

**The Future Homes Standard:
changes to Part L and Part F of the Building Regulations for new dwellings**

Consultation response from the London Boroughs Energy Group (LBEG)

The London Boroughs Energy Group exists to share knowledge and support joint working on energy related issues between public sector bodies in and around London.

We are a forum for Energy Managers from the London Boroughs and other public sector organisations in London and the surrounding counties. Membership of LBEG provides excellent opportunities to share knowledge and best practice, network with colleagues and associates and keep up to date with activity to promote energy efficiency across London. Further information is available at <https://www.lbeg.org.uk/>

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

c) No, 75-80% is too low a reduction.

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?

Heat Pumps and Heat Networks are the most appropriate technologies for heating future new properties. There should be a particular emphasis on harnessing waste heat sources for heat networks particularly in urban areas. Urban heat networks have an opportunity to capture and utilise waste heat from sources such as Underground ventilation shafts, data centres, substations, sewers, canals and commercial cooling systems which exhaust large amounts of heat. The density of buildings in urban areas leads to low transmission losses.

Direct electric heating, such as storage heaters, are typically the most expensive forms of heating to operate and a major cause of fuel poverty. These should not be encouraged in any circumstances. Ground Source Heat Pumps should be prioritised over air source heat pumps as they have a much higher efficiency and could also potentially facilitate more connections to low temperature heat networks.

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 fabric first approach design is the best way of addressing carbon reduction and we welcome the improvement in fabric standards in Option 1. Please see comments on individual elements in the table below.

Fabric Element	Part L 2013	Part L 2020 Option 1	Comment
External Wall U Value (W/m ² K)	0.18	0.15	This represents a small but achievable improvement.
Corridor Wall U Value (W/m ² K)	0.18	0.18	Improving this will be important in large blocks of flats where usable heat is lost to unoccupied and unheated corridors. Suggest this is brought in line with external walls to 0.15.
Party Wall U Value (W/m ² K)	0	0	No comment.
Roof U Value (W/m ² K)	0.13	0.11	This represents a small but achievable improvement.
Floor U Value (W/m ² K)	0.13	0.11	This represents a small but achievable improvement.
Window U Value (W/m ² K)	1.4	0.8	This is a significant improvement on current standards and will drive triple glazing which is welcomed.
Door U Value (W/m ² K)	1.0	1.0	Should be clear that this includes glazed and solid doors.
Air Permeability (M ³ h.m ² @ 50 Pa)	5.0	5.0	Some London boroughs are currently recommending 3 or below where MVHR is proposed which developers are mostly achieving. Should be a lower air permeability where MVHR is specified.

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 standards for dwellings?

a. In 2020 alongside the introduction of any option to uplift to 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.

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

Developers submitting major planning applications in some London Boroughs, including residential properties, are currently required to meet two targets that relate to an improvement in Carbon Reduction over Part L 2013 standards:

- **London Plan 5.2B** - Requiring a 35% reduction in regulated emissions against a Building Regulations 2013 Part L baseline
- **Local Plans (e.g. Islington CS10 A)** - Requiring all major developments to achieve an onsite reduction against a Part L 2013 baseline of 39% in total (regulated and unregulated) emissions where a development is able to connect to a Decentralised Energy Network and 27% where not possible.

Developers are currently meeting these targets but are often only doing the minimum to comply with the local target for total (regulated and unregulated) emission reduction. Restricting local planning authorities from setting energy efficiency targets more ambitious than either the 20% uplift from Part L 2013 in Option 1 or the 31% in Option 2 would result in an increase in CO₂ emissions from

new buildings in these authorities and across London. It would also mean a larger adjustment for developers when the Future Homes Standard is introduced in 2025. Planning authorities requiring higher carbon targets are currently experiencing high levels of development and the carbon reduction targets are not proving a disincentive to developers. Allowing higher energy efficiency standards in boroughs where there is a large demand for development, drives innovation and higher standards and will help the supply chain transition to the Future Homes Standard.

Analysis of recent Major Residential Planning Approvals within Islington can be found below:

Application No.	Part L 2013 TER Tonnes	Regulated Emission Reduction achieved	Total (Regulated and unreg.) Emission Reduction	Final Regulated Emissions Tonnes achieved	Final Tonnes 20% Reduction - Option 1	Final Tonnes 31% Reduction - Option 2
P2016/4533/FUL	48.97	39.47%	20.20%	29.64	39.18	33.79
P2018/2767/FUL	41.66	53.95%	28.16%	19.19	33.33	28.75
P2018/2269/FUL	74.3	52.90%	28.00%	35.00	59.44	51.27
P2018/1970/FUL	67.32	53.70%	26.98%	31.18	53.85	46.45

This shows how possible it is for developers to achieve better regulated emission reduction over a Part L 2013 baseline than either the 31% or 20% option. Three of the four developments achieved over a 50% improvement. It also demonstrates how a local authority's ability to set its own carbon reduction targets drives improvement in developers with these higher total (regulated and unregulated) emissions targets. Again, three of the four have narrowly achieved the 27% target which is has forced them to achieve the very high level of regulated emissions.

By restricting local planning authorities from setting higher energy efficiency standards for dwellings there would have been the following additional regulated CO₂ emissions across the four developments:

- **Option 1 (20% maximum reduction)** = 70.79 tonnes additional regulated CO₂ emission over what was achieved with Islington's own target in place.
- **Option 2 (31% maximum reduction)** = 45.25 tonnes additional regulated CO₂ emission over what was achieved with Islington's own target in place.

Q5 Do you agree with the proposed timings presented in Figure 2.1 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

a) Yes, the Building Regulations update is long overdue as the minimum standards no longer reflect realistic energy efficiency standards as evidenced by the fact that three of the last four approvals for dwellings in Islington have achieved over a 50% reduction in regulated emissions against a Part L 2013 baseline. This level of reduction already being achieved makes the 75-80% reduction planned for the Future Homes Standard to seem realistic by 2025.

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% CO2 reduction
- c. Option 2 - 31% CO2 reduction (the government's preferred option)
- d. Other

Please explain your reasoning.

d) As a minimum we would expect 50% and 60% to support our transition to net zero carbon in the UK. We have demonstrated that a reduction of 35% has been achievable against Part L 2013 in the London Plan for several years as demonstrated in the figures given in our answer to Question 4. It is also important that Local Planning Authorities retain the ability to set more challenging targets. Please note, the update in carbon factors is supported, however the target carbon emission reductions have not been re-aligned, this results in a situation where an identical home that had a 3% reduction in carbon emissions under 2013 regulations could now have a 75% reduction in carbon emissions under the 2020 regulations. The proposed option 1 - 20% reduction and option 2 - 31% reduction in the consultation does not take this into account

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

Please explain your reasoning and provide evidence to support this.

c) No - We should look to include performance metrics such as Energy Use Intensity (EUI) in kWh/m²/yr: the proposals currently include metrics based on carbon and primary energy. These do not place any relevance on the use of the building, we know that how a building is used and operated has a massive impact on the energy performance and subsequent carbon emissions. We need a metric based on the total energy use (regulated and unregulated) of the dwelling which can be verified by measurements by the dwelling's energy meter(s), as well as a metric covering the regulated loads. The cost of energy can often be the primary driver in regard to energy use and this must be managed within any set of performance metrics

Q8 Do you agree with using CO2 as the secondary performance metric?

- a. Yes
- b. No

Please explain your reasoning.

a) The inclusion of CO₂ as the secondary performance measure is important to ensure that all new homes drive down CO₂ emissions, including any dwellings where the proposed heating systems do not use electricity or where the heating system has a high electricity consumption.

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

a) Yes - Although the carbon factor for electricity has reduced considerably under SAP10 it is still a more expensive unit per unit and unless efficient electric systems, such as heat pumps are used, an increase in electric heating is likely to lead to an increase in bills and fuel poverty. It is important that developers are not able to specify direct electric heating systems (e.g. storage heaters) which are cheap to install but very expensive to run.

Q11 Do you agree with the proposed minimum fabric standards set out in Table 3.1? If you do not agree with any one or more of the proposed standards, please explain your reasoning and provide evidence to support this.

The fabric values in Table 3.1 are not ambitious enough. An example of this is seen in Islington Council where they have been recommending fabric values in their Environmental Design SPD since October 2012 that are of a higher standard and developers have been achieving these U-values. The fabric values in Table 3.1 and in Islington's own Environmental Design SPD are compared in the table below and it is suggested that values at least as ambitious are used in the revised Building Regulations Part L:

Element	Proposed for Part L 2020	Recommended in Islington Environmental Design SPD 2012
External Walls	0.26 W/m ² K	0.2 W/m ² K
Party Walls	0.20 W/m ² K	Not given
Floor	0.18 W/m ² K	0.2 W/m ² K
Roof	0.16 W/m ² K	0.13 W/m ² K
Windows	1.6 W/m ² K	1.5 W/m ² K
Rooflights	2.2 W/m ² K	Not given
Door	1.6 W/m ² K	1.0 (solid) 1.5 (glazed)
Air Permeability	8 m ³ /m ² .K @50pa	3 m ³ /m ² .K@50pa (with MVHR) 5 m ³ /m ² .K @50pa (No MVHR)

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.

b) No. The Fabric Energy Efficiency Standard (FEES) must not be removed. Instead we believe it must be retained and improved alongside notional fabric U-values and airtightness. Losing FEES will enable modern technology to mask poor building fabric performance. The proposed u values set out in the minimum standards for fabric performance are not onerous enough to justify the removal of FEES. The proposal would enable homes to be built to poorer standards of insulation, which we cannot support. New homes must be built very well insulated and consume as little energy as possible, ensuring that we will not be retrofitting insulation to these dwellings in the mid-term.

Q16 Do you agree with the proposal of removing fuel factors to aid the transition from high-carbon fossil fuels?

a. Yes

b. No

If no, please explain your reasoning

a) Yes

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

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

a) Yes

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

a) Yes.

Q19 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.

a) By setting a minimum standard as this makes it definite that the 55C temperature will be achieved.

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.

a) Yes.

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.

a) Yes. The introduction of technology factors for heat networks are truly important to new developments to uptake new heat network connections, given their ability to decarbonise over time. In most cases, even when there is a nearby heat network, the cost of connecting a new site is significant and frequently will discourage a developer to connect. Particularly when there is a more cost-effective alternative.

As an emerging technology in the UK, and without other direct government incentives, heat networks still require commercial support until they become mainstream. Applying technology factors would be a suitable and appropriate way to add value to a heat network connection and make it much more attractive when compared with traditional more carbon intensive on-site heating solutions.

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.

b) No - With future temperatures rising considerably it is important that developers are aware of future overheating risk in new homes. Ideally, they should be required that homes are not at risk of overheating against the criteria of CIBSE TM59 using future weather files provided by CIBSE for the relevant location e.g. TM49 for London.

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.

a) Yes, a reasonable period of time for work to start before transitional arrangement apply we feel would be 6 months.