HBF Home Builders Federation

Government Survey on Solar in the Future Homes Standard

Proposed Requirement Approved Document Text. Part L FHS.

Contents

About HBF

The Home Builders Federation represents home builders in England and Wales. HBF's members build the majority of new homes built in England and Wales each year. Its membership includes national developers and hundreds of SME builders.

1) Are you responding as/on behalf of (select all that apply):
a. Builder/Developer
b. Building Control Approved Inspector/Registered Building Control Approver
c. Competent Persons Scheme Operator
d. Designer/Engineer/Surveyor
e. Architect
f. Energy sector
g. Installer/Specialist sub-contractor
h. Local authority
i. Housing Association
j. Manufacturer/Supply chain
k. National representative or trade body
l. Professional body or institution
m. Property Management
n. Research/Academic organisation
o. Other

2) Please provide your name.
Rhodri Williams

3) Please provide your email address.
Rhodri.williams@hbf.co.uk

4) If relevant, please give the name of your organisation/the organisation you are responding on behalf of.
Home Builders Federation

5) If relevant, please state if your response also represents the views of others (e.g., you are a trade body representing the views of a certain number of members).
The view expressed by the Home Builders Federation represents those shared with the home building industry in the UK.

6) This survey is being run by the Ministry for Housing, Communities and Local Government (MHCLG), which is working with the Building Safety Regulator (BSR) and the Department for Energy Security and Net Zero (DESNZ) to develop policy. Please note that responses to this survey, and information about the organisations responding, will be shared with relevant teams at the BSR and DESNZ.
Are you happy for MHCLG to also share any personal data, such as your name and email address, provided as part of your response? (Note that a full Privacy Notice was sent with the link to this survey.)

a. Yes
b. No

Requirement

7) Please give any feedback you have on the draft text of the proposed new functional requirement.

HBF is concerned that the wording of the new proposed requirement and approved document text under Requirement L1A (1) now categorically sets out that ‘a system for renewable electricity generation must be installed on site’. This text appears to move away from the original consultation to such a degree that we question whether such a substantial change can be addressed meaningfully via a short survey or whether it would be better to fully reconsult. HBF does not explicitly support this new introduction which appears to make the use of PV mandatory on all new dwellings under the FHS without the opportunity for exemption. As set out in our original response, we support in principle the use of PV but not necessarily at the 40% level due to roofscape complexity and general roofing features such as hips, gables, verge, ridge and eaves offset distances, roof lights, dormers etc. This level, although it may be the coverage required to achieve cost neutrality for homeowners, is impractical or impossible to achieve on certain types of housing and in keeping with national and local design requirements.

We also wish to retain the option, under certain circumstances including constructing in areas under listed building, heritage or conservation status, not to provide PV.

HBF is concerned about the wording in paragraph 1.1, which states that other forms of renewable technology under consideration must meet the same performance standards as PV, as outlined in paragraphs 1.2 and 1.3 HBF is not aware of any other renewable technology that can generate electricity or other forms of renewable energy as efficiently as PV Crystalline panels. As such, this paragraph effectively prevents home builders from considering any other form of renewable technology other than PV. We set out reasons during the last consultation as to why consideration towards other forms of renewable technology should be offered in circumstances when PV may not be appropriate such as shading, overshadowing, north facing sites, valley and north facing development sites. These reasons appear to have been entirely ignored under the wording of the new proposal.

The previous government consulted on a Future Homes Standard with such a high level of mandated PV coverage seemingly for political reasons but with little regard for the workability of its proposals. In many instances, solar panel coverage of less than 40% roof-to-floor area may be all that is achievable when bearing in mind the efficiency and productive capacity of the PV systems. On some, rarer, occasions, PV may not be the appropriate option at all.

Overly prescriptive regulations without due regard for the practical implications across a range of housing types or locations risks mandating the inclusion of effectively unusable products on new homes or even result in more of the country becoming undevelopable. Government measures introduced over the past few years have stretched the viability of new home building to breaking point in parts of the country. Imposing additional costs without any benefit whatsoever to consumers, i.e. where the solar panels will be highly unproductive, would amount to a continuation of an approach that puts politics before reality and common sense.

The new proposed requirement and approved document text states under Requirement L1A that ‘a system for renewable electricity generation must be installed on-site’. By effectively specifying photovoltaic panels, MHCLG appears to be positioning itself into a ‘designer’ role under the Construction (Design and Management) Regulations 2015 under the Building Safety Act 2022. In this instance specifying and instructing a particular type of technology to be used is captured under the responsibility of a designer under CDM and we don’t believe this is the government’s intention.

HBF maintains that, in general, the home building industry supports ‘some’ PV, but not necessarily at the level of 40% roof-to-floor area. We are concerned that detailed wording set out within this proposed set of text could see developers providing dramatically more PV on less suited north facing roofs. An over provision of under performing PV of north facing roofs is likely to lead to disproportionately higher construction costs as well as maintenance and replacement costs for homeowners. Following detailed discussions with industry over the autumn and winter period, house builders confirmed that a 20% provision of PV could be reasonably achieved in almost all forms of roofscape and housing with the exception of North West, North or North East facing roofs due to low efficiency. This was fed back to

Government at the time and remains the HBF position. We believe that this is the base standard that should be considered for inclusion within the written text of the new proposition. There are justified reasons for this, and these are set out below and throughout this survey response.

The new conversion factor of 40% / 4.5 used to calculate the total panel power in kilowatt peak(kWp) based on the ground floor area replaces the previous conversation factor of 6.5 as seen in Part L 2021. HBF prefer that the 6.5 conversion factor is retained within the FHS as this is able to deliver PV provision at scale across most architype houses.

We are concerned that government messaging around the Future Homes Standard frequently alights on the cost savings for consumers. Current new homes are significantly cheaper to run than existing properties, but the additional savings when moving to the Future Homes Standard will be smaller. Indeed, through electrification and the removal of gas boilers, like-for-like costs increase for homeowners. It is notable that inflection point for achieving savings requires around 40% roof-to-floor area PV coverage at full efficiency and capacity implying that government intends to see all new homes built with highly consistent roof features and with a south facing aspect. This would seem unrealistic.

HBF is also concerned that the proposal as drafted could slow the delivery of new build homes. The current wording suggests that any lesser provision than 40% would require prior approval from consenting authorities. HBF's position is that the Approved Documents should set the minimum standards for performance. Should properties or developers elect to provide further enhancement over and above those minimum standards then that would be within their gift to deliver. The current wording suggests that subsequent consents need to be sought for those properties that don't deliver at 40% PV. This scenario would see developers getting into granular detail on a plot by plot basis with the DNO network provider, local planning authority and building control bodies. This would be an unrealistic and unsustainable scenario that would undermine the Government's ambitions regarding housing delivery and economic growth

Home building, whether involving national house types, regional variations, or bespoke local designs, requires significant internal and external detailing. The paper suggests that developers should present scenarios to approving authorities where delivering 40% PV is not feasible. It is important to recognise that relocating roof features can have significant impact on internal design layout such as location to access and egress, means of escape, lighting, sanitaryware, partitions, flues and room layouts etc. It is therefore not always a simple case of moving or relocating roof features in order to enable a greater provision of PV. Changes could also have significant influence on structural impact as well as on roof truss design, roof cassettes, staircasing and internal walls. HBF believe this scenario would force developers into a plot by plot approval process which will dramatically impact the delivery of new homes by creating greater bureaucracy and red tape.

Fire risk is identified in this questionnaire where alignment with Part B of the building regulations has been proposed at 18m or 7 storey building height from 50m previously. HBF agrees with this revised position making it consistent with other approved documents. However, on normal 2 and 3 storey domestic properties the risk posed by roof top fire spread also remains a significant risk. Minimum offset distances need to be allowed from verge, eaves and ridge to that of the adjacent neighbouring property to retain building integrity and safety from fire spread. Consideration therefore needs to be given towards the risk posed from fire spread across short rooftop distances from neighbouring properties as can be seen in semi-detached and terraced properties. Clear and safe offset distances will therefore diminish the residual area of roof top suitable to occupy PV panels in optimised designs. HBF believe that traditional pitched roofs are unlikely to be used on residential buildings over 4 to 5 storeys. Once over this height the ratio of roof area relative to the number of solar panels that are required to benefit the total number of flats will be limited if at all possible to achieve.

HBF is also concerned about the impact the proposal will have on attempts to reduce embodied carbon. PV is predominantly manufactured in China. Manufacturing, shipping and delivery of new PV panels in new build homes which are delivered from the other side of the world will be detrimental to embodied carbon values. This is linked again to the provision of PV on northerly facing roofs which generally operate at around 50% of optimum efficiency. A disproportionate amount of underperforming PV will be required to be installed under this survey proposal. This makes this proposition expensive to design, purchase, install, operate and run. At the same time, this places additional burden on the supply chain and greater impact on embodied carbon.

China are currently world leaders in the manufacturing and fabrication of crystalline photovoltaic panels. Proving and demonstrating full transparency of the supply chain will be essential by Government ahead of encouraging or mandating the use of this type of technology in UK homes. Organisations have carried out significant work in the area of Environmental Social Governance over recent years to improve organisational reputation and business ethics. The continuation of this may require government support where technology used in UK construction is likely to be manufactured far away from the full visibility of UK and European based construction organisations.

New homes and building fabric have generally been required by insurance companies, warranty and mortgage providers to have a lifespan of at least 60 years. New homes will last significantly longer than that. However, it is important to recognise that crystalline PV panels will not last as long as traditional roofing materials such as concrete and clay tiles and certainly not as long as slate. With an average lifespan of 20 to 25 years, PV panels require ongoing access for maintenance and will eventually need to be replaced. This will place a significant financial responsibility on the homeowner, who must be prepared to maintain and potentially replace the system at the end of its life—or sooner, in the event of damage. In addition to this is the life expectancy of a typical PV inverter. An inverter which is required with every PV installation typically has a lifetime and warranty of only around 5 to 10 years which is significantly shorter than the solar panels. This sits outside of the builder's responsibility and will therefore be a home owner cost and responsibility to replace.

Building insurance and warranty providers have published evidence identifying that the main cause of building damage in the UK comes from water ingress and compromised roofs due to materials and inclement weather. HBF is concerned that with the introduction of significant areas of PV this could lead to increased incidents of water ingress and damage to customers. Warranty and insurance providers are likely to increase costs associated with this increase in risk and pass them onto builders during the construction stage and onto home owners during the occupation stage. This is a significant area for Government to consider given the introduction of plastic sheeting, penetrations, non-traditional roof coverings and reliance on foreign manufactured materials destined for the British climate. Weather proofing, storm water proofing together with secure sealing, taping, welding and jointing will need to be factored into roof areas. This will further increase construction and maintenance costs and it is inevitable that the insurance industry will likely see an increase in claims around water penetration, damage and replacement costs where non traditional approaches to roofs are introduced at scale around the UK.

HBF is already working with the CITB, the Trussed Rafter Association and developers for improved awareness required for the upskilling of the construction workforce. This is needed in order to account for changing building materials and the introduction of new technologies that are likely to be seen alongside the future homes standard. These changes will place new pressures on the UK construction workforce in addition to home owners, insurance and warranty providers. It is of immense frustration to industry that despite the majority of the work carried out on roofs to prepare for solar panel installation is being carried out by roofers, because it is electrically related, any training requirements fall outside of the remit of the CITB who our members pay a levy (on top of the broader Apprenticeship Levy) . Therefore if we are to ensure that roofers can access the necessary training from the CITB, then the scope will need to be changed in order to allow it to cover non electrical solar panel installation requirements.

Exemptions and limits on reasonable provision

Under the legal and regulatory framework, Distribution Network Operators (DNOs) are required to provide a connection offer to a customer, including the cost and a connection date when work will be completed to allow the full import and export capacity being sought. A development can connect to meet its import needs, and allow self-consumption of solar generation, ahead of its full export requirements being accommodated. DNOs should also offer any temporary solutions, where possible, for example export limitation on solar generation until works are completed.

It should be noted that the energy regulator, Ofgem recently sought evidence and views on the connections experience and how it could be improved through the regulatory framework to improve customer service and reduce connection timescales. The

consultation closed on 12 February and updates can be seen at https://www.ofgem.gov.uk/consultation/connections-end-end-review-regulatory-framework.

We have heard from stakeholders that there can be issues when seeking a connection to the electricity distribution network, particularly where the existing network requires upgrading to accommodate the potential export of solar generation from a development. Given that DNOs are required to provide connections or temporary solutions, and there is ongoing work from Ofgem to improve the connections experience, we have not in this proposal included an exemption for cases where there are issues agreeing export of solar generation with the DNO.

8)Please provide any comments on the current process for seeking to connect solar photovoltaics to the distribution network.

Connecting domestic solar photovoltaic (PV) systems to the distribution network can involve significant challenges related to grid integration, intermittency of service provision and electrical generation along with grid management issues. Due to the British climate, intermittency and the variability of sunlight throughout the year, additional in-house solutions such as energy storage i.e. battery or thermal storage may be required to take account for rapid peak generation such as during the summer months to cope with excess generation.

Grid integration involves adapting existing infrastructure with DNOs and managing potential issues like voltage fluctuations and reverse power flow into and out of the existing grid. For new home builders, economic considerations, such as meeting the costs for new grid infrastructure and ensuring fair and reasonable access costs for consumers, also present challenges. Solar PV output varies with sunlight intensity, weather conditions, and time of day, leading to an inconsistent supply of electricity making it sometimes difficult to balance and store the micro generation of electricity in new homes with the demands of the wider grid. Shifting electricity demand to match periods of high solar PV generation requires flexibility in consumer behaviour and energy use as well as technology within new homes which can be expensive. We believe that the costs of maintaining, operating, and investing in the grid need to be fairly distributed, and developers of new homes constructing properties with solar PV shouldn't be required to upgrade or provide contribution towards grid maintenance costs which ought to remain the responsibility of the large energy providers.

At present within the UK, homes can generally install solar panel systems up to 3.68 kWp per phase without needing permission from the Distribution Network Operator (DNO) for further upgrading. HBF believe this should be the maximum peak energy generation required of developers if and where they can provide them. If the requirements go beyond this, and DNO permissions processes are not altered then government will effectively be introducing another consent regime to sit alongside the planning process and the Gateway 2 and Gateway 3 processes for higher rise schemes. Applications made under this scenario are made via a G98 process to the DNO. These are typically 4 kwp systems which feature around 8 to 10 PV panels. G98 applications can take upward of 30 to 45 days to register. A standard single-phase domestic new home functioning with an operating system up to 3.68 kWp is considered a small scale domestic PV system. However, under the current wording to the proposed survey, developers would need to carry out a full HEM modelling analysis of the final approved layout in order to understand the total PV generation on site. This is highly inefficient and will lead to longer delays in mobilising onto construction sites as total peak demand and generation will only be able to be calculated following a final planning consent when orientation or rooftops, aspects, house types will be fixed.

Up until that point the application to DNOs and energy providers will not be able to be made. HBF therefore considers the safest, most efficient and effective proposal that can be considered is for 20% PV to be required within the proposed approved document. This would ensure that early applications and fixed costs for the supply chain are able to be procured far earlier in the construction and development process.

Where domestic properties generate more than 3.68kwp then an application for a non-domestic a three-phase supply would need to be made with the DNO which could then see a PV solution generate up to 5 to 6 kWp and up to a maximum of around 10 Kwp (3.68 kWp per phase). This would equate to over 12+ panels and could only be provided on exceptionally larger domestic roofs. Under this scenario a G99 application would be required with the DNO taking potentially up to 3 months to register and provide registration and a connection offer. These larger systems on larger roofed new build properties would certainly require significant upgrading of offsite infrastructure in order to be able to accept greater on-site generation of renewable electricity. Offsite works could include additional substation and cabling re-enforcement as well as local transformers to increase or reduce power and peak load.

In certain instances, DNOs are unable to receive site won renewable generation from home builders. This is usually set out in early discussions. Unlike conventional power plants that generate electricity continuously, renewable energy sources such as solar and wind depend on weather conditions and can produce fluctuating power levels. This unpredictability presents difficulties for the National Grid in maintaining a stable energy supply due to the grid's infrastructure and limitations including lack of real time visibility and agility. It is likely that new homes will over-generate electricity for immediate use within the home. Not all homes are designed or required to occupy batteries, nor will all homes be suitable to occupy them. In these circumstances where the grid is unable to accept additional inward flow of site won electrical generation, it may require the developer to downsize the volume of PV provision on a new home possibly down to the minimum levels set by government as typically 2 panels or 720kwp of energy generation. Battery storage, thermal storage, switch gear and safety mechanisms such as shut off devices, restrictors or limiters may be required. Export limiters in effect shut down the PV systems at peak generation such that they don't over generate and overload the national grid. There may be circumstances in the future that change when the grid becomes more intelligent with greater agility. However, it is our understanding that the developers of new homes should not be forced to over provide PV panels to a scale and rate that can't be received by the grid. This would be inefficient, incur unnecessary cost and be of no benefit to the home user.

9) We propose not to provide any exemption for dwelling houses or flats for which DNOs cannot immediately accommodate exported electricity. Do you think this is the right approach?

a.
Yes
b.
No

10)
If no, please summarise why not.

Notwithstanding the above statement, HBF wishes to retain the option for limited or no PV provision in certain, limited circumstances, for example should the specific building circumstances require it. An example of this may be construction to a listed building, heritage or conservation area or or cases of building adaptation, change of use, or renovation where the installation of PV panels may not be appropriate or required.

In the original Future Homes and Buildings Standards consultation, it was proposed that solar panels would not be included in the notional building for flats over 15 storeys, which would have equated to about 50 metres. We are now proposing a Limit on Application for the new Part L Requirement on buildings that are a relevant building for the purpose of regulation 7 (which implements the combustible materials ban). This would have the effect of exempting buildings over 18 metres in height from the functional requirement, providing consistency with the building safety regime and ban on combustible materials.

11) Do you agree with the proposed Limit on Application for buildings that are a relevant building for the purpose of regulation 7, or do you think the 15-storey threshold should remain as originally proposed?

a.
HBF agree with the proposed Limit on Application for buildings that are a relevant building for the purpose of regulation 7.

b.
The 15-storey threshold should remain as originally proposed.

12) Please summarise your reasons for your answer to the previous question.

HBF believes that alignment with other building regulations such as that of Part B, Fire is correct and the right position for Government to proceed with. Much criticism has been made about the inconsistency and ambiguity of different building regulations and the functional requirements of the building regulations. There is a current Building Safety Regulator working group set up to carry out an overview of all building regulations on how they are written, composed and presented. Having improved clarity and alignment across the different approved documents for the purpose of consistency and clarity can only improve the working environment for the construction sector and reduce the opportunity for error in interpretation in design and construction. HBF agrees with lowering the threshold height from 15 storeys or 50m to 7 storeys or 18m to align with Approved Document B, Fire Safety.

Draft Approved Document Text

The draft guidance gives the size of solar array that should be installed to meet the functional requirement in dwelling houses (para 1.2) and flats (para 1.3). We believe the proposed size of solar array offers the best balance between upfront costs and carbon and bill benefits. There is currently a placeholder for a potential kW size, which is questioned below.

13) Please provide any comments on the solar array size set out in paragraphs 1.2 and 1.3 of the draft guidance.

HBF does not believe that installed peak power (kwp) is equal to 0.4 x Ground floor area / 4.5. We believe a more sensible provision would be minimum of 20% provision and also no less than720 kWh (approximately 2 panels at 360/400watts). We also believe that no more than a total overall generation of 3.68Kwp should be required to any new build dwelling and only if developers elect to do so. This should be entirely optional with no legal duty.

HBF observes that a 45-degree pitch roof is mentioned. We do not believe this to be necessary within the written text. It has been proven that PV works equally well on shallower pitched roofs and draft guidance should either remove the reference to 45-degree roofs or be extended to capture all roof pitches. Wording should allow for flexibility around orientation including vertical positioning if and where possible.

The following question is for those building or designing homes.

14) Approximately how many buildings are in your existing building design portfolio?
N/A

The following question is for those building or designing homes.

15) What proportion of your existing building designs would be able accommodate solar panel coverage equivalent to 40% of ground floor area?

a.
90-100%
b.
80-89%
c.
70-79%
d.
60-69%
e.
50-59%
f.
<50%
g.
Don't know
h.
Not applicable

The following question is for those building or designing homes.

16) What proportion of your existing building designs would be able accommodate solar panel coverage equivalent to 30% of ground floor area?

a.
90-100%
b.
80-89%
c.
70-79%
d.
60-69%
e.
50-59%
f.
<50%
g.
Don't know
h.
Not applicable

In response to the Future Homes and Buildings Standard consultation, concerns were raised about the practicalities of installing solar arrays larger than 3.68kW. Some

respondents commented that they had experienced delays for G98 approval to install solar arrays up 3.68kW. Other respondents said the G99 process (for solar arrays over 3.68kW) caused delays to development.

We have investigated the issues raised to understand the processes that should be happening.
If a property has lower than 3.68kW generation capacity, under the G98 process the developer only needs to notify the DNO within 28 days of the solar array being commissioned. Prior approval is not needed.

If a property has greater than 3.68kW generation capacity, a G99 application must be submitted and the DNO has up to 45 days to provide a connection offer.
Alongside any G98 or G99 application, a developer will be applying to the DNO for the demand need. The demand offer should be provided within 65 days.

We understand that, whenever possible, generation and demand applications to the DNO are made at the same time, so that a DNO can consider the implications of both when providing offers. The 45-day period for receiving a response to a G99 application/s should not delay development as it is within the longer 65-day period for receiving a response to the demand application.

17) If the processes described above do not match your experience, please provide details here.

In principle, what is described above is correct, however there are many examples of elongated timescales from different DNOs operating across the country. Each site has its unique challenges and sets of circumstances, making it a different experience each time.

18) Is a kW capacity needed alongside the 40% of ground floor area as an alternative metric for the size of solar array that would meet the functional requirement?

a.
Yes
b.
No

19) If yes, what kW output would you suggest and why?

Under this proposal, the Approved Document (paragraph 1.4) would provide flexibility for the size of solar array that should be installed on new homes. This is to provide for scenarios where the roof design precludes coverage equating to 40% of ground floor area or any minimum level of output set through paragraph 1.2 or 1.3.

The guidance states, however, that designs that do not meet the output in 1.2 or 1.3 must have made reasonable efforts to re-design roofs to accommodate that output. Building Control Authorities will have lower provisions flagged to them in the BREL report and be expected to check the evidence provided to confirm whether reasonable efforts were made and that a lower output than in 1.2 or 1.3 therefore still meets the functional requirement.

20) Do you agree that flexibility should be allowed in the circumstances in paragraph 1.4?

a.

Yes

b.

No

21) If no, please summarise why not.

The following question is for those building or designing homes.

22) Roughly what proportion of your existing building designs would qualify for flexibility in these proposed circumstances?

a.

> 20%

b.

15-20%

c.

10-14%

d.

5-9%

e.

<5%

f.

Don't know

g.

Not applicable

23) Please summarise any other circumstances in which you think flexibility should be allowed.

HBF believes that a minimum delivery of 720kWh be set as the minimum standard which is approximately equal to around 2 average panels or 20% floor to roof area at southerly facing roofscapes only. However, we believe that flexibility and a non-legal requirement could be considered of up to a total maximum of 3.68kWh rate per dwelling. However, this would be aspirational and at the entire discretion of the builder with no legal basis. This generation cap would ensure that connections to the grid can continue with a single-phase domestic supply requiring no commercial connections with the DNO. This would help ensure quicker connection rates to the grid and help continue the delivery of new homes at pace.

HBF would advise that clear, explicit guidance be developed on what constitutes a valid reason for exemption, to ensure consistency across local authorities and building control bodies. Building control officers and local authorities are not building designers and may not fully appreciate the complexities involved in roof design and services coordination. In addition, they are unlikely to want to take responsibility for influencing or approving aspects of a dwelling's design. Clear national guidance would help avoid misinterpretation and ensure a consistent approach across regions.

24) Do you agree that if these levels of generation cannot be met it is appropriate for solar panels to not be installed?

a.
Yes
b.
No

25) If no, please summarise why not.
N/A

26) Do you have any other comments on the draft Approved Document guidance?

HBF is supportive of the use of PV panels in new build homes where it can be reasonably and sensibly provided. We believe a 20% floor to roof area is deliverable on scale throughout the UK and this is the minimum standard that should be required to southerly facing roofs only within the approved document. We believe that consideration should be given to all renewable technologies and not just PV. We do not believe that seeking plot by plot approval with approving authorities is a sensible proposition as this will slow down and draw out the planning and building of new homes. HBF does not support an environment where further consents including complicated mathematical formulas and detailed PV array designs are required individually at site level which the current proposition suggests. This would significantly hinder the Government's target of delivering 1.5 million new homes.

27) Are there any other aspects of the Building Regulations or associated Approved Document guidance, for example on safety or other building standards, which should be reviewed or updated to account for this new regulation?

None.

Inclusion of solar photovoltaics in the notional building

If we proceed with this proposal, there will need to be a process for how solar provision is handled in the notional building used for the calculation for Building Regulation compliance of the Target Emission Rate and Target Primary Energy Rate.

We are proposing the solar provision modelled in the notional building would be set at the standard set in paragraphs 1.2 and 1.3 of the draft Approved Document guidance above (i.e., 40% of ground floor area and/or, as explored above, potentially an Amps/kW output rating) unless an array smaller than this is justified under the guidance in paragraphs 1.2 and 1.3 of the draft Approved Document guidance. For any such smaller arrays, the solar provision in the notional building would be set equal to the solar provision in the actual building.

This would mean:

• Homes are not penalised in the circumstances detailed in paragraph 1.4 and 1.5 of the draft guidance where it is not possible or practical to install the level of provision set out in paragraph 1.2 or 1.3 - i.e., there will not be an expectation set through the standard to increase performance elsewhere to compensate for the reduced solar provision and meet the notional building standards.

• That there is a benefit to installing greater amounts of solar than that provided by the 40% of floor area element of the guidance. If the equivalent to greater areas of solar are installed, it will then count towards performance targets in the notional building and give the opportunity to amend other specifications of the building.

27) Do you agree with the proposal for handling solar provision in the notional building?

a) Yes

b) No

28) If no, please summarise why not.

HBF does not support the disproportionate provision of unnecessary and underperforming additional PV on aspects of northerly facing roofs to make up for those not able to be installed on aspects of southerly facing roofs. Doing so would simply increase the costs to homeowners of maintaining inefficient solar panels seemingly only to meet political imperatives. The result would be many years of additional cost for short-term political expediency.

HBF supports the provision of 20% of PV to southerly facing roofs. The reasons for this are around PV panel performance on northerly facing roofs are around half as effective as those facing south. As a consequence, a builder will end up placing almost twice (+200%) as many panels on a northerly facing roof to achieve the same result as that of a south facing roof.

29) Please share any feedback you would like to on the assessment of impacts, which was shared alongside the draft requirement and approved document guidance.

HBF primarily agrees with the principals of the assessment of impacts which was shared alongside the draft requirement and approved document guidance. However, we believe the wording proposed complicates matters and places greater strain on the ability to deliver new build properties. What is of greater concern than the associated cost is the physical ability in being able to deliver PV at 40%. Costs discussed within the assessment of impacts requires further review with continued monitoring in line with current and future supply chains. Cost inflation for construction materials continues to increase within the sector.