



To:  
Ministry of Housing, Communities & Local Government

By email: [FutureHomesStandardConsultation@communities.gov.uk](mailto:FutureHomesStandardConsultation@communities.gov.uk)

Date: 7<sup>th</sup> February 2020

Dear Sir/Madam,

**Re: The Future Homes Standard: 2019 Consultation on changes to Part L (Conservation of Fuel and Power) and Part F (Ventilation) of the Building Regulations for new dwellings**

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These are the comments of the South Downs Society regarding the above consultation. The Society has over 1,500 members and its focus is the conservation and enhancement of the landscape as well as improving the built environment in and around the South Downs National Park (SDNP). We are also concerned with environmental issues, especially relating to the effects of climate change. To this end we wish to uphold the **duties and purpose of National Parks** and it's **Local Plan Policies**: [https://www.southdowns.gov.uk/planning/south-downs-local-plan\\_2019/](https://www.southdowns.gov.uk/planning/south-downs-local-plan_2019/) along with supporting the **SDNPA Climate Change Adaptation Plan**: <https://www.southdowns.gov.uk/sdnpa-climate-change-adaptation-plan/>

We consider planning applications and related matters in, or close to, the SDNP. Housing makes up a large proportion of the planning applications. We comment such application and we are particularly keen to ensure any development has as nears as possible a net zero carbon effect on the environment. Thus *inter alia* we support the **SDNPA Sustainable Construction Technical Advice Note** <https://www.southdowns.gov.uk/wp-content/uploads/2019/11/Sustainable-Construction-TAN-Nov-6-2019.pdf>

Our own policies on climate change are set out here: <https://friendsofthesouthdowns.org.uk/about-us/how-we-do-it/the-challenge-of-climate-change/>

Our comments are set out as attached.

Yours faithfully,

Victor S Ient, MSc.,  
Policy Officer

**SOUTH DOWNS SOCIETY**

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# Comments of the Friends of the South Downs (South Downs Society)

**Title:** Future Homes Standard - Building Regulations Part L and F Consultation

## Our Geographical area:

The South Downs National Park covers an area of 618 square miles which stretches some 100 miles from the boundaries of Easebourne to the east and to Winchester in the west. Over 110,000 people live in the market towns, villages and countryside of the National Park, and 1.97 million more live right on its doorstep.

## Opening Remarks:

- *In the context of a Climate Emergency, the proposed options for 2020 are not nearly ambitious enough and could actually result in a retrograde step.*
- *To put the UK on course to meet both domestic and international climate change commitments, all buildings must be net zero carbon in operation well before 2050. Accordingly, we ask you to re-write these proposed standard to introduce zero carbon homes standards by 2025.*
- *Please retain the powers of local authorities to set higher requirements than national standards where practical and demonstrably viable, particularly those councils that have declared a 'Climate Emergency'.*

We have drawn on the information and publications of:

- **Green Building Council (UKGBC)** <https://www.ukgbc.org/>
- **Passivhaus Trust** <https://www.passivhaustrust.org.uk/>
- **London Energy Transformation Initiative (LETI)** <https://www.leti.london/>
- **Royal Town Planning Institute (RTPI)** <https://www.rtpi.org.uk/>

## These are our detailed answers to your questions:

NB: We have identified the are answers to your questions by highlighting them in blue and underlining the answer we prefer

## Chapter 2 The Future Homes Standard

### Q1

**Do you agree with our expectation that a home built to the Future Homes Standard should produce 75-80% less CO2 emissions than one built to current requirements?**

**a. Yes**

**b. No – 75-80% is too high a reduction in CO2**

**c. No – 75-80% is too low a reduction in CO2**

**If no, please explain your reasoning and provide evidence to support this.**

1) *If the government do proceed with only a percentage reduction as proposed:*

*These percentage reductions would not be implemented until three years' time in 2024. That means a new consultation will have to start in order to consider implementing zero CO2 emission in 2025, which would then not be implemented, probably for another four years. That would bring us to 2028 before full zero carbon emission standards would be applied. This is far too long.*

*The UK was well on its way to implementing zero carbon homes by 2016, but sadly the government scrapped the Code for Sustainable Homes and Zero Carbon Homes policy in 2015. Why do we have to wait another eight years or more to get back to where we could have been in 2016?*

*Percentage reductions introduce complexity and do not clearly indicate performance relative to net zero carbon and compliance needs to be based on how a building performs in use.*

2) *The industry should be given a clear set of rules by which new homes would be built in the future. Constantly modifying the rules in the form of a 'soft approach' will just add confusion and difficulty. Our society can't see what the problem is. The new Building Regulations come into force in 2024. That gives everyone three years to get ready for zero carbon standards.*

3) *It will probably be 2025 before buildings built to the new standard would be implemented. That then leaves only 25 years for the effect of the new regulations to contribute to reducing our carbon footprint. Please remember that currently and up until 2024 homes built to the previous 2013 standard would continue to be constructed. **These homes contribute to global warming and to our CO2 emissions.***

- 4) *There are many benefits by moving to a new zero carbon homes standard now, including:*
- (a) Material suppliers can move over to the new standard on a one time basis, thus reducing their overheads compared with firstly complying with a 'temporary percentage reduction' and then having to change again in again in a few years to change again move to production to new zero carbon materials and systems.*
  - (b) A one-time change would not only reduce the cost of manufacture, but also provide an export opportunity for UK companies in meeting the higher zero carbon standards.*
  - (c) New buildings with zero carbon impact will have minimal load on the national grid and thereby help the UK to achieve net zero carbon emissions.*

*We need a clear plan as to how we will measure compliance in a way that informs good design - the current and proposed Part L does not allow this. To ensure ALL new buildings meet net zero carbon, Approved Document Part L needs to become the legislative driver.*

## Q2

**We think heat pumps and heat networks should typically be used to deliver the low carbon heating requirement of the Future Homes Standard. What are your views on this and in what circumstances should other low carbon technologies, such as direct electric heating, be used?**

**Agreed.** Please note:

- 1) *Heat pumps are among the most appropriate way to deliver low carbon heat. However, it is important that heat pumps are designed, specified, installed and operated correctly to avoid high bills for the consumer. A report by Etude, commissioned by the Greater London Authority in Sept 2018 outlines the impact of heat pump deployment:*

[https://www.london.gov.uk/sites/default/files/low\\_carbon\\_heat\\_-\\_heat\\_pumps\\_in\\_london\\_.pdf](https://www.london.gov.uk/sites/default/files/low_carbon_heat_-_heat_pumps_in_london_.pdf).

- 2) Only heat networks served by a low carbon network served by fossil fuel free heat should be supported.
- 3) Direct electric heating is listed as a low carbon technology. This should only be supported if the electricity supplier is providing power from renewable energy sources. Heat delivered by direct electric is only low carbon if the grid is low carbon. On its own it should not be classified as a 'low carbon technology'. Direct electric heating delivers 2-3 times less heat than a heat pump for the same amount of carbon emissions, it is also more expensive for residents. We suggest that direct electric is only appropriate for delivering space heating where space heat demand is extremely low.

### Q3

**Do you agree that the fabric package for Option 1 (Future Homes Fabric) set out in Chapter 3 and Table 4 of the impact assessment provides a reasonable basis for the fabric performance of the Future Homes Standard?**

**a. Yes**

**b. No – the fabric standard is too demanding**

**c. No – the fabric standard is not demanding enough**

**If no, please explain your reasoning.**

- 1) The fabric standard suggested by Option 1 is only a 20% improvement on the current Part L. If the decarbonisation of the grid is taken into account, this alone will achieve a 10% reduction. The removal of the Fabric Energy Efficiency Standard (FEES) means that there is no control over how this reduction is achieved and thus developers are likely to take the cheapest option which will be solar PV in conjunction with an Air Source Heat Pump. This means that the fabric performance of new homes could be significantly worse than those that are currently being built.
- 2) A 20% improvement equates to the now obsolete Code Level 4. Local authorities have been setting this energy target in their local plans for some time.
- 3) The more we can insulate our homes the less energy they will use for heating. We should not be designing and building homes that will need retrofitting in the future. A well-insulated and efficient building represents our greatest chance of meeting our climate commitments in new homes.

### Q4

**When, if at all, should the government commence the amendment to the Planning and Energy Act 2008 to restrict local planning authorities from setting higher energy efficiency standard for dwellings?**

**a. In 2020 alongside the introduction of any option to uplift the energy efficiency standards of Part L**

**b. In 2020 but only in the event of the introduction of a 31% uplift (option 2) to the energy efficiency standards of Part L**

**c. In 2025 alongside the introduction of the Future Homes Standard**

**d. The government should not commence the amendment to the Planning and Energy Act**

**Please explain your reasoning.**

- 1) *The Intergovernmental Panel on Climate Change (IPCC) report (Oct18) makes it clear that it is now urgent that we reduce carbon emissions, stating that we have less than 12 years to stop climate change.*
- 2) *Even the introduction of a 31% uplift (option 2) does not nearly go far enough to reduce energy demand in buildings if we are to achieve Net Zero by 2050 or earlier.*
- 3) *Where local conditions allow, we believe that Local Authorities and National Parks should be able to set higher standards. As with all development, any Local Plan policy is subject to viability tests and thus, allowing LAs to set higher standards does not restrict development. See the South Downs Local Plan for an example.*
- 4) *Councils have the freedom to support energy efficient buildings by, for example, reducing CIL for highly efficient buildings, or fast-tracking planning approval. These levers could be used alongside the requirement for higher levels of efficiency to encourage best practice.*
- 5) *The introduction of a set of standard criteria (similar to EUI) which are then tightened in a series of steps to 2025/2030 would provide clear guidance and would be welcomed by the construction sector in place of the myriad of confusing standards which are currently applied. This would then allow LAs and developers to select a specific level depending on local circumstance and aspiration. This is the model which Vancouver have adopted – they have an Energy Step Code which sees all new build becoming Passivhaus equivalent by 2030. This clear progression, with definitive targets has been strongly supported by their construction sector, particularly those wishing to be early adopters.*
- 6) *Government should note away higher standards to deal with climate change but supporting them.*

## Q5

**Do you agree with the proposed timings presented in Figure 2.1 (displayed in Chapter 2) showing the Roadmap to the Future Homes Standard?**

a. Yes

b. No – the timings are too ambitious

**c. No – the timings are not ambitious enough**

**If no, please explain your reasoning.**

*The Roadmap for the Future Homes Standards sets out three years of research before a year of consultation (2024) and then implementation in 2025.*

*Many pioneers and early adopters have been building highly efficient homes for several years. The recent Building Mission report (see <http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/05/GCB-Energy-Mission-Report-300419-FINAL.pdf>) provides a number of case studies showing how this is done. In each case there are common traits around how to achieve high levels of fabric efficiency. In short, **we know how to build highly efficient homes**, we do not need to spend three years researching this. However, we **should** be spending those three years preparing supply chains and upskilling the construction sector.*

*If we do not consult until 2024, then the construction sector will, quite rightly, say that it is not ready to deliver increased levels of airtightness and design/install technologies such as Mechanical Ventilation with Heat Recovery (MVHR) and triple glazing. Setting out a clear pathway (e.g. similar to the Vancouver Energy Step Code) in 2020 will allow the construction sector to prepare in a controlled and incremental manner.*

## Chapter 3 Part L Standards for New Homes in 2020

### Q6

**What level of uplift to the energy efficiency standards in the Building Regulations should be introduced in 2020?**

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**a. No change**

**b. Option 1 – 20% CO2 reduction**

**c. Option 2 – 31% CO2 reduction (the government's preferred option)**

**d. Other**

**Please explain your reasoning.**

1. *Almost every day we are reminded about the effects of global warming caused by CO2 and other greenhouse gases. Therefore, it seems very odd that in an area of technology where we can easily take action that only a 31% reduction in CO2 emissions is proposed from 2024 onward.*
2. *The current emissions model, based on the 'notional building method', does not penalise wasteful design and means that a building can still achieve the percentage reduction target, but, in practice will result in a high level of emissions.*
3. *Why on look at the work done by the Passivhaus Trust? See: [https://www.passivhaustrust.org.uk/guidance\\_detail.php?qId=40](https://www.passivhaustrust.org.uk/guidance_detail.php?qId=40) This shows that achieving net zero is only feasible if the **fabric performance** of new houses is extremely effective – close to, or perhaps even better than, Passivhaus levels. This analysis is supported by the UKCCC's report on housing published in February 2019 (see <https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/> )*
4. *If the decarbonisation of the grid is taken into account, 31% will achieve only a 10% reduction.*
5. *Fabric should always be the first step in reducing carbon emissions. The removal of the Fabric Energy Efficiency Standard (FEES) means that there is no control over how either option is achieved and thus developers are likely to take the cheapest route which will be solar PV in conjunction with an Air Source Heat Pump. This means that the fabric performance of new homes could be significantly worse than those that are currently being built.*
6. *The recent Building Mission report (see <http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/05/GCB-Energy-Mission-Report-300419-FINAL.pdf>) demonstrated that improvements of between 50 and 60% have already been achieved in several projects which were all based on a 'fabric first' approach.*
7. *We recommend adopting the Passivhaus Trust approach such that the FHS is based on a definitive Energy Use Intensity (EUI) demand, measured in kWh/m2.year at the meter, including regulated and unregulated energy, and assessed using operational performance. Within this EUI there needs to be a specific space heating demand target (also measured in kWh/m2.year) which will drive better fabric performance in the absence of FEES. These criteria can then be set to match (and inform) the amount of renewable energy generation that is required to achieve net zero in the built environment. The required EUI/Space Heating Demand can be set at appropriate levels for 2020 and then gradually tightened through to 2025/30. This would provide the construction sector with a clear indication of what will be required without presenting a large step change.*

**Q7**

**Do you agree with using primary energy as the principal performance metric?**

**a. Yes – primary energy should be the principal performance metric**

**b. No – CO2 should remain the principal performance metric**

**c. No – another measure should be the principal performance metric**

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**Please explain your reasoning and provide evidence to support this.**

*Using either CO2 or Primary Energy as a metric is problematic as the factors which relate both these metrics to actual CO2e emitted will vary over time as the grid is decarbonised. They therefore mask actual building performance and it also becomes impossible to assess the overall emissions over time.*

*Measurement should be based on Energy Use Intensity (EUI) demand, measured in kWh/m2.year at the meter, including regulated and unregulated energy, and assessed using operational performance. Within this EUI there needs to be a specific space heating demand target (also measured in kWh/m2.year) which will drive better fabric performance in the absence of FEES.*

*These criteria can then be set to match (and inform) the amount of renewable energy generation that is required to achieve net zero in the built environment. The required EUI/Space Heating Demand can be set at appropriate levels for 2020 and then gradually tightened through to 2025/30. This would provide the construction sector with a clear indication of what will be required without presenting a large step change.*

**Q8**

**Do you agree with using CO2 as the secondary performance metric?**

**a. Yes**

**b. No**

**Please explain your reasoning.**

- 1. We hope that the electricity grid will become completely decarbonised by 2050. In the lead up to 2050 using CO2 as a metric becomes increasingly meaningless in the context of assessing the energy efficiency of a building whereas the actual energy demand of a building will remain relatively constant.*
- 2. Decarbonisation of the grid does not reduce the carbon emissions of buildings that use gas, oil or solid fuel boilers. The key is to reduce demand on the grid. at sources. This means that energy demand becomes the key metric, not carbon.*

**Q9**

**Do you agree with the proposal to set a minimum target to ensure that homes are affordable to run?**

**a. Yes**

**b. No**

**Please explain your reasoning.**

*It is important that consumers understand how much it will cost to run their home. However, this should not be the primary factor as costs will change over time whereas energy efficiency will remain constant. The Cost metric should therefore be indicative only.*

**Q10**

**Should the minimum target used to ensure that homes are affordable to run be a minimum Energy Efficiency Rating?**

**a. Yes**

**b. No**

**If yes, please suggest a minimum Energy Efficiency Rating that should be achieved and provide evidence to support this.**

**If not, please suggest an alternative metric, explain your reasoning and provide evidence to support this.**

*An EPC rating is a very poor predictor of energy consumption and therefore energy bills. Research has shown that one cannot assume that a good EPC rating will result in lower energy bills.*

## Q11

**Do you agree with the minimum fabric standards proposed in table 3.1?**

- a. Yes
- b. **No – should be more insulating**
- c. No – should be less insulating

**Table 3.1 – Minimum standards for fabric performance**

External walls	0.26 W/m <sup>2</sup> .K
Party walls	0.20 W/m <sup>2</sup> .K
Floor	0.18 W/m <sup>2</sup> .K
Roof	0.16 W/m <sup>2</sup> .K
Windows, roof windows, glazed roof lights, curtain walling, and pedestrian doors	1.6 W/m <sup>2</sup> .K
Roof-lights	2.2 W/m <sup>2</sup> .K
Air permeability	8m <sup>3</sup> /m <sup>2</sup> .K at 50Pa

**If you do not agree with any one or more of the proposed standards, please explain your reasoning and provide evidence to support this.**

1. *These options do not go far enough on fabric efficiency. We should not be designing and building homes in 2020 that will need retrofitting with additional insulation in the future.*

*The proposed minimum fabric in this consultation will require retrofitting before 2050. Under these proposed new regulations new homes could be less insulated in 2020 than under Building Regulations 2013. See also answer to Q6.*

2. *The UKCC Report (<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>) indicated that the additional cost of building an average home to high fabric standards (i.e. 15 kWh/m<sup>2</sup>.year space heating demand) is around £5,000 whereas retrofitting the same home later would be over £26,000.*
3. *We believe adopting a fabric first approach will allow a more robust path towards meeting the UK has climate targets. By starting off with a well performing **thermal envelope** the gap to be made up by the systems will be smaller and less costly.*
4. *We support the Passivhaus Trust and the London Energy Transformation Initiative (LETI) proposals with the following as the minimum standard values:*

External walls	0.15 W/m <sup>2</sup> .K
Party walls	0.0 W/m <sup>2</sup> .K
Floor	0.10 W/m <sup>2</sup> .K
Roof	0.10 W/m <sup>2</sup> .K

Windows, roof windows, glazed roof lights, curtain walling, and pedestrian doors 1.2- 0.8 W/m<sup>2</sup>.K

Air permeability <<3m<sup>3</sup>/m<sup>2</sup>.h at 50Pa

To protect consumers in new dwellings from inadvertently suffering dangerously poor indoor air quality, Mechanical Ventilation with Heat Recovery (MVHR) must be mandatory at these levels of airtightness.

## Q12

**Do you think that the minimum fabric standards should be set in the Building Regulations or in the Approved Document (as is the current case)?**

**a. In the Building Regulations**

**b. In the Approved Document**

**Please explain your reasoning.**

*The minimum fabric standards should be in the Approved Documents as this is where people are most likely to look to find this information.*

*NB: The minimum fabric standards are currently too low and would need revising (see Q11).*

## Q13

**In the context of the proposed move to a primary energy metric and improved minimum fabric standards, do you agree with the proposal to remove the fabric energy efficiency target?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

- 1. The Fabric Energy Efficiency Standard (FEES) must not be removed. This is the most critical and potentially damaging proposal within this consultation.*
- 2. FEES must be retained with notional fabric U-values and airtightness further improved, or replaced with a definitive space heating demand target (see Q7).*
- 3. If FEES were lost technology (i.e. Solar PV and Heat Pumps) can be used under the 2020 proposals to mask a poor building fabric.*
- 4. The u-values set out in the minimum standards for fabric performance are not nearly good enough to justify the removal of FEES. As it stands homes can be built with less insulation in 2020 than they needed under Part L 2013. New homes should not add to the retrofit burden due to being built with poor building fabric in 2020. See answers to Q6 and 11.*

## Q14

**Do you agree that the limiting U-value for roof-lights should be based on a roof-light in a horizontal position?**

**c. Yes**

**d. No**

**If no, please explain your reasoning and provide evidence to support this.**

## Q15

**Do you agree that we should adopt the latest version of BR 443?**

**c. Yes**

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d. No

If no, please explain your reasoning and provide evidence to support this.

**Q16**

Do you agree with the proposal of removing the fuel factors to aid the transition from high-carbon fossil fuels?

**a. Yes**

b. No

If no, please explain your reasoning.

**Q17**

Do you agree with the proposed changes to minimum building services efficiencies and controls set out in table 3.2?

a. Yes

b. No – proposed standard goes too far

c. **No – proposed standard does not go far enough**

**Table 3.2: Proposed revisions to minimum building services efficiencies and controls for new dwellings**

<b>Application</b>	<b>Proposed Part L 2020 standard</b>
<b>Gas boiler efficiency</b>	<b>92% ErP</b>
<b>Heat pump efficiency</b>	<b>SCOP 2.80</b>
<b>Comfort cooling efficiency</b>	<b>SEER 3.87</b>
<b>Lighting</b>	<b>60 lamp lumens per circuit-watt</b>

If you do not agree with any one or more of the proposed changes, please explain your reasoning and provide evidence to support this.

1. *We support the improvement, but it should go further.*
2. *Cooling efficiency should be increased to a SEER 4.*
3. *Lighting should be increased to 80 lamp lumens per circuit-watt.*

**Q18**

Do you agree with the proposal that heating systems in new dwellings should be designed to operate with a flow temperature of 55°C?

a. Yes

b. No – the temperature should be below 55°C

c. No – dwellings should not be designed to operate with a low flow temperature

**d. No – I disagree for another reason**

If no, please explain your reasoning and provide evidence.

*We agree that heating systems should be designed to operate at low flow temperatures. But we would suggest the temperature should be 40°C or lower as this is suitable for low temperature radiators as well as underfloor heating and would allow an easy conversion to heat pumps in the future.*

**Q19**

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**How should we encourage new dwellings to be designed to operate with a flow temperature of 55°C?**

**a. By setting a minimum standard**

**b. Through the target primary energy and target emission rate (i.e. through the notional building)**

**c. Other**

**Please explain your reasoning.**

*See Q18 answer. Temperature should be set in the Approved Document.*

**Q20**

**Do you agree with the proposals to simplify the requirements in the Building Regulations for the consideration of high-efficiency alternative systems?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

**Q21**

**Do you agree with the proposal to adopt the latest Standard Assessment Procedure, SAP 10?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*We understand there are fundamental flaws in the Standard Assessment Procedure methodology such as use of a gas boiler as the system in the baseline\*\*, which have not been addressed by this consultation. These flaws currently prevent homes genuinely achieving net zero carbon and do not support the shift to operational energy measurement, verification and reduction. We support the Passivhaus Trust and the London Energy Transformation Initiative (LETI) in their approach to this question.*

*\*\* Another example is that SAP over emphasises the benefit of large areas of glazing on the south facades. While there is benefit to receiving free heat, this causes overheating in a home. The benefit of heat gain directly competes with the need to reduce glazing area to mitigate overheating.*

**Q22**

**Do you agree with the proposal to update the source of fuel prices to BEIS Domestic energy price indices for SAP 10.2?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*BEIS domestic energy price indices is updated quarterly so it will be useful to understand if SAP will also be updated on this same timeframe? This also relates to providing a Cost metric. This should not be the primary metric and should be indicative only. See also Q9.*

**Q23**

**Do you agree with the method in Briefing Note – Derivation and use of Primary Energy factors in SAP for calculating primary energy and CO2 emissions factors?**

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a. Yes

**b. No**

**If no, please explain your reasoning.**

*The calculation/derivation of the Primary Energy factors is not clear, particularly for electricity (the main fuel source). Clarification on how the various power generation source components have been calculated in order to arrive at the grid electricity Primary Energy factor needs further explanation and a clear calculation methodology setting out within the documentation.*

*However, the overriding point remains that CO2 emissions and Primary Energy are not reliable long-terms metrics for assessing the energy efficiency of a building. See Q7 and Q8.*

**Q24**

**Do you agree with the removal of government Approved Construction Details from Approved Document L?**

a. Yes

**b. No**

**If no, please explain your reasoning.**

- 1. Many smaller projects rely on accredited construction details (ACDs) to demonstrate Y-values in SAP. It would require significant upskilling across the industry with competent professionals to calculate the performance of all junctions, which may not be available/cost effective on smaller projects. Our preference is for government to provide a comprehensive library of thermal bridging details for smaller projects to use as a stepping stone to bespoke thermal bridging calculations in 2025.*
- 2. For larger building projects it is expected that housebuilders and architects will build their own library of thermal bridge details which can be used on multiple projects.*
- 3. NB if we lose the FEES target it will allow the selection of default thermal bridges in 2020, whereas this would have been prevented under 2013 regulations. This means that the selection of energy efficient systems will mask extensive thermal bridging.*

**Q25**

**Do you agree with the proposal to introduce the technology factors for heat networks, as presented in the draft Approved Document?**

a. Yes

**b. No, they give too much of an advantage to heat networks**

**c. No, they do not give enough of advantage to heat networks**

**d. No, I disagree for another reason**

**Please explain your reasoning.**

- 1) As noted under Q2 - Heat networks should not be regarded as a preferred option by default.*
- 2) They incur higher capital costs and distribution losses which are not present in communal or individual heating systems.*
- 3) The reason given in the consultation for introducing technology factors is to allow heat networks to decarbonise in the future by transitioning from gas CHP to electrical heat pumps. We do not object to the transition of heat network plant to low carbon solutions in the future. If this is the case then mechanisms must be put in place to ensure decarbonisation is achieved as intended and that loop holes are not provided for more fossil fuel plant, such as gas CHPs in the meantime.*

**Q26**

**Do you agree with the removal of the supplementary guidance from Approved Document L, as outlined in paragraph 3.59 of the consultation document?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*The information proposed to be removed is useful guidance on meeting mandatory requirements. Little justification for its removal is given in the consultation documentation. Without guidance on these issues there is a risk that poor choices will be made in the design of new homes. Guidance that is current and relevant should remain and be updated where applicable.*

**Q27**

**Do you agree with the external references used in the draft Approved Document L, Appendix C and Appendix D?**

**a. Yes**

**b. No**

**If no, please explain your reasoning and suggest any alternative sources.**

*Yes, however these would need updating to cover any new methodologies/standards used in the calculations.*

**Q28**

**Do you agree with incorporating the Compliance Guides into the Approved Documents?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*We are concerned that useful guidance will be lost.*

**Q29**

**Do you agree that we have adequately covered matters which are currently in the Domestic Building Services Compliance Guide in the new draft Approved Document L for new dwellings?**

**a. Yes**

**b. No**

**If no, please explain which matters are not adequately covered.**

*We are concerned that useful guidance will be lost.*

**Q30**

**Do you agree that we have adequately covered matters which are currently in the Domestic Ventilation Compliance Guide in the new draft Approved Document F for new dwellings?**

**a. Yes**

**b. No**

**If no, please explain which matters are not adequately covered.**

*We are concerned that useful guidance will be lost.*

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### Q31

**Do you agree with the proposals for restructuring the Approved Document guidance?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*The current Approved Documents are split into four clearly defined documents based on building typology and age. It seems curious that the four documents should be pulled together into one, given that only one of the three is being consulted on currently. Restructuring the documents as proposed seems unnecessary and could lead to confusion over scope. This should be re-consulted on when all documents are available.*

### Q32

**Do you agree with our proposed approach to mandating self-regulating devices in new dwellings?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*Providing the specific type of self-regulating device is not mandated (such as thermostatic radiator valves (TRVs)) then we support the use of self-regulating devices in general, such as zone control to improve occupant comfort and energy efficiency.*

### Q33

**Are there circumstances in which installing self-regulating devices in new dwellings would not be technically or economically feasible?**

**a. Yes**

**b. No**

**If yes, please explain your reasoning and provide evidence.**

- 1) *To elaborate on Q32 - For well insulated buildings with heat pumps there are certain self-regulating devices such as TRVs which may not be appropriate.*
- 2) *A report by the Energy Saving Trust in 2011 (Report No: 6507 - The effect of Thermostatic Radiator Valves on heat pump performance) suggested that TRV's can lead to short-cycling of heat pumps. This could be avoided by omitting the TRV from radiators in any rooms where the thermostat for a heating zone is located, so the heat pump turns off once the room is up to temperature.*
- 3) *Another potential issue with the use of TRV's would be if the flow temperature is set too high and there is over-reliance on closing TRV's for temperature control. This is counter to ideal operation of heat pumps but could be avoided with good commissioning practices to ensure a low flow temperature with fairly free flowing TRV's under normal operation.*

### Q34

**Do you agree with proposed guidance on providing information about building automation and control systems for new dwellings?**

**a. Yes**

-

b. No

If no, please explain your reasoning.

## Chapter 4 Part F Changes

Q35

Do you agree that the guidance in Appendix B to draft Approved Document F provides an appropriate basis for setting minimum ventilation standards?

a. Yes

**b. No**

If no, please explain your reasoning.

*No benefit should be given for less airtight buildings. The route of infiltration air into the building is unknown and may not be available to all occupied rooms. This would mean a significant reduction in indoor air quality and increased health issues.*

Q36

Do you agree that using individual volatile organic compounds, informed by Public Health England guidelines, is an appropriate alternative to using a total volatile organic compound limit?

**a. Yes**

b. No – the Public Health England guidelines are not sufficient

c. No – individual volatile organic compounds should not be used to determine ventilation rates

d. No – I disagree for another reason

If no, please explain your reasoning, and provide alternative evidence sources if appropriate.

Q37

Do you agree with the proposed guidance on minimising the ingress of external pollutants in the draft Approved Document F?

**a. Yes**

b. No

If no, please explain your reasoning.

Q38

Do you agree with the proposed guidance on noise in the draft Approved Document F?

a. Yes

b. No – this should not form part of the statutory guidance for ventilation, or the guidance goes too far

**c. No – the guidance does not sufficiently address the problem**

d. No – I disagree for another reason

If no, please explain your reasoning.

-

- 1) *Noise is one of the main reasons that residents turn off their mechanical ventilation.*
- 2) *The guidance is welcome, however, it should provide sound levels thresholds for individual rooms, or fans and requirements for attenuation.*
- 3) *Under 1.7 the guidance should be reworded to account for external noise generally.*
- 4) *Priority should be given to considering external noise for background ventilation.*
- 5) *Noise could transfer into the home through mechanical ducts.*
- 6) *There is no mention of noise transmission between rooms. A badly designed system could cause this.*

### Q39

**Do you agree with the proposal to remove guidance for passive stack ventilation systems from the Approved Document?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

### Q40

**Do you agree with the proposal to remove guidance for more airtight naturally ventilated homes?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

- 1) *A definition is needed for a) airtight and b) less airtight homes.*
- 2) *Experts advise that homes should have a maximum air permeability of <math><3\text{m}^3/\text{m}^2.\text{h}</math> at 50Pa.*
- 3) *Any guidance for naturally ventilated homes operating at a higher air permeability should be removed.*
- 4) *With an air permeability of <math><<3\text{m}^3/\text{m}^2.\text{h}</math> at 50Pa mechanical ventilation with heat recovery should be required, hence **all guidance** on naturally ventilated homes should be removed.*

### Q41

**Do you agree with the proposal to remove guidance for less airtight homes with mechanical extract ventilation?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

#### Q42

**Do you agree with the proposed guidance for background ventilators in naturally ventilated dwellings in the draft Approved Document F?**

- a. Yes
- b. No – the ventilator areas are too large
- c. No – the ventilator areas are too small
- d. No - I disagree for another reason**

**If no, please explain your reasoning.**

*All guidance for natural ventilation should be removed. An air permeability of  $<<3\text{m}^3/\text{m}^2.\text{h}$  at 50Pa should be used for mechanical ventilation with heat recovery.*

#### Q43

**Do you agree with the proposed approach in the draft Approved Document for determining minimum whole building ventilation rates in the draft Approved Document F?**

- a. Yes**
- b. No – the ventilation rate is too high
- c. No – the ventilation rate is too low
- d. No - I disagree for another reason

**If no, please explain your reasoning.**

#### Q44

**Do you agree that background ventilators should be installed for a continuous mechanical extract system, at  $5000\text{mm}^2$  per habitable room?**

- a. Yes
- b. No – the minimum background ventilator area is too low
- c. No – the minimum background ventilator area is too high
- d. No – other**

**If no, please explain your reasoning.**

*The ventilator should be sized based on the ventilation rate required to the room. Guidance should be given in relation to the room type extract rates in table 1.2.*

#### Q45

**Do you agree with the external references used in the draft Approved Document F, in Appendices B, D and E?**

- a. Yes
- b. No

**If no, please explain your reasoning and suggest any alternative sources.**

#### Q46

**Do you agree with the proposed commissioning sheet proforma given in Appendix C of the draft Approved Document F, volume 1?**

- a. Yes

-

**b. No**

**If no, please explain your reasoning.**

*Additional information is required.*

*2.3b should include statement about balance between total supply and extract ventilation rates. Are the total mechanical supply and extract ventilation rates measured at the unit within 10% of one another for all fan speeds to ensure balance through the heat exchanger.*

*2.3b Only mentions insulation in unheated spaces. Insulation is also critical on the ventilation unit and between the ventilation unit and the thermal envelope for units in heated spaces with heat recovery. NB: ductways can be cold and condensation could form on the ducts.*

*2.3c No mention of noise in individual rooms is mentioned. Noise may be caused by poor ductwork or terminal installation and a comment should be included. "During normal operation undue noise from any of the room terminals, air supply from bedroom and living area supply terminals should be inaudible".*

*3.3 and 3.4 should include a total air flow rate measured at the intake and exhaust from the building and a column to record comments on noise.*

**Q47**

**Do you agree with the proposal to provide a completed checklist and commissioning sheet to the building owner?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

## **Chapter 5 Airtightness**

**Q48**

**Do you agree that there should be a limit to the credit given in SAP for energy savings from airtightness for naturally ventilated dwellings?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

*If natural ventilation is to be included as an option, the credit for airtightness should be limited.*

*Experts advise: All homes should have a maximum air permeability of  $<3\text{m}^3/\text{m}^2.\text{h}$  at 50Pa. Any guidance for naturally ventilated homes operating at a higher air permeability should be removed. With an air permeability of  $<3\text{m}^3/\text{m}^2.\text{h}$  at 50Pa mechanical ventilation with heat recovery should be required.*

**Q49**

**Do you agree that the limit should be set at  $3\text{m}^3/\text{m}^2.\text{h}$ ?**

**a. Yes**

**b. No – it is too low**

**c. No – it is too high**

**If no, please explain your reasoning and provide evidence.**

*As per Q 48. We agree that if natural ventilation is to be included as an option, the credit for airtightness should be limited, this could be limited to <math>3\text{m}^3/\text{m}^2\cdot\text{h}</math>.*

*However, we feel that airtightness in general should be limited to <math>3\text{m}^3/\text{m}^2\cdot\text{h}</math>, therefore natural ventilation is no longer applicable.*

**Q50**

**Is having a standard level of uncertainty of 0.5 m<sup>3</sup>/m<sup>2</sup>.h appropriate for all dwellings undergoing an airtightness test?**

**a. Yes**

**b. No – a percentage uncertainty would be more appropriate**

**c. No – I agree with having a standard level of uncertainty, but 0.5 m<sup>3</sup>/m<sup>2</sup>.h is not an appropriate figure.**

**d. No – I disagree for another reason**

**If no, please explain your reasoning.**

*A percentage reduction would be more appropriate. This would require proportional precision requirements based on the target airtightness (i.e. very airtight dwellings would require higher accuracy).*

*When dealing with very low air permeability specification the use 0.5 m<sup>3</sup>/m<sup>2</sup>.h would be too punitive – it would be more than double the test reading. Smaller and correctly sized accurate blower door fans should be used, for example duct testing equipment.*

**Q51**

**Currently only a proportion of new dwellings are required to be airtightness tested. Do you agree with the proposal that all new dwellings should be airtightness tested?**

**a. Yes**

**b. No**

**If no, please explain your reasoning and provide evidence to support this.**

**Q52**

**Currently, small developments are excluded from the requirement to undergo any airtightness tests. Do you agree with including small developments in this requirement?**

**a. Yes**

**b. No**

**If no, please explain your reasoning and provide evidence to support this.**

**Q53**

**Do you agree that the Pulse test should be introduced into statutory guidance as an alternative airtightness testing method alongside the blower door test?**

**a. Yes**

**b. No**

**If no, please explain your reasoning.**

-

*It should be an option, but the blower door test should be kept as the main technology. It allows diagnosis and improvement during construction works.*

#### Q54

**Do you think that the proposed design airtightness range of between 1.5 m<sup>3</sup>/m<sup>2</sup>.h and the maximum allowable airtightness value in Approved Document L Volume 1 is appropriate for the introduction of the Pulse test?**

a. Yes

**b. No**

**If no, please explain your reasoning and provide evidence to support this**

*Any new technology should be able to test down to 0.1m<sup>3</sup>/m<sup>2</sup>/h at 50Pa, new buildings are already achieving this level of airtightness.*

#### Q55

**Do you agree that we should adopt an independent approved airtightness testing methodology?**

**a. Yes**

b. No

**Please explain your reasoning.**

*There should be an independent approved airtightness testing methodology.*

*This should incorporate both the new Pulse method and established Q50 methodology in one standard.*

*Further it should lean heavily on previous Air Tightness Measurement Association (ATTMA) technical standards, now Building Compliance Testers Association (BCTA).*

#### Q56

**Do you agree with the content of the CIBSE draft methodology which will be available via the link in the consultation document? Please make any comments here.**

*Yes.*

## Chapter 6 Compliance, Performance and Providing Information

#### Q57

**Do you agree with the introduction of guidance for Build Quality in the Approved Document becoming part of the reasonable provision for compliance with the minimum standards of Part L?**

**a. Yes**

b. No

**Please explain your reasoning and provide evidence to support this.**

**Q58**

**Do you have any comments on the Build Quality guidance in Annex C?**

**No**

**Q59**

**Do you agree with the introduction of the standardised compliance report, the Building Regulations England Part L (BREL) report, as presented in Annex D?**

**a. Yes**

**b. No there is no need for a standardised compliance report**

**c. No – I agree there should be a standardised compliance report but do not agree with the draft in Annex D**

**If no, please explain your reasoning**

**Q60**

**Do you agree with the introduction of photographic evidence as a requirement for producing the as-built energy assessment for new dwellings?**

**a. Yes**

**b. No**

**If no, please explain your reasoning**

**Q61**

**Do you agree with the proposal to require the signed standardised compliance report (BREL) and the supporting photographic evidence to be provided to Building Control?**

**a. Yes**

**b. No**

**If no, please explain your reasoning**

**Q62**

**Do you agree with the proposal to provide homeowner with the signed standardised compliance report (BREL) and photographic evidence?**

**a. Yes**

**b. No**

**Please explain your reasoning.**

**Q63**

**Do you agree with the proposal to specify the version of Part L that the home is built to on the EPC?**

**a. Yes**

**b. No**

**Please explain your reasoning.**

-

#### Q64

Do you agree Approved Document L should provide a set format for a home user guide in order to inform homeowners how to efficiently operate their dwelling?

**a. Yes**

**b. No**

If yes, please provide your views on what should be included in the guide.

If no, please explain your reasoning

## Chapter 7 Transitional Arrangements

#### Q65

Do you agree that the transitional arrangements for the energy efficiency changes in 2020 should not apply to individual buildings where work has not started within a reasonable period – resulting in those buildings having to be built to the new energy efficiency standard?

**a. Yes – where building work has commenced on an individual building within a reasonable period, the transitional arrangements should apply to that building, but not to the buildings on which building work has not commenced**

**b. No – the transitional arrangements should continue to apply to all building work on a development, irrespective of whether or not building work has commenced on individual buildings**

If yes, please suggest a suitable length of time for the reasonable period in which building work should have started

If no, please explain your reasoning and provide evidence to support this.

*Two years would allow plenty of time to complete a phase on a large site. It should be noted that this clause is only useful where Building Regulations is updated regularly.*

#### Q66

Do you foresee any issues that may arise from the proposed 2020 transitional arrangements outlined in this consultation?

**a. Yes**

**b. No**

Please explain your reasoning and provide evidence to support this.

#### Q67

What is your view on the possible transitional arrangements regarding changes to be made in 2025?

*Consultation should begin as early as possible on proposed 2025 regulations to allow for a smoother transition. This would allow sites to be built to new standards sooner as per the transitional arrangements.*

## Chapter 8 Feedback on the Impact Assessment

### Q68

The Impact Assessment makes a number of assumptions on fabric/services/renewables costs, new build rates, phase-in rates, learning rates, etc for new homes. Do you think these assumptions are fair and reasonable?

a. Yes

**b. No**

**Please explain your reasoning and provide evidence to support this.**

*This should be assessed once a final draft of these regulations has been published*

### Q69

**Overall, do you think the impact assessment is a fair and reasonable assessment of the potential costs and benefits of the proposed options for new homes?**

a. Yes

**b. No**

**If no, please explain your reasoning and provide evidence to support this.**

*This should be assessed once a final draft of these regulations has been published*