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## **RESPONSE TO THE FUTURE HOMES CONSULTATION – OCTOBER 2019**

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## Section 1. Annex E Consultation Questions

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We strongly encourage responses via the online survey, particularly from organisations with access to online facilities such as local authorities, representative bodies and businesses. Consultations receive a high-level of interest across many sectors. Using the online survey greatly assists our analysis of the responses, enabling more efficient and effective consideration of the issues raised.

To respond to the consultation through the online survey, please access this link:  
<https://www.surveymonkey.co.uk/r/TQW8GQ9>

### 1.1 Respondent Details

**Please provide the below respondent details**

a. Name

**Fuad Al-Tawil**

b. Position (if applicable)

**Company Secretary**

c. Organisation (if applicable)

**Teign Energy Communities Ltd. (TECs)**

d. Address (including postcode)

**Deer Park Farm, Haccombe, Newton Abbot, TQ12 4SJ**

e. Email address

**postie@teignenergycommunities.co.uk**

f. Telephone number

**01626 87 2721**

g. Please state whether you are responding on behalf of yourself or the organisation stated above

**On behalf of TECs**

**Which description below best identifies you or the organisation you are responding to this consultation on behalf on?**

- Builder/Developer
- Installer/Specialist sub-contractor
- Designer/Engineer/Surveyor
- Local Authority
- Building Control Approved Inspector
- Competent Persons Scheme Operator
- Manufacturer/Supply chain
- Property Management
- National representative or trade body
- Professional body or institution

[www.teignenergycommunities.co.uk](http://www.teignenergycommunities.co.uk)

**Teign Energy Communities Ltd.**

Registered Office: Deer Park Farm, Haccombe, Newton Abbot, TQ12 4SJ

A Community Benefit Society regulated by the Financial Conduct Authority, no. 7210 ; VAT number 239534684

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- Research/Academic organisation
- Energy sector

**X Other (please specify): Community Energy Society**

**Please tick the one box which best describes the size of your or your organisation's business.**

**X Micro – typically 0 to 9 full-time or equivalent employees (incl. sole traders)**

- Small – typically 10 to 49 full-time or equivalent employees
- Medium – typically 50 to 249 full-time or equivalent employees
- Large – typically 250+ full-time or equivalent employees
- None of the above (please specify): \_\_\_\_\_

## Section 2. Responses to questions

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### 2.1 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.

**Option c. New homes are a small proportion of the total housing stock. Retrofitting is always more expensive/difficult. Therefore, a net-zero Carbon target should be set for 2025. Maximising fabric and design contributions in the first place, decarbonising the remaining energy demand should be met on-site, locally or through measurable offsetting (e.g. reduction of emissions from existing buildings).**

**The 2025 Future Homes Standard should set an unambiguous Carbon target ( i.e. net-zero). One which meets the Carbon Budget allocation for the UK as defined by the latest IPCC report and the UK's ratification of the Paris Climate agreement.**

**Furthermore, the new standard should not rely on delivering Carbon targets from a decarbonising national electricity (or gas) supply network. The reason for this is the limitations of the network to deliver the total near-zero Carbon energy and the peak demand necessary if both transport and heating are to be electrified. Indeed, as pressure on the electricity network increases, it is very likely that gas-fired power plants become more widely deployed, resulting in an overall increase in Carbon emissions for grid electricity. This is exacerbated by an inconsistent set of national Energy and Carbon policies.**

**Instead the Carbon emissions from heat energy supplied to new homes should be calculated based on realistic and verifiable factors to deliver the net-zero emissions. In the interim years SAP fuel and primary energy Carbon factors should be set annually on a reducing scale to reach net-zero by 2025.**

**It is recognised that mitigation/offsetting of Carbon emissions may be necessary initially where on-site renewable generation cannot be achieved. As with Carbon factors, offsetting measures should also be realistic and verifiable. Such scheme may include off-site renewable as well as other Carbon emission reduction measures applied to existing buildings.**

**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?

**The choice of heating technology will be location and time dependant, so stipulating a specific option should be avoided. Heat pumps/networks using water-based heating allow for simple energy storage compared to direct electricity heating. The current electricity grid and storage technologies may not make enough energy available for heating (never mind transport electrification) if this is also applied to existing housing. Therefore, local 'self-sufficiency' of renewable generation must be available/feasible before electrification of heat can be assumed to be viable for all buildings.**

**We agree that direct electric heating is less desirable as it would increase annual demand by a considerable factor (~2.8). This would put even further strain on the electricity network if there were no adequate local renewable generation coupled with seasonal energy storage.**

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**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.

**Option c. For the reasons given in our responses to Q 1&2 above as well as other questions regarding your option 1 & 2 below.**

**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.

**Option d. For the reasons given in Q2 and expanded here.**

**Should a net-zero Carbon emission target as outlined in our response be set for 2025, then option c may be acceptable.**

**Climatic, location, technology-advances, type of housing and local resources can all vary from district to district. Local authorities are best placed to set their own higher standards if viable. Central government should only legislate the minimum standards, allowing Planning Authorities to set relevant local targets. This not only encourages innovation and best practice approaches; it also delivers on the democratic mandate often lacking at the local level.**

**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.

**Option c, more ambitious timings should be considered. We will have squandered 10 years or more from the original Zero Carbon homes in 2016 by the time we have re-established this at some unknown date after 2025. During this period very many inadequately specified/built new housing will have been added to the UK's existing poor housing stock. We should not repeat this serious mistake.**

**The building industry was geared up to meet a zero carbon homes standard to be introduced in 2016, so the timings should be more ambitious. The [parliamentary select committee](#) report states "123.However, we are disappointed that we may have to wait until 2025 for homes to be built with "world-leading levels of efficiency" when the UK's two largest housebuilders confirmed they do not require a long lead in time to deliver higher standards.<sup>328</sup> Barratt and Persimmon**

said that higher standards could viably be delivered within 18 months.<sup>329</sup> But with profit margins and shareholder returns the overriding priority for the majority of large housebuilders, they will not upgrade their standards without being required to do so by regulation. We recognise that there are some more progressive housebuilders who have indicated willingness to deliver higher standards at scale,<sup>330</sup> but there is no commercial case to do so without a level playing field among all developers.”

**From this it is clear that the developers are not the reason for introducing FHS as late as 2025, elsewhere in the evidence to the select committee it was established that the additional costs are relatively small in relation to the developer’s profits so could be possibly be absorbed without a significant increase in house prices.**

**There have already been standards developed for net-zero Carbon homes:**

- **PassivHaus (our preferred standard to aim for or exceed)**
- **Code for sustainable homes level 6**
- **Building regulations to be introduced in 2016 but scrapped.**

**The reasons given at the time for dropping code 6 included removing dual standards and incentives to developers to build, the reasons do not appear to be technical or in any way an indication of the code being deficient.**

**We take the view that building to a net-zero Carbon standard is urgent, so the timescale for introducing this could be accelerated by drawing from these existing examples.**

**Once net-zero Carbon is the standard for 2025, regular technical reviews should continue on an ongoing basis to further improve the building regulations.**

## 2.2 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?

- a. No change
- b. Option 1 – 20% CO<sub>2</sub> reduction
- c. Option 2 – 31% CO<sub>2</sub> reduction (the government’s preferred option)
- d. Other**

Please explain your reasoning.

**Option d. The difficulty we have with setting either option b or c is that they are calculated using SAP fuel and primary energy Carbon factors which are sufficiently robust. Some of the SAP 10 factors can be questioned in terms of being realistic, e.g. grid electricity. Please refer to a study on the subject (<https://journals.sagepub.com/doi/pdf/10.1177/0957650917695448>). As highlighted previously, as we decarbonise transport and heating more widely, the pressure on the electricity network is likely to increase its primary energy Carbon factor.**

**Our proposal would be to set an annual reduction on the Target Fabric Energy Efficiency (TFEE) to reach a realistic and verifiable net-zero Carbon emissions standard by 2025. Setting 20% reduction to the current TFEE in 2020 would be the first minimum step. This ensures a ‘fabric first’ approach and avoids the need to rely on unreliable/unverifiable factors to calculate emissions.**

**There should of course also be an appropriate reduction in the Dwelling Emission Rate (DER) to reach net-zero by 2025. As previously stated, this should be based on realistic and verifiable Carbon factors.**

**Measures to enable viable retrofitting to include local renewable energy with storage, as well as changing heating technologies, should also be considered and encouraged.**

**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 – CO<sub>2</sub> should remain the principal performance metric
- c. No – another measure should be the principal performance metric**

Please explain your reasoning and provide evidence to support this.

**Option c. Climate Change is caused by CO<sub>2</sub> in the atmosphere, so reducing this should be the priority. The IPCC has published its findings for the remaining Carbon Budget to avoid runaway climate change.**

**However, the way this question has been framed compels us to reject option b. As already highlighted, the Carbon factors used in SAP and your assumption that the electricity network will be 100% decarbonised, has too many associated risks and uncertainties, so cannot be assumed.**

**We have described our preferred approach earlier. That is a reduction in TFE<sub>e</sub>, starting with 20% in 2020 and reaching ~80% by 2025 (or PassiveHouse standard of 15kWh/m<sup>2</sup>/year). This is coupled with a realistic set of fuel and primary energy Carbon factors reducing annually to achieve net-zero Carbon emission by 2025.**

**Our view is that Carbon emissions from primary energy cannot be relied on to deliver net-zero Carbon for the UK by 2050, indeed it is technically not possible for renewables alone to achieve this target, we need to reduce energy consumption as far as possible (possibly by 80%) to have a fighting chance of delivering the remainder from renewables (and nuclear).**

**Q8** Do you agree with using CO<sub>2</sub> as the secondary performance metric?

- a. Yes
- b. No**

**Option b. Given that we wish Carbon emission reduction to be the primary objective, energy consumption should be a secondary metric to maximise fabric efficiency. If/when there is a shift towards decarbonised electricity, then energy consumption needs to be limited so that it remains within the capacity of the grid. Albeit that this capacity needs to be increased by local generation from renewables, storage or conversion to synthetic fuels (e.g. hydrogen).**

**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.

**Option a. The housing market (and many others) is too focused on initial price rather than long-term cost of ownership. We also know that energy prices can only go up, probably accelerating increases as fossil fuels are phased out.**

**With a Future Homes Standard (FHS) as we have described it here should reduce heat energy consumption to a minimum. This, however, will result in other home energy consumption becoming much more prominent. It is therefore necessary to ensure that SAP includes all other sources of energy consumption associated with a new build. Specifically cooking, not currently included in SAP10, can represent up to 80% of overall electricity consumption.**

It also makes sense that other policies are introduced as part of the behavioural change needed to address Climate Change and making homes more affordable. For example, energy pricing policy needs to be progressive, so low consumption becomes more affordable and ‘excessive’ consumption more expensive. This approach also encourages those higher consumers, able to afford technological solutions, minimise their grid consumption. Consumers with special needs for higher consumption should of course be supported.

**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.

**Option a. Provided this also includes the value within the range of the A+++ to G band, as well as any assumption of usage. Enough information should be included in the certificate for Energy Efficiency Rating (EER) to enable someone to calculate the actual Energy value based on their behaviour and current Energy pricing.**

**EER should also refer to the version of SAP it has been calculated against and the full list of assumptions and factors applicable at the time.**

**The minimum rating to ensure ‘affordability’ will depend on Energy pricing policy. At current Energy pricing models where unit prices are uniform (in some cases lower for higher consumption!), the minimum EER will need to be set as high as possible, at least A.**

**If there were a progressive Energy pricing model as in our response to Q9, the minimum EER will be less critical. This is true for those able to afford technological solutions as well as those on lower incomes or fuel poverty.**

**Q11** Do you agree with the minimum fabric standards proposed in table 3.1?

Table 3.1 - Minimum standards for fabric performance

Yes	No	No
	– should be more insulating	– should be less insulating
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.

**No, all these should be much more insulating in 2020 (at least a 20% reduction on current values), reaching PassiveHouse equivalence or better by 2025.**

**As already explained in previous responses to questions, building fabric contribution to lowering CO2 emissions must be the highest priority. Supplying fully decarbonised energy from the grid is not possible in the timeframe required. The electricity grid cannot be upgraded to deliver enough Energy for widespread Heat and Transport electrification. Similarly, hydrogen-based and long-term storage solutions are some way off 2025. Please refer to our analysis for achieving [Zero Carbon](#).**

**Interestingly, Cold bridging does not appear to be included in the list of Fabric Standards.**

**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.

**Option a. Fabric standards are an important contributor to overall Energy performance and CO2 emissions. Setting minimum standards encourages (albeit higher than those suggested here) the desired objectives, namely CO2 emissions and building Energy performance.**

**However, we would stress that fabric standards are sometimes claimed and not met. Similarly, other factors such as quality of build and accounting for environmental factors (e.g. solar gain, wind, etc.) can play a significant part in overall performance.**

**We have opted for option a on the grounds that we would prefer all building standards to be an act of parliament rather than a ministerial decision. We also recognise that upgrades to the minimum fabric standards would more efficiently delivered under the current arrangement. However, this may also expose them to political expediency.**

**The important point here is that if building regulation including building fabric standards are set to achieve the UK's Climate commitments, as suggested by our approach, then this should become an act of parliament.**

**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.

**Option b. We disagree with moving to a primary energy metric as it is too easy to manipulate and carries several uncertainties. Our proposed methodology of achieving a net-zero Carbon emissions for new homes by 2025 has been described responses to earlier questions.**

**Q14 Do you agree that the limiting U-value for roof-lights should be based on a roof-light in a horizontal position?**

a. Yes

b. 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?

a. Yes

b. No

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

**Q15** 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.

**Option b. Although we agree that most fossil fuels will struggle to meet the proposed Carbon targets for new build, fuel Carbon factors remain a useful guide. But these need to be realistic and verifiable.**

**In particular, the assumption for electricity fuel factor remaining below gas cannot be assured. It is quite likely to increase as the demand for decarbonised electricity increases and the network is unable to deliver this.**

**The current fuel Carbon factor for electricity assumes that this is centrally generated and distributed through the national grid. If energy is generated locally from renewables or other near zero carbon sources, a different factor would apply. This seems to disadvantage clean electricity as a source in the calculation (See SAP10 Table 12 and BRE Briefing note – Derivation and use of Primary Energy factors in SAP). SAP10 Table 12 gives different factors for electricity sold to grid.**

**A key objective should be to generate clean electricity as near as possible to demand so that transmission losses are reduced, expensive network re-enforcement avoided, and local balancing made more viable.**

**It appears that inconsistent terminology is being used. A search of SAP9 yields references to fuel Carbon factor, but the only values given are for Primary Energy factors. We would have expected that primary energy factors should be realistic and verifiable. They should also be used to calculate the Dwelling Emission Rate when multiplied by the fuel Carbon factor and the TFEE.**

**Primary Energy factors are significantly changed from SAP9 to SAP10 for electricity. An unrealistic higher factor disadvantages a fuel such as electricity.**

Fuel	SAP 9 Primary Energy Factor	SAP10 Primary Energy Factor
Mains gas	1.22	1.130
Heating oil	1.10	1.18
Mains Electricity	3.07	1.501
Electricity sold to Grid	3.07	0.501

**It appears from the above table that fuel factors were a device to favour fossil fuels, which should not be the case. Electricity to grid and on-site generation could be handled better by setting a different fuel Carbon factor from that for grid electricity. Alternatively, a separate primary energy factor could be set for on-site generation provided that factor is used in calculating the DER. This would have the effect of favouring on-site generated electricity from renewables.**

**Q16** Do you agree with the proposed changes to minimum building services efficiencies and controls set out in table 3.2? Table 3.2: Proposed revisions to minimum building services efficiencies and controls for new dwellings

Application	Proposed Part L 2020 standard	Yes	No – proposed standard goes too far	No – proposed standard does not go far enough
Gas boiler efficiency			92% ErP	
Heat pump efficiency			SCOP 2.80	
Comfort cooling efficiency			SEER 3.87	
Lighting			60 lamp lumens per circuit-watt	

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

**It is quite difficult to find such a low lumen-watt ratio in any LED lighting these days. A minimum of 80 could be achieved with no increase in effort/cost, so why not start with this and increase over time as technology develops?**

**Q17** 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.

**Option b. 55°C is the maximum temperature that a high efficiency air-source heat pump can operate at. It could be set lower, which would make a heat pump work more efficiently.**

**Q18** 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.

**Option b. It is the overall emissions and energy efficiency that counts, developers/designers should be allowed to innovate.**

**Q19** 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.

**Option b. Examples of such systems can be removed, but not the notice to local authorities. Given the lack of resources and expertise in most local authorities, it is unlikely that any would ask for evidence unless compelled to do so.**

**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.

**Option a. Indeed, SAP should be updated every 2 years, if not annually, to reflect new performance values.**

**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.

**Option a.**

**Q23** Do you agree with the method in *Briefing Note – Derivation and use of Primary Energy factors* in SAP for calculating primary energy and CO<sub>2</sub> emissions factors?

a. Yes

b. No

If no, please explain your reasoning.

**Option b. In particular the treatment of on-site PV is too simplistic and open to interpretation. An approved method of calculating Energy generation from PV based on its peak power, location, orientation and storage capacity, is an essential pre-requisite. It is then necessary to calculate (ideally based on HH figures) the seasonal generation/storage profile against design electricity consumption.**

**Without this methodology, the existing simplified methodology can indicate up to 80% overestimates. This is especially the case when generation exceeds consumption and there is no nearby sink for the surplus energy as PV systems simply shut down as a result of excessive voltage.**

**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.

**Option a.**

**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.

**Option d. Given that other more cost-effective low Carbon technologies exist (e.g. ASHP), giving unrealistic/unproven preferential weighting to district heating systems is ill-placed. District heating systems can work well in certain densely built areas, but only if the primary source is low Carbon. They should be given a weighting equal to their actual emission/energy performance for the particular design/location, rather than an average potential weighting.**

Q26-31 are not responded to

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.

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.

**Would need to see what replaces these, so probably will not respond???**

Q28 Do you agree with incorporating the Compliance Guides into the Approved Documents?

- a. Yes
- b. No

If no, please explain your reasoning.

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.

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.

Q31 Do you agree with the proposals for restructuring the Approved Document guidance?

- a. Yes
- b. No

If no, please explain your reasoning.

**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.

**Option a.**

**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.

**Option b.**

**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.

**Option a.**

## 2.3 Chapter 4 Part F Changes

No response to Q35-47.

## 2.4 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

**Option a yes**

If no, please explain your reasoning.

**Q49** Do you agree that the limit should be set at 3m<sup>3</sup>/m<sup>2</sup>.h?

a. Yes

b. No – it is too low

c. No – it is too high

**Option a yes**

If no, please explain your reasoning and provide evidence.

**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.

**Option b. As buildings become more airtight an uncertainty of 0.5 becomes more significant. So near 3 and actual reading of 2.76 or 3.24 would both be rounded to 3, which is the lower limit for natural ventilation. 2.76 is 92% of 3 which is significantly lower. So reporting at fixed granularity could mask unhealthy ventilation levels. If 0.5 is reasonable the upper level of 8, this represents an uncertainty of 6.25% - this uncertainty applied at 3 is 0.18. The FAQ for pulse testing quote +- 5% which would be reasonable.**

**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

**Option a.**

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.

**Option a.**

**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

**Option a.**

If no, please explain your reasoning.

**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

**Option a.**

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

**Q55** Do you agree that we should adopt an independent approved airtightness testing methodology?

a. Yes

b. No

**Option a.**

Please explain your reasoning.

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.

No response to Q56

## 2.5 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.

**Option a.**

Q58 Do you have any comments on the Build Quality guidance in Annex C?

**There appears to be a presumption that cavity walling will be used, where other construction techniques such as SIPs panels can provide better thermal performance, off-site panel construction needs to be considered (and encouraged).**

**There is no advice on vapour proof membranes used with SIPs, it is important that these are shown not to be compromised.**

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

**Option a.**

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

**Option a. In addition, thermal imaging cameras should be used to highlight thermal bridges. Thermal imaging gives some proof of the insulation level of the fabric, whereas photographic evidence demonstrates that measures appear to have been taken that should counter thermal bridging.**

**Some measures are needed to ensure that photographs relate to the building being assessed, as opposed to an example of a type.**

**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

**Option a.**

**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.

Option a.

**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.

**Option a. Otherwise it would not be clear which standard the EPC rating signifies, although the actual Energy Efficiency performance measure (in kWh/m<sup>2</sup>/year) and total heat energy consumption (in kWh/year) should also be included.**

**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

**Option a. The guide should include:**

- **A description of the overall operation of each system.**
- **Step by step instructions on the operation of each control.**
- **Recommended operating settings for each system control.**
- **How to safely minimise energy use when the building is unoccupied.**
- **Indicative normal and abnormal states for each sensor (temperatures, pressures and so on)**
- **What to do when things appear not to be normal.**
- **Recommended service intervals.**
- **Links to advice sites and manufacturers manuals.**
- **Guide should be in machine readable form, with an optional printed version.**

## 2.6 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.

**Option a. There is normally advanced notice that new regulations are coming into force, so the period should be as short as possible. Large builders take less than 20 weeks to build a house. Smaller builders and self-builds will take longer, but should these tend to be smaller run or one off designs, which should be designed to comply with up-coming regulations. 6 months seems a reasonable period.**

**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.

**Option a. It should be possible to get design approval for buildings to be built under new regulations before these become mandatory for completed buildings, this will enable the regulations to be implemented as early as possible.**

**Q67** What is your view on the possible transitional arrangements regarding changes to be made in 2025?

**Full plans should lapse after a period of time for individual buildings not yet built.**

## 2.7 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.

**Option b. While it is sensible to provide a financial impact assessment, this should only be used a general indicator to compare capital and operational costs. Given the volatility in economies, currencies and primary energy, any calculation can only be temporary based on current prices/assumptions.**

**As we are facing a Climate Emergency and an uncertain economic/monetary future, it would therefore make more sense to use Carbon emissions and Energy use as the primary measure of long-term benefit.**

**Even if we were to accept the assumptions made in the financial impact assessment, homes are built to last decades, so operational costs will almost always exceed capital costs. Energy prices will inevitably rise, so reducing demand for these through best-in-class buildings (i.e. design, fabric and build quality) is the right value approach. Most home owners will also undertake their own solutions to further reducing energy costs.**

**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.

**Option b. Please see response to previous Q69.**