduction is achievable with the use of heat pumps and the latest assessment tools.

Despite potential local political implications, **housing associations support the position that local standards, justified via local plans, are levelled up as opposed to down to a lowest common denominator**. In practice this would mean that regional targets are kept until alignment can take place at a later date.

Housing associations understand that changes in standards are coming and that it is important to acknowledge the other savings associated with increased energy efficiency in homes, including those relating to health and wellbeing and future environmental impact. Some regions face different challenges, and might require alternative targets to balance out market forces and allow those who want to future proof development proposals to continue to do the right thing.

Implementation of standards

Our members' concerns regarding timeframes focus on the need for adequate lead-in times in order to understand, prepare and implement new standards. Particularly, these should recognise the need to ensure that pipeline schemes and those which have progressed into detailed design and planning stages can be reviewed and amended while minimising time, cost and viability impacts.

As referenced earlier in this document, our members agree that in the medium to longer term the cost of higher standards should be reflected in land values and sales prices. However, in the short to medium terms there could be additional costs, where land has already been purchased, or where supply chain constraints lead to higher prices. Ultimately this could result in fewer homes being built, unless these costs are met from elsewhere, for example higher grant rates for affordable housing.

Historically, similar uplifts in standards have been shared up to a year in advance of application with clear transitional arrangements. This longer introduction time has allowed developers and supply chains to gear up to compliance.

Housing associations are acutely aware of the need to take swift action to raise standards but advocate for a slightly longer transition to the proposed initial Part L uplift currently planned for later in 2020. This would minimise the impact on homes currently in development. Importantly, the relative emissions impact and costly future retrofitting of homes can be offset by the introduction of standards that will drive higher reductions in energy use and emissions. Further detail on housing associations' views regarding the proposed Part L options are contained on page 16.

Housing associations strongly support the need for standards to drive emission reductions for new homes to run in parallel with measures to retrofit existing homes, where strategic and targeted investment is known to produce far higher returns in terms of reducing carbon emissions. Many of our members are already taking decisive action to set ambitious targets to improve the efficiency of all their homes and saving their residents money. They note that any increase in costs when building new homes could impact on budgets identified for this important work.

In respect of the Future Homes Standard implementation by 2025, **housing associations advocate that standards and requirements are shared early (as soon as practicable)**, maximising timeframes for clarity, guidance and support for all involved in the construction of new homes. This level of transparency will help build trust and ensure that transitional arrangements are understood and ultimately deliverable. Further detail on housing associations views regarding proposed transitional arrangement are contained on page 24.

Of particular importance to housing associations in their role as commissioners, managers and landlords of homes are the practical implementation issues that accompany the replacement of fossil fuel sources of heating by 2025. Our members note the importance of ensuring sector capacity to deliver alternative sources of heating, supported by a greater dialogue with manufacturers.

In parallel, **the existing workforce needs new skills to ensure they can fit, service and maintain replacement systems and technologies**. Importantly, as set out below, further considerations must include cost impacts for residents as well as overall cost effectiveness during any transition.

Considering the government's acknowledgement of current market limitations and sector capacity to achieve new higher standards, housing associations would welcome the opportunity to work with the government, groups of experts and other stakeholders to build on lessons learnt from the current delivery of higher standards in new homes. In addition, we welcome the opportunity to continue to pilot and monitor the delivery of new homes built to more ambitious standards to ensure they are fit for purpose in the longer term.

What might the proposals mean for housing association residents?

Housing associations agree that taking steps to tackle the climate crisis, including the decarbonisation of energy supplies and the improvement of home energy efficiency is essential. In the longer term this will benefit both their organisations and their residents. The proposed uplift in standards will ultimately lead to more comfortable, warmer, cost-efficient homes for residents, with lower energy bills – and it is hoped that this change will be accompanied by a reduction in fuel poverty for residents.

Many of our members raise the importance of training for both staff and residents to run in parallel with regulatory change to assist with understanding the scale of physical change coming to new homes, and the cultural and behavioural change needed to ensure successful implementation. This will include understanding how to live in new homes, to get the best performance from combinations of new technology, and the need for clear controls to maximise home comfort and performance.

Considering their existing homes as well as new ones, a number of members have highlighted the potential for unintended consequences when moving to low carbon heating systems. **If the energy performance of homes and energy use is not carefully considered or managed as the transition takes place, potential increases in bills from using electricity as opposed to gas could push more residents into fuel poverty** (as currently the cost of gas is far lower than electricity). This scenario can currently occur when existing homes are retrofitted and residents receive higher whole house heating costs as opposed to artificially controlled lower bills maintained through only heating individual rooms.

Housing associations know that if their residents' bills were to increase, there are many households that cannot afford loans and would need subsidies or have to consider other ways of reducing costs. It is recognised that eventually, due to retrofit

measures and support to increase energy efficiency, running costs would be reduced and costs lowered. However, concerns remain about whether this work can be done quickly enough to be beneficial for all residents both in existing and new build homes.

Part L standards for new homes in 2020 (chapter 3)

Housing associations acknowledge and agree with the government that the introduction of the Future Homes Standard as proposed in 2025 will require a considerable step-up in energy efficiency standards compared to the level currently required in building regulations for new build homes. In addition, that an uplift in standards at an earlier date represents a 'stepping stone' towards achieving the new standard.

As set out above, housing associations strongly support a fabric- first approach or hierarchy to support raising energy efficiency standards. In setting standards for initial changes to Part L, housing associations note **there has to be recognition that any homes built to a lower standard than the ultimate net zero target by 2050 will need to undergo retrofit works at a future date**, and early standards must inform good design approaches.

For our members balancing competing priorities, there are real benefits to be had in ensuring that new homes they build and acquire meet appropriate future standards in the first instance.

Government options

Housing associations support an uplift in Part L standards to enable a higher reduction in carbon emissions than current standards, but have concerns regarding the approach set out in both options presented in the consultation. Specific concerns centre on the level of reductions, future alignment to achieve a net zero trajectory by 2050, and the potential to incentivise higher performance supported by new standards.

Our members would prefer, as a minimum, a higher reduction in emissions than is currently set out in both consultation options (currently option one represents and 20% reduction and two a 31% reduction). Any higher option should seek to mitigate the need for future retrofit and technology maintenance and

servicing by being achieved by a higher fabric standard as opposed to the use of additional technology to reduce emissions. Additional feedback from our members on the options set out in the consultation focused on:

- The potential to upgrade option 2 by using higher fabric standards and the use of triple glazing as standard, in line with other EU countries, as opposed to double glazing.
- The higher costs attributed to option 2 are likely to have a greater impact on supply aspirations due to both higher capital costs and greater management costs. In addition, there should be consideration of how the payback period can be improved as it is over double that for option 1.
- Our members building in London note that both options are currently lower than the current London Plan target of a 35% uplift that is already being delivered.
- The need to consider materials used to achieve higher levels of insulation, linking the use of products manufactured from petrochemicals to building safety, and the potential for a future focus on the embodied carbon of materials.
- The need for greater detail in regulatory guidance to clearly show what the proposed fabric standards mean in practice.

In taking forward and agreeing specific standards options, housing associations have raised the need for the government to consider the design and cost impact of how standards are reasonably met. In particular, for both low and higher density schemes, where some technical design solutions can be constrained due to the location of the building, its surroundings and other design features.

In addition, there are unique opportunities or barriers to compliance that exist for more complex housing developments containing multiple households. These include access to properties and billing, as well as locational constraints such as adjacent land/open space and orientation. **Further work should seek to include the viability impact of additional development costs as well as longer-term running and maintenance costs,** including service charge implications and resident affordability. As a result, there may be technical solutions that recognise the design and location of new homes.

Performance metrics

Housing associations support the potential to review the performance metrics used in Part L of the building regulations in recognition of grid decarbonisation and the move away from the use of fossil fuels. However, our members have shared a number of concerns regarding the proposals as they stand.

Aligning with housing associations preferred fabric-first approach to energy efficiency and emission reduction, a number of member responses cite the recent collaborative work produced by the London Energy Transformation Initiative (LETI). The group cites **the impact of the removal of The Fabric Energy Efficiency Standard (FEES), which means that technology can be used under 2020 proposals to mask a poor building fabric**. The group's work also makes the case that proposed metrics based upon carbon and primary energy do not connect consumers or residents with actual building performance, or incentivise higher performance, as they are dependent on wider energy systems.

Our members cite the need for the Standard Assessment Procedure (SAP) to be overhauled as it does not provide a fair assessment of the energy efficiency of homes. The use of Energy Use Intensity in kWh/m^2/year is suggested as a better performance metric, as opposed to the use of carbon and primary energy factors which can be seen to disguise a home's energy efficiency.

Overall, there is a need to ensure that any changes to metrics and assessment procedures support the development and application of innovative solutions, and don't enable poor performance or unintentionally restrict wider approaches that are fit for purpose. Opportunity exists to continue to drive up sector capacity and skills, building on the progress already made in areas such as London, where earlier versions of proposed assessment procedures have been tested and valuable feedback on outcomes and any unintended consequences is available.

Ultimately, changes in metrics need to focus on the performance of homes in operation, allowing sensible decisions to be made regarding approaches to achieving net zero targets, and be mindful of what proposed changes in technology might mean for both housing associations and their residents.

Part F changes – ventilation (chapter 4)

Housing associations broadly welcome the proposed changes to Part F of the building regulations that cover ventilation, recognising the importance of well-considered ventilation strategies in providing a good standard of living and comfort for residents. As with standards to increase energy efficiency, housing associations advocate that any new standards should incentivise good practice, with no benefit provided to less airtight buildings.
Concerns have also been raised regarding the loss of supporting guidance where it may help achieve better design and promote good practice.

Overall, **a key consideration for housing associations is the increased use of mechanical ventilation systems in homes and their impact on residents**, in particular:

- Cost in use.
- Maintenance and service charge cost implications (such as cleaning and replacing filters).
- Enabling proper installation and operation in use, including the critical role of education and guidance for residents to explain system operation and benefits. Specifics highlighted include the need to ensure systems are not switched off to save on bill costs and the importance of allowing filter replacement.

Our members highlighted the risk of potential increased costs linked to poor system understanding and operation. They flagged the importance of being able to gain access to properties to ensure ongoing maintenance is carried out in an effective and timely manner – for example, for extractor fans and heat recovery systems.

Air quality

Our members have highlighted that external air quality has been a design consideration, and in some cases raised concerns, for some time. There is support for **the need to ensure the right balance of ventilation in homes as airtightness increases (to support greater energy efficiency), with the need to reduce ingress of air external air pollution** and maintain resident comfort. Our members note that increasing standards in this area are likely to have the biggest impact in rural rather than higher density areas.

Outside of the scope of consultation proposals, **housing associations have raised the importance of considering and testing internal air quality in airtight homes**. Examples shared include the presence of chemicals in both fixtures and furniture that can have higher gassing statistics, as well as the presence of cleaning materials and the use of perfumed products such as candles. Our members specifically pointed to the usefulness of research carried out by the Mackintosh School of Architecture and Cartwright Pickard Architects and recent guidance produced by the National Institute for Health and Care Excellent (NICE) focused on indoor air quality.

Noise

Housing associations welcome proposals that noise levels for mechanical ventilation systems remain outside the scope of this consultation, but are mindful of the impact that noise can have on resident wellbeing. Noise is one of the main reasons that residents turn off ventilation systems.

The importance of proper installation, maintenance and operation in use are highlighted by our members for ensuring good practice that is supported by residents. Our members note that any future requirements should take account of external ambient noise level, particularly in lower density areas.

Simplification of guidance and providing information to building owners

Approaches to guidance simplification and sharing of information are broadly welcomed by housing associations to increase transparency and improve resident and regulatory outcomes. Where it is proposed that information is provided to building residents (particularly in scenarios where they are not the building owner), **the importance of how this information is made accessible and shared should not be underestimated**.

The Federation and our members fully support the principle of engaging residents in ensuring appropriate levels of energy efficiency and comfort in their homes – this will be vital.

Emerging findings from our Together with Tenants work, which seeks to rebalance the relationship between housing associations and their residents, has shown that residents want to work with their landlord on decisions that affect their home, including energy efficiency. This approach supports a move towards a more equal

relationship between landlords and their residents, empowering people to play an active role in managing energy use and comfort in their homes.

Finally, we note that current proposals to provide a completed document to the building owner to educate them about how their ventilation works in practise don't consider the role of a landlord as a home or building owner specifically, but it is assumed that the information would be passed to residents accordingly.

Airtightness (chapter 5)

Housing associations show broad support for proposals to move towards 100% air tightness testing of new homes, and to account for uncertainty in tests and calculation methodologies.

Improving airtightness standards are seen as key to support the success of a fabric-first approach to energy efficiency. A number of our members would like to see more stringent performance targets than those currently proposed for 2020, and that any subsequent 2025 standard should incorporate further significant improvements. Further commentary regarding the interaction between increased airtightness, improved energy efficiency and potentially poor indoor air quality is set out in the section on ventilation.

Our members' experience has found new build homes often have much higher air leakage than expected at the point of testing. They note the benefits and relative ease of addressing identified problems sooner, during development, rather than later post occupancy. The proposed changes will work towards reducing the performance gap between homes as designed and in use, helping to provide the necessary impetus to improve construction build quality, workmanship and monitoring. The proposals will ensure that no residents are disadvantaged because of their home not having been tested or due to reduced calculation precision.

Despite support for the increase in airtightness testing, **a number of housing associations note specifically the impact this could have on smaller site viability** resulting from the proposed removal of the small sites exemption. Overall there is recognition of potentially increased development costs, impacts on handover processes and practical completion sign off, as well as associated higher administrative burdens.

However, in the case studies at the end of this document, our members have provided examples of how the achievement of exceptionally high airtightness in Passivhaus schemes have not only reduced energy use but also driven an increase in build quality. Potential also exists to align lessons learnt in support of improving construction quality linked to building safety, particularly in regard to improved on-site checking, monitoring and assurance regimes.

Our members have reported that on many new larger developments current airtightness testing levels can already be as high as 75% of homes, due to the variation of designs and layouts. In such cases, a move to 100% would not be seen as particularly onerous.

Our members that have experience of the proposed pulse methodology for testing report that is cheaper and quicker than traditional methods. Therefore, it should be supported with guidance to be included in approved documents, providing capacity and skills provision are taken into account. However, support exists for the use of blower door test to be retained in guidance, as it can support diagnosis and improvement during construction works.

Compliance, performance and providing information (chapter 6)

As referenced earlier in this response, overall housing associations strongly support proposals to improve the performance gap between the design intent and measured energy performance of new build homes, aligned with a shared ambition to achieve high levels of build quality in their homes.

Proposals are welcomed to standardise compliance reports (compliance report for Building Control Bodies (BREL)), linked to SAP and enabling onsite inspection and checking, linked to photographic evidence. Our members agree that timely, dated photographs can provide a good record of compliance during and post construction, and cite examples where they are already using similar approaches, such as for approval of fire stopping details. Steps to formalise current processes that are already supported by a number of building control bodies are seen as a natural next step.

However, **our members raise a number of associated points for consideration, including:**

- The need for improved cloud and digital platforms to support additional data and storage.
- The potential cost increases due to additional services and administration.
- The need to consider processes and success measures for hidden work or where work is covered up or invisible on completion, such as cavity fill insulation which cannot be captured easily photographically.
- The consideration of information duplication and the crucial role of monitoring to ensure adequate quality control and delivery outcomes in practice.

Providing information to residents and Home User Guides

As set out in our section on chapter 4, we fully support the principle of engaging residents and empowering people to play an active role in managing the internal environment of their homes.

We welcome support for consumer clarity, helping residents to understand the construction of their home, it's use, and the regulations and standards achieved. In order to be meaningful, information provided to residents should be clear, easy to understand and accessible.

A number of housing associations have shared examples of the work they already do with their residents to convey and simplify information to make it easier to understand. Many already provide some form of home user guidance but specific additional examples include:

- Use of the 'soft landings' approach, helping to ease the transition as buildings move from construction through to occupation and use.
- Employing new ways of providing information to a range of resident groups, such as the use of videos as opposed to written instructions.
- Soliciting feedback to inform and target improvement.

The standardisation of Home User Guides to provide alignment and consistency is supported but **our members state the importance of understanding expectations** of who will produce the report, the impact this may have on cost/fees, and how this information might be used by residents in resolving issues with their homes.

Careful consideration is required regarding the coverage and level of detail provided, and how these proposals might be user tested.

Transitional arrangements (chapter 7)

Housing associations understand the importance and need for arrangements to smooth the transition to new building regulations standards, both in 2020 and 2025 – providing assurance regarding build standards and mitigating the need for material amendments to work which has already started.

Transitional arrangements for 2020 uplift to energy efficiency standards

Support exists for more stringent transitional arrangements in 2020 to ensure new homes do not continue to be built to older energy standards for longer periods than is appropriate. **Effective arrangements will be particularly important where transfer of ownership occurs following development** (such as for Section 106 schemes) and where housing associations take responsibility for maintaining and managing homes throughout their lifecycle.

Views regarding this initial transition should be considered in the context of the housing association feedback we set out in our section on chapter 3 on Part L standards for new homes from 2020. These include support for higher fabric standards, the potential for higher reduction in emissions from the start, and consideration of a reasonably extended transition period to enable the housebuilding sector to gear up appropriately.

When considering the definition of a ‘reasonable’ period for application of earlier standards to individual buildings, housing associations recognise that the largest impact will be on schemes where design standards and specifications have been set by detailed planning consents, or where contracts have been signed. Application of higher standards at this late stage is likely to have cost and potentially site viability impacts.

As with previous uplift of energy efficiency standards, the balance has to be struck between immediate change – with associated cost impacts but mitigation of future retrofit – and a longer transition. **Housing associations support a longer lead-in time prior to mandating new standards, with ideally a year being seen to provide enough forewarning** to enable sector clarity and preparation. Housing associations are aware of the lack of time that exists to make changes but are keen to avoid the longer-term impact of lower standards.

Support exists for proposals to move to a focus on individual homes as opposed to whole site/developments, closing current loopholes that can mean that homes in later phases of large schemes are built to much lower standards than current regulations.

Our members agree that transition dates need to be set, accompanied by clear information and scenarios to describe what is acceptable from that date.

Transitional arrangements for the 2025 Future Homes Standard

Many of the points made in the preceding section regarding 2020 standards will also apply to transitional arrangements for the 2025 Future Homes Standard, particularly regarding dates, clarity of information and guidance where schemes have not received consents or contracts signed.

Similar to the position set out above, in terms of an appropriate transition period, **our members suggest that, in most cases, a year allows sites that are at feasibility stage to be properly assessed and adapted** to accommodate any future design changes. Where homes have planning approval or contracts have been signed, consideration will have to be given to any cost and viability impacts.

Proposals to avoid early 2025 FHS submissions, closing current loopholes, are supported by housing associations. These include, seeking to reduce the reasonable period for an individual building to start and amending the relevant sections of the Building Act so that full plans will lapse and homes will have to be built to the higher Future Homes Standard.

Overall, our members indicate that the proposals will ensure greater levels of certainty in respect of homes obtained as part of large phased developments, and will mitigate the need for future retrofitting of relatively new homes when resource should be focused on retrofitting other existing homes within their portfolios.

Housing associations welcome the opportunity to work with government to consider specific details and guidance regarding both transitions. This could include definitions of what constitutes a ‘reasonable period’ and the interaction of key programme milestones such as achieving outline and detailed planning permission, building regulations submission and sign off and entering into build contracts. **Our members cite the need for careful consideration regarding how transitional**

arrangements interact with both planning and building regulation consents, conditions and notices.

Our members have a wealth of experience that highlights scenarios that might arise with individual sites and where there may be potential for certain flexibilities due to unavoidable delays. For example, in relation to statutory utilities, where design change may have implications for regeneration scheme ballots.

Support for a deliverable transition to the FHS for housing associations

To support a deliverable and achievable transition to new proposed future standards, there are a variety of ways that the government could provide support to housing associations and the wider housebuilding industry, including:

- Grant funding that recognises additional costs during early years and transition.
- Clarity regarding dates and expectations during key stages of the proposed roadmap.
- Some level of long-term subsidy to provide strategic support, training and the development of a skilled labour force and supply chains across the housebuilding sector.
- Consideration of the interaction of rent policy and improved energy performance (an overall cost model).
- Consideration of planning incentives to encourage early adoption of higher standards, and support for skills in Local Planning Authorities to provide additional support and clarity for planning applicants.
- Public education strategies and campaigns to support culture and behaviour change, including the use and benefits of different technology and building design to support improved energy efficiency in homes.

Impact assessment, including supporting documents (chapter 8)

Housing association responses recognise both the need for regulatory change to support the achievement of net zero emissions by 2050, including the role that energy efficiency of new homes and how they are heated will play, and that such change will increase construction costs.

Although increased build costs will apply to all new build homes, **there will ultimately be some impact on the supply of new homes** as a result. In addition,

there is the potential for the timing and uplift in standards to impact on scheme viability, particularly during transition.

We welcome additional work to consider whole life costing, as well as detailed research into current performance of new homes in respect of ventilation, internal air quality and overheating. Housing associations support the potential for further cost–benefit analysis and lifecycle costing linked to the impact of human behaviour as future standards are shaped and developed.

Conclusion

Housing associations strongly support the government's ambition to tackle the climate crisis and are ready to play their part in shaping new standards and delivering high quality, energy efficient, safe and comfortable homes that meet the needs of their residents and are fit for the future.

Our members broadly support the consultation proposals, in particular the strategic clarity provided by the consultation roadmap. They are committed to working with the government and other stakeholders to seek effective solutions to some of the opportunities and challenges raised in this document.

Housing associations understand that the scale and scope of change required in the next decade represents an opportunity to reduce energy costs for residents, drive improvements in the quality of home building, improve customer satisfaction, develop new skills and technology, and realise operational savings.

However, the scale of the challenges, such as cost and time implications to meet new standards, are hard to determine until standards are finalised. In the interim, the government must take steps to understand the implications for delivery and transition. The government must carefully consider the provision of leadership and support to enable a deliverable, supported and affordable transition to new standards, building in learning, skills, capacity and resource as transition progresses.

The impact of this transition on residents must not be underestimated, and more work must be done to support and work with residents to understand how changes can be better understood and adopted in partnership with their landlords.

Our consultation response showcases some of the work already being done by housing associations to support improvements in energy efficiency and deliver on commitments to meeting carbon emission targets. It is important this work is not undermined by levelling down of local requirements, as these local standards have already had far reaching impacts that include building capacity and skills across the housing sector.

There is, however, more to be done to support the step change in delivery required. In particular, property values do not currently include any additional value for higher levels of energy efficiency – a change that could help incentivise change and have lasting implications for housing associations linked to their ability to secure higher borrowing.

Housing associations support an ambitious shift in energy and carbon reduction standards and targets. They are keen for key decisions to be taken now, and for support to make the right choices not just for new homes, but also for existing homes.

We look forward to engaging with the government and its stakeholders as it develops these and future consultation proposals for both new and existing homes.

Further information

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NATIONAL HOUSING FEDERATION

Case studies

Case study 1: Plymouth Community Homes develops the largest UK residential Passivhaus project

Plymouth Community Homes delivered a 72 home Passivhaus project for affordable rent and shared ownership, making it the largest UK residential Passivhaus development.

Passivhaus is an energy standard with excellent thermal performance, resulting in extremely low energy bills for residents. Homes built to the standard provide a high level of occupant comfort while using very little energy for heating and cooling. They are built with meticulous attention to detail, with rigorous design and construction processes according to principles developed by the Passivhaus Institute in Germany. They can be certified through an exacting quality assurance process that minimises any performance gap between design and construction.

Plymouth Community Homes delivered this project at an additional cost of 8% (£10,734 per unit or £144/m^2) but believe this can be reduced to nearer 5% as supply chains gain confidence and skills. In the future, unless these costs can be found from either grant or a reduction and land costs, it will reduce the numbers of homes the organisation can build and may deter them from building similar homes for sale in lower value areas.

Plymouth Community Homes is also looking to instigate an energy efficiency plan to bring all properties up to EPC band C by 2030. This ambition would lead to nearly all the association's existing homes being improved and has an estimated cost of £11m, collectively saving residents up to £350,000 per year.

Case study 2: Home Group – Gateshead Innovation Village

Gateshead Innovation Village is a live research project led by Home Group, and supported by Homes England and development partner ENGIE. It forms part of Home Group's ambition to look at new ways to disrupt historic processes in order to build the new homes our country needs.

The project identified dynamic new construction solutions, with research offering the sector greater confidence in using modern methods of construction at scale, challenging public perceptions and enabling housing which is affordable and delivered at pace.

The project has created 41 homes – all for affordable rent – 16 volumetric houses and 19 modular houses, alongside six traditional houses. Different house types were built using traditional, modular and modern methods of construction (MMC) to robustly compare and contrast the performance of each building type. Home Group undertook a market assessment using three key criteria; design flexibility, affordability and 'mortgageability'.

For Home Group this project wasn't just about comparing construction methods to come out with a product that is the cheapest or fastest – it as about finding products that best fit particular sites, markets and situations, and can be delivered at scale.

Outcome

While the bulk of Homes Group's results are expected in 2020, their initial results demonstrate the impact of their gas-free site could have in driving performance towards the 2025 Future Homes Standard provision of 75-80% less CO_2 than current Part L 2013 regulations.

Their four different M&E solutions offer between 72-91% less CO_2. Further research will continue, including engaging with customers to understand the practicalities of living in a modular home on a day-to-day basis. Alongside BRE, they'll be monitoring a range of aspects to evaluate how the homes perform for the customers living in them.

Northumbria University are working with Home Group in one of the homes that will be used as a test site to consider technology that needs integrating into the fabric of a building, as well as existing and emerging assistive technologies, supported by a full time researcher to create a framework for research and development activity.

As well as testing construction methods, Home Group has partnered with a leading smart tech company to see how, if at all, smart tech can be used in social housing. They want to explore how they can deliver their mission to build independence and aspirations using technology traditionally considered out of reach to many people in society.

A handful of homes will be fitted with smart tech, but all are monitored so Home Group can compare performance and experience of living with, and without, different technologies. Their partners are supporting the ongoing monitoring of the tech performance in different building types.

Home Group has also created a gas-free development with a focus on greener heat storage, which is more environmentally friendly than the norm. This in turn will help them to learn which technologies the construction industry should invest in.

Key learning points

- To understand the potential for MMC and modular going forward not only did they want to carry out research into construction methods, they wanted to understand what it was like to live in these homes.
- It had to be a real village, and one that could offer a sense of community. To do that they needed to think seriously about design, layout and build. They did, and took into account the technical, aesthetic and living element of the project.
- Comparative analysis was a key element within the project. They wanted to know what the most effective new methods were. They also wanted to know the pros and cons of MMC versus traditional.
- They're trialing a range of smart technologies as part of the project, some of which could have significant implications for tackling fuel poverty. They're also looking at condition monitoring technologies, which could revolutionise asset management. For instance, they are trialing sensor technology that may allow us, ultimately, to identify when a property is at risk of damp.
- They're working with Northumbria University to analyse installed assistive technology, in order to help them improve their support for people with mental health or social care needs.

Case study 3: Karbon Homes considers the impact of higher standards on supply commitments

Karbon Homes welcomes the government's ambition to tackle the climate crisis and fuel poverty, but has concerns about maintaining their contribution to housing supply without additional grant to cover the different in build costs.

Their target, which they currently exceed, is to build at least 500 homes per year. Initial calculations show that the additional cost per home of increasing fabric energy efficiency standards is approximately £5,000. This would therefore increase annual build costs by approximately £2.5m.

The average cost of installing a gas boiler and associated heat distribution system is £2,000, but the average cost of installing an air source heat pump and associated heat distribution system is £8,000. The additional average cost of building to the Future Homes Standard (fabric plus technology – proposed option 2) is approximately £11,000 per home.

Considering these figures, the introduction of the Future Homes Standard in 2025 would increase Karbon's annual build costs by around £5.5m, which equates to approximately 8% of their annual development programme. This cost is equivalent to building 39 new affordable homes.