

LETI's KEY MESSAGING

**The Future Homes and
Building Standard
consultation**



Respond to the consultation by
6th March 2024

Programme

- Welcome
- Introduction to the consultation
- Previous consultations overview
- LETI key messages
- Get your voice heard
- Close



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1

The 2023 consultation

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The Future Homes & Buildings Standards: 2023 Consultation

Comprises of three main parts:

1. **The Future Homes and Buildings Standards : 2023 consultation**
2. Home Energy Model : Future Homes Standard consultation
3. Home Energy Model Consultation



2

The previous consultations



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Previous consultations

- LETI assisted some of the 3,000+ responses to the consultation in 2019.
- We responded again in 2021
- We will continue to respond and provide evidence for net zero carbon

The ambition is positive

MHCLG have a clear aspiration that new buildings from 2025 should not need to be retrofitted to meet zero carbon by 2050.

Better prediction of energy use is crucial

- Predicted energy use calculations need to be required for new homes, not just new non-domestic buildings.

Overheating should be simple but effective

- It is positive that a regulation on overheating is introduced, however the simplified method may lead to unintended consequences, such as under-glazing and poor daylight in some homes, or over-glazing and overheating in others.
- Protection from falling should not unreasonably dictate window size and opening portions.

We need better metrics

- Primary energy is proposed as the new key metric. It is complicated, favours gas and becomes increasingly irrelevant as the grid is further decarbonised. It should be replaced by energy use intensity.
- The national building should not be used anymore.
- Embodied carbon should be introduced from 2025 at the latest.

Fabric performance

- Homes - Great that FEES have been retained but it needs to be a better performing target than suggested.
- Standards should incorporate more ambitious requirements for airtightness and MVHR.

Closing the performance gap

- Energy use disclosure has not been included and should be required.

We need a much better non-domestic modelling method

- NCM underestimates space heating demand.

We should accelerate the move away from fossil fuels

- Moving away from gas boilers should be incentivised in 2021 and new gas boilers should be banned from 2025.
- The proposed carbon reductions for 2021 are not sufficient.
- The decarbonisation of heat networks needs to be incentivised.

Retrofit standards lack vision and ambition

- A retrofit approach consistent with PAS 2035/38 should be required.
- There should be a 2025 roadmap for retrofit standards.



3

LETI key messages



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LETI key messages

An end to fossil fuels

The notional building specification uses a fossil fuel free system. This pushes new buildings away from gas.

- MVHR
- Smart meters
- Energy flexibility
- Sleevings
- Thermal bridging
- Part O
- WMS

1

Not compatible with achieving Net Zero in operation

2

Fabric performance should be better than Part L 2021

3

On-site renewable energy generation (PVs) should be encouraged

4

Embodied and Whole Life Carbon should be addressed

5

Developers should not be allowed to 'opt-out' of regulation

6

Net zero under these proposals will cost the country more

7

The consultation is not transparent and lacks an evidence base



1

The proposals are not compatible with achieving Net Zero in operation: they do not use EUI as a key metric and do not address the performance gap

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Relative

%

**Reduction in CO₂ emissions
over notional building**

Comparison with fixed building
specification

Permits inefficiency in building form

Adversely influenced by fuel supply

Absolute

kWh/m²/yr

**Energy use intensity
(EUI)**

Measures energy 'at the meter'

Influenced by efficient design

Energy supply agnostic

Regulatory calculation



SAP/SBEM modelled building



Performance in-use

Not comparable to performance of building in-use

Performance gap between design and as-built

Predictive performance



Predictive energy modelling



Performance and verification in-use

Predictive energy modelling

Reduced performance gap

Allows for monitoring and comparison in-use

2

Fabric performance should be better than Part L 2021 to reduce energy use and residents' bills

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Part L 2021



Doors - **1.0** W/m².K



Windows - **1.2** W/m².K
(double glazed)



FHS



Doors - **1.0** W/m².K



Windows - **1.2** W/m².K
(double glazed)



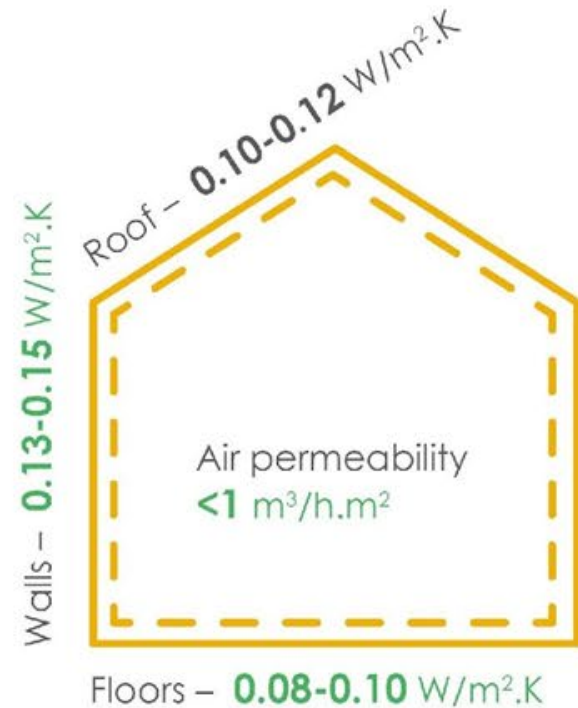
Net Zero fabric



Doors - **1.0** W/m².K



Windows - **0.8** W/m².K
(triple glazed)



Fabric compatible with Net Zero Carbon

Results in a low space heating demand
Reduces energy consumption



3

**On-site renewable energy generation
(PVs) should be encouraged**

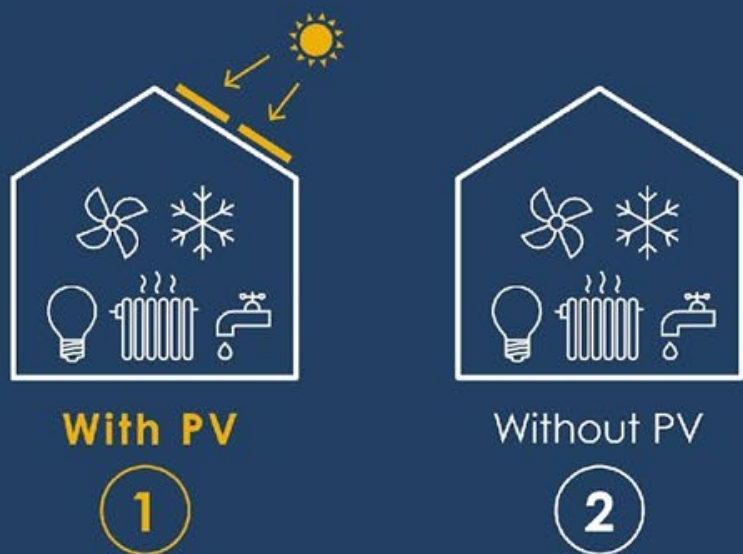
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Two notional specification options

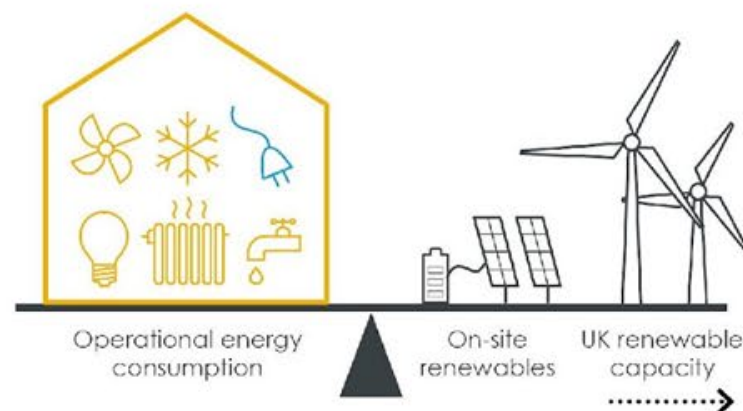


New homes have a key role to play towards our national renewable energy objectives

Option 1 reduces residents' energy bills

Option 2 risks placing the burden on off-site PV

A net zero carbon UK



Balances energy consumption of homes with on and off site renewables

Reduces residents' energy bills

Reduces pressure on off-site renewable generation



4

**Embodied and Whole Life Carbon
should be addressed**



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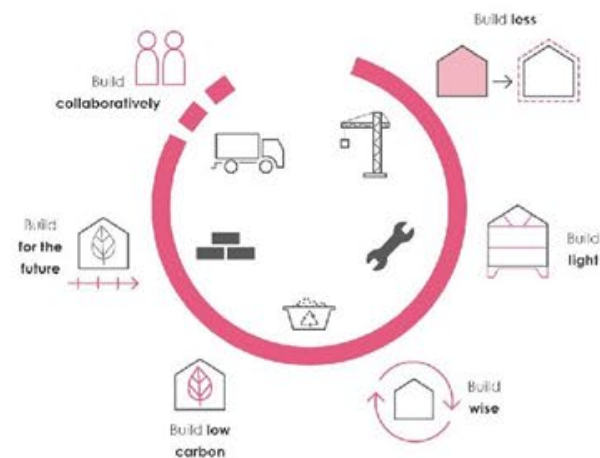
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No mention of embodied carbon



Currently not included or proposed in regulation

Embodied carbon limits



Building should meet embodied carbon limits

Scope of the assessment should cover substructure, superstructure, MEP, facade and internal finishes

Reuse and disassembly to be encouraged



5

**Developers should not be allowed
to 'opt-out' of meeting Part L
Regulations**

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Opening loopholes to suit a notional metric



When and what are 'exceptional' circumstances

Developers can 'opt-out' of regulation
Burden is placed on local authorities

Multiple limits using an energy metric



Absolute metric

All homes can be compared
Limits/targets can be set appropriately for building type



Achieving net zero under these proposals will cost the country more



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'Zero carbon ready'



Means new homes will consume more energy

Proportionally more existing homes will need to be retrofitted, as new homes will take up more of the share of renewable energy

'Net zero carbon'



Balances energy consumption with UK grid capacity

Reduces the burden on retrofit





**The consultation is not transparent
on decision making and lacks an
evidence base**



Consulted on



**Little clear, evidenced justification
for proposals or transparency in
decision making**

Previous consultation responses overlooked

Evidence based



**Industry research, modeling
and definitions**

Made by built environment
professionals

Backed by industry



In addition we believe:



Mechanical ventilation with heat recovery should be incentivised



Smart meters should be compulsory

An energy flexibility metric should be brought in



Connection to heat networks that burn fossil fuels should not be encouraged and sleeving should not be supported



More accurate thermal bridging for non-domestic buildings



The new version of CIBSE TM59 should be adopted in Part O



The Written Ministerial Statement is not helpful to industry



4

Get your voice heard!



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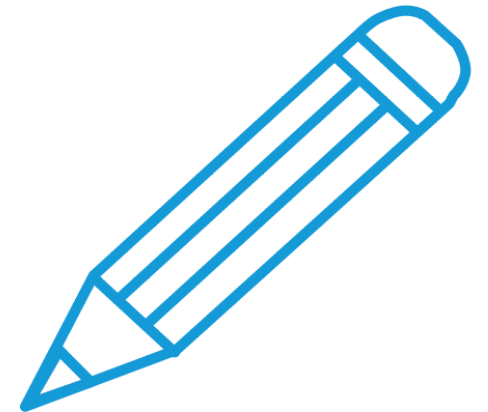
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Key Actions you can take to support the consultation response

- 1. Engage in the consultation** – If you are time poor- LETI have identified 18 key questions you can respond to, to have maximum impact
- 2. Sign up to the collective letter** to the secretary of state
3. If you are a local authority - reach out to your Members
4. Submit additional **evidence to DLUHC**
5. Share the LETI key messages and **encourage others to respond!**



Use our LETI toolkit to get your voice heard

LETI TOOLKIT

How to respond to the
consultation

The Future Homes and
Building Standard
consultation



Respond to the consultation by
6th March 2024

Download at www.leti.uk/fhs



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A simple response to 18 key questions

18 KEY QUESTIONS & ANSWERS

The Future Homes and
Building Standard
consultation



Respond to the consultation by
6th March 2024



Influencing the building regulations may be the **greatest impact** that you have in your career, **please respond to the consultation**.

Go to <https://consult.levellingup.gov.uk/energy-performance-of-buildings/fhbs-2023-consultation/> to complete your consultation response by **Wednesday 6th of March**, you can do this as an individual or on behalf of an organization.

Use section 2.1 of the LETI toolkit, LETI 18 Key questions for guidance of the separate download on the website titled **18 Key questions and answers**.

Download at www.leti.uk/fhs



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Question

7

Performance requirements for new dwellings

Which option for the dwelling notional buildings (for dwellings not connected to heat networks) set out in The Future Homes Standard 2025: dwelling notional buildings for consultation do you prefer?

What will LETI respond?

a. Option 1 (higher carbon and bill savings, higher capital cost)

Why?

- Option 1 is more energy efficient than Option 2.
- It will lead to lower energy use, lower peak demand and lower energy bills for the residents.
- It also includes PVs, which is positive.



Question

9

Performance requirements for new dwellings

Which option for the dwelling notional buildings for dwellings connected to heat networks set out in The Future Homes Standard 2025: dwelling notional buildings for consultation do you prefer?

What will LETI respond?

Option 1

Why?

- Option 1 is more energy efficient than Option 2.
- It will lead to lower energy use and lower energy bills for the residents.
- It also includes PVs, which is positive.



Question

12

Metrics

Do you agree that the metrics suggested above (TER, TPER and FEE) be used to set performance requirements for the Future Homes and Buildings Standards?

What will LETI respond?

c. No, I think delivered energy should be used

Why? For this question we encourage you to state in the comment box the text in red. (As we feel like the answer that LETI would support is not available)

- We support the delivered energy metric, as it can be measured post-occupancy, creating a feedback loop with the design predictions.
- **It should also include an estimate for unregulated energy.**
- **Primary energy is a confusing and unnecessary metric which cannot be measured by residents and occupants.**
- **We are strongly in favour of having a Fabric energy efficiency metric, but it should be an absolute metrics based on space heating demand (kWh/m²/yr).**

Question

54

Heat networks

Do you agree that newly constructed district heating networks (i.e., those built after the Future Homes and Buildings Standard comes into force) should also be able to connect to new buildings using the sleeving methodology?

What will LETI respond?

c. No

Why?

- The sleeving methodology is not scientifically robust.
- It is biased towards the on-going use of heat networks even when most of their heat is generated by fossil fuels.
- It does not provide a clear pathway for buildings already connected to the network to decarbonise.



Question

61

Accounting for exceptional circumstances

Do you agree that it should be possible for Regulation 26 (CO2 emission rates) to be relaxed or dispensed with if, following an application, the local authority or Building Safety Regulator concludes those standards are unreasonable in the circumstances?

What will LETI respond?

b. No

Why?

- Building Regulations should be the minimum standards across the Country without exception.
- If enabled, these exceptions are likely to affect the poorest areas of the country.



Sign up to collective letter to the Secretary of State

The Rt Hon Michael Gove MP
Secretary of State for Levelling Up, Housing, and Communities
2 Marsham Street, London SW1P 4DF

Cc: The Rt Hon. Claire Coutinho MP, Secretary of State for Energy Security and Net Zero

February 2024

Dear Secretary of State,

Re: Future Homes and Building Standard (FHS) and Home Energy Model (HEM) consultations

As leading businesses and organisations involved in delivering new homes and buildings to high sustainability standards, we are writing with our view on the FHS and HEM consultations. We would like to meet you to discuss the consultations and are available to provide further information in addition to our organisational responses.

We support the following elements of the proposals which should be implemented without delay. We welcome the end of fossil fuel heating and commitment to electric heating. We support integrated on-site renewables for new homes, and the extension of energy efficiency measures for dwellings created under material change of use. We welcome the proposed HEM as a replacement for SAP.

However, this is not a definitive Future Homes Standard, but rather a positive step towards it. Many of us involved in the development of the Future Homes Hub's (FHH) five contender specifications' (CSP) are disappointed that the two weakest options are being consulted upon. We request a further iteration of the Standard be developed to ensure new buildings are of a higher specification by 2028. In this letter we set out immediate concerns to be addressed and outline why further development of the FHS is needed.

We have immediate concerns to be addressed in the 2025 regulations:

- We strongly disagree with the Option 2 notional specifications.** Omitting photovoltaics (PV) and lowering building fabric standards will lead to an additional £600-£700 per year on energy bills for residents of new homes compared to the current Part L 2021 and Option 1 respectively¹. The public sector equality duty ensures Government does not introduce standards which unduly affect those on lower incomes or with protected characteristics. A lower fabric standard would increase the pressure new homes place on the electricity grid at a time when the electrification of heat, transport, and industry means demand for electricity is expected to grow fourfold by 2050.² All new homes should have integrated PV as standard to maximise available renewable energy, especially as the cost of installation continues to plummet³.
- We strongly disagree with the choice of Primary Energy over Delivered Energy.** We see no evidence provided to justify this choice, with 76% of respondents to the previous FHS consultation⁴ opposing Primary Energy as a metric. The Climate Change Committee (CCC) supported Delivered Energy for domestic Energy Performance Certificates (EPCs)⁵. The HEM consultation discusses the use of Delivered Energy and a different metric for the FHS creates Government inconsistency and confusion. Delivered Energy should become the key metric in this Standard.
- We support voluntary post occupancy performance testing, but enhanced testing of buildings post-completion, or "As built" should be mandatory.** The proposal to ensure transparency on actual

performance – acknowledged by Government as a key outcome for EPC reform following the 2021 consultation – is urgent. We support the introduction of Building Performance Evaluation (BPE), but a wholly voluntary approach will not provide the necessary protection from homes built to a sub-standard.⁶ BPE needs to include simple, low-cost, enhanced mandatory post-completion testing to primarily confirm thermal performance, such as short duration whole-house heat loss tests⁷. In addition, voluntary post occupancy testing needs to be incentivised through regulation

There is a need to improve on the proposals for a higher standard which delivers on the FHS aims. There are substantial issues not addressed in this consultation and a demand for higher standards. The Written Ministerial Statement of 13 December 2023 calls for Local Authorities to converge on a common definition of higher levels of performance and these should be co-developed during the course of 2024, based on the recommendations set out below, and could be used from 2025 onwards. This higher standard can then be used to inform the next iteration of building regulations by 2028.

- Regulate embodied carbon in new buildings.** Embodied carbon makes up 20%⁸ of UK built environment emissions and declarations of whole life carbon are already required for large building projects. Policies to measure and limit embodied carbon and apply circular economy approaches within the construction sector are urgent and should be included in FHS.
- Improve fabric standards for U values and air tightness.** Alignment with current good practice can improve comfort and achieve a level of thermal resilience and stability to permit sufficient flexibility for grid peak load management.⁹ The FHH CSP4 has just 25% of the home heating demand compared to FHS Option 1.
- Improve new home ventilation systems.** Decentralised mechanical ventilation (dMEV) relies on ventilation from holes in the fabric ("trickle vents") which are unreliable, reduce air quality and comfort for residents¹⁰, and waste heat. FHS should mandate systems such as mechanical ventilation with heat recovery (MVHR) to deliver good air quality, reduce condensation and mould, and recirculate heat (as addressed in the FHH CSP3, 4, and 5).
- Reduce electricity generation investment required.** Improvements to building fabric and ventilation outlined above have been calculated to save circa £22.6 billion in electricity generation investment over 20 years compared to Option 1, and would result in a £190/year reduction in bills for occupants.

Higher standards will not limit housing supply. The FHS consultation stated concern that higher standards will increase costs and complexity for housebuilders and limit housing supply. Recent Government studies^{11, 12} did not find higher standards to be a constraint on housing supply. The additional cost of CSP4, for a one-off 200 home site, compared to Option 1, was £13.8K¹³ per plot and will be considerably less when delivered at scale. This cost will be absorbed through adjustments to land values, as with previous regulation changes, not increasing householder costs and not limiting housing supply. Homes built to higher standards have shown to be feasible and viable at a local authority level across England, having passed tests of Local Plan inspection^{14, 15, 16, 17, 18, 19, 20}.

Collaborating for better standards that really work. Lessons from the 2021 FHS pilots, and existing homes built to higher standards, should inform a future homes standard. We collectively bring knowledge and experience of building to higher standards, and offer practical justification for achievable standards which benefit industry and residents in line with net zero goals. We urge you to collaborate with us to develop the standard further.



- Can only sign as organisations (Not individuals)
- Signatures by the 29th of Feb

Sign the letter at <https://goodhomes.org.uk/future-homes-standard-consultation-response>



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Sign up to collective letter- what is the letter about?

- Welcome the end of fossil fuel heating and commitment to electric heating. We support integrated on site renewables for new homes, and the extension of energy efficiency measures for dwellings created under material change of use. We welcome the proposed HEM as a replacement for SAP. Proposals are not a definitive Future Homes Standard, but rather a positive step towards it.

Immediate concerns

- We strongly disagree with the Option 2 notional specifications.
- We strongly disagree with the choice of Primary Energy over Delivered Energy
- We support voluntary post occupancy performance testing, but enhanced testing of buildings post-completion, or “As built” should be mandatory.

Areas of improvement

- Regulate embodied carbon in new buildings
- Improve fabric standards for U values and air tightness.
- Improve new home ventilation systems
- Reduce electricity generation investment required

Sign the letter at <https://goodhomes.org.uk/future-homes-standard-consultation-response>



If you are a local authority - reach out to your Members!

Local Authorities have a **pivotal role** in translating LETI Key messages into policies and are key allies in creating the resilient, equitable country that we all deserve.

LETI has prepared **a briefing note for Local Councillors** explaining the key messages and what concrete actions can be taken by them to support their Local Authorities in responding to the consultation as an organisation.

Download the briefing note at
www.leti.uk/fhs



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Evidence

Please submit your own evidence direct to DLUHC. If you would like to also share it with us, please contact us on consultations@leti.uk

1. **Modelling**
2. **Metrics**
3. **Ventilation**
4. **Airtightness**
5. **Cost impact assessment and/or viability**
6. **Heat networks**
7. **NCM**



Please share cost data with us!



Evidence - Cost data



LETI impact survey 2024 - understanding additional Capital costs relating to meeting an EUI target

Consent for information sharing is provided in column F. Outputs from this piece of work will not mention any specific projects, but will provide be brought together to understand the average costs of achieving LETI targets.

General					Financial information										Next steps and consent		
Name	Email Address	Organisation	Name of the project/ row of the project in tab 'project info'	Is the project information tab filled out?	Type of project private (sale, build to rent, affordable)	Category (Developer led, Local Authority led, housing association led)	Year that the cost assessment was carried out	Is this an estimate at design stage or tendered cost	What was the baseline (2013 reg3, 2021 London Plan, draft FHS notional, other)	When is/has the development planned to finish on site	Description of the project - please provide images if you can, and information on systems and U-values. Send info to Clara BIG from LETI	Please provide overall cost information and detailed elemental cost plan if possible - send to Clara BIG - or provide summary information in column N&P	Basebuild capital cost £/m ² (Ideally this is based on a 2023reg3 compliant scheme)	Additional capital cost due to fabric and systems £/m ²	Additional capital cost due to onsite renewables £/m ²	Would you be happy to have a 30 mins call about this?	Sharing this information (See drop down menu)

Share your capital cost data with us!

Download the LETI FHS and FBS cost evidence uplift spreadsheet at www.leti.uk/FHS and send it to clara@leti.uk by the 29th of February.



How you can promote the LETI messaging:

- **Invite your coworkers** to view our [webinar](#) to find out more about LETI's key messaging relating to the consultation documents, and share our consultation response toolkit on how to develop an impactful response.
- **Share LETI key messages** to your network and on social media, don't forget to tag us and use [#LETIkeymessaging](#) & [#FHSresponse](#) to maximise your impact.
- **Donate to LETI** whilst we are run by **volunteers** your financial support is incredibly important to fund our publications, help us have more impact and plan more ambitiously for the future www.leti.uk/donate



Thank you!

To all the volunteers who have worked on this consultation and everyone who has listened and responded today



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