THE FUTURE HOMES AND FUTURE BUILDINGS STANDARDS

THE Department for Levelling Up, Housing & Communities has consulted on long-awaited policies called the Future Homes Standard and Future Buildings Standard to improve thermal & energy efficiency and to switch to renewable heat.

The main document out of several released is 120 pages long and can be found here: - **https://www.gov.uk/government/consultations/the-future-homes-and-buildings-standards-2023-consultation**. These documents are very technical and aimed at housebuilders & property developers who will be obligated by new regulations. In this article, Brett Amphlett (BMF Policy Manager) outlines what Whitehall proposed in its 12-week consultation (now closed) and the formal response we gave. We contributed to the previous consultation that ran from 2 October 2019 to 7 February 2020.

INTRODUCTION

The majority of ideas relate to new homes and non-residential buildings. This consultation and associated documents lay out technical proposals for changes to the Building Regulations, Approved Documents, and carbon calculation methods. In summary, it means:

- setting the performance requirements to ensure new homes and non-residential buildings (a) have high fabric standards; (b) use low-carbon heating and (c) are 'zero-carbon ready'.
- improving the minimum standards for fixed building services and on-site electricity generation.
- improving the guidance and minimum standards for heat loss from building services.
- A small number of proposals apply to existing buildings notably:
- improving standards for new dwellings created through a material change of use.
- improving real-world performance in new homes (as designed) compared to actual energy use.
- supporting the expansion of clean heat networks.
- confirming reducing carbon emissions as the primary aim - with the secondary aim of lowering energy use.

BMF members were asked for views to write our response by the 27 March deadline. It balanced the views of insulation companies, heating businesses, window, door & roofing manufacturers and merchants. New energy rating & carbon calculating software called the Home Energy Model will replace the Standard Assessment Procedure (SAP). The HEM is widely seen as not up to the task. Our manufacturers & merchants ought to check the functionality of their computer software because (under these Standards) more technical information will be required by house-builders & property developers on materials, products and systems. This has implications for the BMF's work on ETIM and the Product Data Standardisation Template.

OVERVIEW

The DLUHC accepts there will be an increase in new build costs. The starting assumption is that (if done properly at the outset) these Standards mean no further work will be needed to reduce zero carbon emissions as the electricity grid decarbonises.

Lee Rowley MP (Minister for Housing & Planning) and John Newcomb

The Future Homes Standard should use all cost-effective methods so that occupiers get a new home that is (a) genuinely thermally efficient and (b) capable of generating heat efficiently. This consultation makes welcome, though small steps on in-situ fabric measurement, but the ambition is not sufficient. Consequently, the FHS will place all heat pump efficiency performance risk on the occupiers with no means to manage that risk via performance analysis.

It is imperative that the post-completion and post-occupancy monitoring of homes is brought into the modern age. This will ensure that theoretically high standards (as designed) translate into real-world actual performance - and such performance is captured in EPCs. For example: validating heating system efficiency by insisting on fitting heat meters or sensors so occupiers can see what energy they use and the comfort it provides.

PERFORMANCE REQUIREMENTS

The BMF notes the commitment given that new homes and buildings built to these Standards will (a) deliver significant carbon savings and be 'zero-carbon ready' and (b) will not need retrofitting as the electricity grid decarbonises. We also note the reference to preventing damp & mould, excess cold & heat, and improving air quality.

There is scepticism these proposals are not the 'world class' ones often touted by Whitehall. The DLUHC is falling into the trap of loading the hoped-for CO2 reductions onto building services - instead of following the 'fabric first, services second' practice. The BMF has strongly supported this for many years. Work should be done in a logical, sequenced way to optimise the carbon & cash savings and benefits to protect the investment outlay. We can no longer erect new homes that may later cause fuel poverty. Our adherence to 'fabric first' means less energy ought to be required if insulation of all types is properly fitted. The cheapest energy for hard-pressed families is that which is not used at all.

Heat source

The BMF understands why fossil fuel boilers and biofuel systems are excluded. But direct electric heating has a place where it is best suited to this for reasons of cost, comfort and easy care & maintenance.

Solar PV panels

Even if solar photovoltaic makes a relatively small contribution, there is a case to encourage it anyway. For example: disruption to power supply and the inconvenience suffered by households (no heating or lighting) during recent storms whilst energy suppliers took days/weeks to restore connections. It is also desirable to help alleviate demand on a decarbonised grid.

Fabric

The BMF notes the decision to keep fabric standards largely the same as now. But we believe it is foolish to say that increasing fabric beyond the proposed level does not deliver significant gains. Higher levels of insulation, installed properly, ought to mean smaller heat pumps are fitted that draw less electricity from the national grid and thus ease collective strain on the network. Moreover, saying that reducing total energy use is relatively less important than switching to electric heating is also foolish. We do not agree as any reduction in energy use is 'a good thing'.

The BMF agrees that action now will benefit buyers of new homes as it removes a future need to retrofit to net-zero. It is logical to want to shift the burden to house-builders & property developers at the point of construction for the reasons described - notably affordability in the future.

On balance, we prefer Option 2 (lower carbon savings, increase in bill costs, lower capital cost) to the central question the DLUHC asked. But this is neither a straightforward decision nor a ringing endorsement of these proposals. The BMF urges the DLUHC to come up with another option - that takes Option 2 but includes higher fabric standards

from Option 1 into a combined new Option 3.

If decarbonising homes is to be via electrification, households will have to have their heating on at times of the year when demand and/or prices are highest. Although outside the scope of this consultation, this has implications for energy generation and network capacity. As the output performance of heat pumps improves, efficiency gains ought to help ease the collective strain on the grid with increased future demand for electric heating and transport.

METRICS

It is logical to use the existing methods to set performance requirements. But the Home Energy Model (HEM) must accurately and correctly capture such metrics. Any teething problems identified during testing that lead to (among others) inaccuracies must be overcome straightaway to instil confidence in the HEM.

The software must be made available (to those who have to use it) at the same time as draft legislation is laid before Parliament - not when regulations come into force. Users must be given sufficient time to test, update & adopt the HEM in order for any necessary tweaks or alterations to be completed in time.

UPDATED GUIDANCE AND MINIMUM STANDARDS

The BMF notes the exclusion of hydrogen-ready boilers from these Standards yet the DESNZ will not take a decision on their use until 2026. The DLUHC has pre-empted that DESNZ decision.

We stressed the importance of adhering to the original manufacturer's instructions - especially where a heating control is coupled with others - so its functionality is not impaired. We also regard it as vital that heat pump installations are designed, fitted & used correctly. It is sensible to insist that operating & maintenance information is provided.

BMF members view the values for hot water storage vessels as unachievable in the time available - and reckon very few vessels on sale today will meet the values in the notional building specifications. The upshot is manufacturers will have to reconfigure their operations to serve a comparatively small slice of the market.

REAL-WORLD PERFORMANCE

Energy performance calculated at the design stage is often more optimistic from real-world measured energy performance after occupation: the so-called 'performance gap'. This is a long-standing issue that has to be confronted. Too many newly-built homes are simply not performing to the level they were designed for. Raising the quality of the as-built performance of new homes is vital in relation to household bills, thermal comfort and reducing emissions in today's 'cost of living crisis'.

Whatever ministers decide from this consultation, the worry is that despite good design and best intentions, corners will be cut and CO2 emissions will continue. Either the industry has to change, or inspection & enforcement has to be beefed up, so what was originally specified is actually built. The first step must be for the DLUHC to urgently reveal the performance test it intends to introduce so house-builders & property developers can familiarise themselves and prepare accordingly.

CURRENT APPROACH

It is logical for the DLUHC to overhaul current arrangements but caution is required. The BMF is unconvinced that the HEM is up-to-the-job and a fresh look at it is necessary. Other respondents had uncomplimentary things to say about the HEM methodology & software. The DLUHC alerted industry to a glitch in the consultation version of the Home Energy Model software and extended the closing deadline to 27 March.

Any teething problems identified during testing must be overcome straightaway to instil confidence in the HEM. The software must be made available (to those who have to use it) at the same time as draft legislation is laid before Parliament - not when regulations come into force. Users must be given sufficient time to test, update & adopt the HEM in order for any necessary tweaks or alterations to be completed in time.

Manufacturers, merchants and distributors need the correct HEM software because (under these Standards) more technical information will be required by house-builders & property developers on the materials & products. This will (inevitably) mean more (a) specification costs; (b) familiarisation costs and (c) conformity costs throughout the supply chain.

TRANSITIONAL ARRANGEMENTS

The house-builders & property developers that BMF members serve tell us a 75-80% reduction in carbon emissions is extremely challenging for them.

Small builders are the bread-and-butter customers of BMF merchants. These Standards will add to SME operating and project costs. They will struggle to comprehend it as the number of (a) builders themselves and (b) housing completions both continue to decline.

We reminded the DLUHC that BMF members require plenty of time to understand what the proposed changes are to adapt their manufacturing output, modify production processes, re-tool assembly lines, obtain raw materials, invest in plant & machinery, improve product ranges, retrain staff, upgrade computer software, conduct testing & certification, design packaging & labelling and produce data sheets. Six months is an incredibly short period of time to do this.

CONCLUSION

It is critical to get the basic structure and fabric right first in homes & buildings - rather than be fooled into thinking that fitting new technology will offset any under-performance of an average- or poorly-insulated property. If not, the performance gap could widen because new technology disguises heat loss (and thus CO2 emissions) due to sub-standard build quality and/or under-insulation.

We pointed out other concerns that directly relate - namely:

- the unresolved saga of conformity assessment and certification of goods - and insufficient testing capability, capacity & competency in Great Britain. The DLUHC will recognise CE Marking on our materials & products until 30 June 2025 - but what then?
- electricity generation capacity, network capability & grid connections. The future demand for electricity between residential, municipal, charitable, industrial & other customers will be huge. All 4 home nations will need much more renewable electricity than is currently available for everything - including heating in buildings.

Lastly, it is worth noting that the well-documented societal problem called 'intergenerational unfairness' will not be solved by these Standards. Indeed, they are more likely to make new homes more expensive and thus much harder for younger people to afford to get on the property ladder.