
Consultation on the Energy Efficiency Standard for Social Housing post-2020 (EESH2)



Ministerial Foreword



The Scottish Government wants all our homes to be warmer, greener and more efficient, and is committed to ensuring that everyone in Scotland, no matter their financial situation, has access to good quality housing that they can afford to heat.

Social landlords have made significant improvements to the quality of the 600,000 homes they let to tenants in Scotland. Between 2004 and 2015 they invested an estimated £4bn to meet the energy efficiency and other elements of the Scottish Housing Quality Standard to make sure that more tenants live in warmer, safer and drier homes. Landlords are currently working towards the first milestone of the Energy Efficiency Standard for Social Housing, and three-quarters of their homes have already been brought up to that standard.

However, despite the reductions in fuel poverty levels we have seen in recent years, it is unacceptable that 200,000 social rented households are still in fuel poverty, struggling with unaffordable energy costs to heat their homes. We are determined to remove poor energy efficiency as a driver for fuel poverty,

and we also have ambitious targets for climate change emissions reductions, and for our homes to be carbon neutral as far as practical. That requires action across all tenures of housing. Raising the standard for social housing is part of a wider programme of change to deliver energy efficiency and low carbon heat. In parallel with this consultation, we are also consulting on our Energy Efficient Scotland Programme, which brings together all of the Scottish Government's work to improve the energy efficiency of our buildings under one long-term programme. Social landlords have already made encouraging progress on energy efficiency, but in providing housing for some of our more vulnerable and disadvantaged citizens, it is only right that the social housing sector should go further and faster on this path.

In this consultation we are asking for your views on proposals for new milestones for the Energy Efficiency Standard for Social Housing. No doubt these will be challenging, but it is a challenge we should embrace.

I would like to thank the landlords and other stakeholders who helped to develop these proposals, and I look forward to continued positive engagement with the sector, and hearing your views, on the important issues in this consultation.

A handwritten signature in black ink, appearing to read 'Kevin Stewart'.

KEVIN STEWART MSP
Minister for Housing and Local Government

EXECUTIVE SUMMARY

1. This consultation seeks views on the Energy Efficiency Standard for Social Housing post-2020 (ESSH2). Through the work of the ESSH Review, a new milestone has been agreed for consultation, proposing to maximise the number of homes in the social rented sector attaining Energy Performance Certificate (EPC) Energy Efficiency (EE) Rating B (hereafter referred as EPC B) by 2032.
2. This will be supported by: a formal opportunity for review proposed for 2025 to assess progress and consider the introduction of air quality and environmental impact elements to the 2032 milestone; and a minimum standard that no social housing should fall below EPC D. A longer term vision is also proposed for 2040, whereby poor energy efficiency has been removed as a driver for fuel poverty and all social housing is carbon-neutral as far as reasonably practical.

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PART ONE: BACKGROUND

EESHS 2020

3. The EESHS was introduced in March 2014 and aims to encourage landlords to improve the energy efficiency of social housing in Scotland. This supports the Scottish Government's vision of warm, high quality, affordable, low carbon homes and a housing sector that helps to establish a successful low carbon economy across Scotland.
4. The EESHS set a milestone for social landlords to meet for social rented homes by 31 December 2020. This is a minimum Energy Efficiency (EE) rating that varies dependent upon the dwelling type and the fuel type used to heat it. The ratings reflect that some dwelling types can be more or less challenging to improve than others.
5. The minimum EE ratings for the 2020 milestone are set out in Table 1. The target was defined by reference to minimum ratings in the UK Government's Standard Assessment Procedure for Energy Rating of Dwellings (SAP 2009). The table also includes the equivalent ratings for SAP 2012. In terms of Energy Performance Certificates (EPCs), these ratings straddle Band D (55-68) and Band C (69-80).

Table 1: EESHS minimum ratings for 2020 (by dwelling type)

EE Rating	SAP 2009		SAP 2012	
	Gas	Electric	Gas	Electric
Flats	69	65	69	63
Four-in-a-block	65	65	65	62
Houses (other than detached)	69	65	69	62
Detached	60	60	60	57

6. For dwellings that do not use gas or electricity for heating, the EESHS target is the same as the Scottish Housing Quality Standard (SHQS). The equivalent ratings for SAP 2001, 2009 and 2012 are shown in Table 2.

Table 2: EESHS minimum ratings for 2020 (other fuels, all dwellings)

Fuel	SAP 2001	SAP 2009	SAP 2012
Oil	60	54	47
Liquid Petroleum Gas (LPG)	60	63	59
Solid Fuel	60	63	60
Biomass	60	64	65

7. The social rented sector has some of the most energy efficient homes in Scotland, and landlords have made encouraging progress towards meeting the 2020 milestone. Three quarters of the social housing stock already meets the standard, with projections for 79% compliance by 2018 and 97% compliance by 2020 (these are based on landlords' anticipated exemptions, and it can be expected that actual EESH compliance by 2020 will be lower than this).
8. As part of the Scottish Housing Regulator's (SHR) statutory objective to safeguard and promote the interests of tenants, homeless people and others who receive housing services, it monitors and reports on social landlords' compliance with the EESH. The SHR publishes the data it collects from the annual returns on EESH and the Scottish Social Housing Charter and uses this information as part of its annual risk assessment of social landlords.

EESH Review

9. When EESH was introduced, a review was proposed for 2017 to assess progress towards the 2020 target and to consider future milestones beyond 2020. To deliver this, the EESH Review Group was set up in March 2017, including representatives from: the Scottish Government; Local Authorities (LAs); Registered Social Landlords (RSLs); Historic Environment Scotland (HES); the Scottish Federation of Housing Associations (SFHA); the Glasgow and West of Scotland Forum of Housing Associations (GWSF); the Convention of Scottish Local Authorities (CoSLA); and the SHR.
10. Phase 1 of the review was completed in October 2017, assessing progress towards the 2020 target and updating the *EESH Guidance for Social Landlords* produced by the Scottish Government.¹
11. Phase 2 of the Review considered milestones and activity post-2020, with the proposals contained within this document recommended through the EESH Review Group for public consultation. Phase 2 of the Review, and indeed the Review itself, will be completed following the conclusion of this consultation and confirmation of its outcomes.

¹ Energy Efficiency Standard for Social Housing: Guidance for Social Landlords (Revised December 2017), <https://beta.gov.scot/publications/energy-efficiency-standard-social-housing-eesh-scottish-government-guidance-social/pages/1/>

Energy Efficient Scotland

12. Scottish Ministers announced in June 2015 that they would take long-term action to reduce building energy demand and decarbonise heat supply; designating energy efficiency as a national infrastructure priority. Energy Efficient Scotland is the culmination of this thinking, and will improve energy efficiency and promote low carbon heating in Scotland's homes and buildings. It will make our existing homes, shops, offices, schools and hospitals warmer and cheaper to heat.
13. Once fully operational, Energy Efficient Scotland will be a whole system approach to delivering energy efficiency improvements and the provision of low carbon heat. A framework of energy efficiency standards, advice and funding will help create long-term consistency and confidence for consumers and industry, backed up by legislation where needed. The programme will help support skills and supply chains across Scotland with appropriate protections for consumers. Energy Efficient Scotland can also deliver significant health and wellbeing benefits, particularly for those living in cold and damp homes.
14. EESH2 will be a critical part of Energy Efficient Scotland, and realising its vision that by 2040, our homes and buildings are warmer, greener and more efficient.
15. The Programme for Government commits to investing more than half a billion pounds to Energy Efficient Scotland over the four years to 2020/21, setting out a clear commitment to develop this programme with substantial annual funding.
16. An Energy Efficient Scotland Route Map has been published proposing: both long and short-term actions to successfully implement energy efficiency and decarbonisation measures; the introduction of the Energy Efficient Scotland Energy Performance Standard; phasing of the programme; and the programme's offer itself.²
17. The Energy Efficient Scotland consultation *Making our homes and buildings warmer, greener and more efficient* is being undertaken in parallel with this consultation.³ The Energy Efficient Scotland consultation proposes that all homes are at least EPC C by 2040, where technically feasible and cost effective; and that the private rented sector (PRS) meets EPC C by 2030, following on from the minimum standards confirmed in the Route Map.
18. It may be helpful to consider this consultation within the context of both the Energy Efficient Scotland Route Map and the Energy Efficient Scotland consultation, as well as our Energy Strategy, *The Future of Energy in Scotland*, which looks at meeting the country's energy needs over the next 20-50 years.⁴

² The Energy Efficient Scotland Route Map is available at: <https://beta.gov.scot/ISBN/9781788518161>

³ The Energy Efficient Scotland Consultation is available at: <https://beta.gov.scot/ISBN/9781788518178>

⁴ More information on the Energy Strategy is available at: <http://www.gov.scot/Topics/Business-Industry/Energy/energystategy>

Fuel Poverty

19. We have recently consulted on a new Fuel Poverty Strategy for Scotland, which sets out proposals for a new strategic approach to tackling fuel poverty, including how it will be delivered and a timeline for this.⁵ To date, Scottish Government efforts to tackle fuel poverty have focussed on the energy efficiency of people's dwellings. The new draft strategy sets out an approach that considers wider issues of social justice and the health impact of tackling fuel poverty. A new definition of fuel poverty and long-term target relating to the eradication of fuel poverty are also proposed, with a Fuel Poverty Bill tabled for introduction in the Parliament later this year.
20. Despite the reductions in fuel poverty levels we have seen in recent years, it remains a pressing issue with far too many households struggling with unaffordable energy costs. The most recent statistics show that there are around 200,000 social rented households in Scotland (around one third of all social rented households) living in fuel poverty, based on the current definition.⁶ We recognise that the lowest rates of fuel poverty are associated with higher energy efficiency standards, and underpinning an overarching statutory target we will set ambitious targets that will help us achieve our aim to remove poor energy efficiency as a driver for fuel poverty.

Climate Change Ambition

21. Climate change is already affecting Scotland, with increases in average temperatures, sea level and annual rainfall. Improving energy efficiency in the social rented stock plays an important role in our ambitions for tackling climate change and the transition to a more prosperous, low carbon economy. For climate change carbon abatement, attainment of the EESH by 2020 is projected to reduce carbon output by 760kT per annum from the social rented sector – equivalent to the combined annual household emissions of Aberdeen and Dundee. The residential sector produced 12.7% of Scotland's greenhouse gas emissions in 2015 (6.1 MtCO₂e).⁷ Further information on the carbon abatement potential of the proposed EESH2 milestone is provided at paragraph 62.
22. The Scottish Government's world-leading climate change targets require emissions from across Scotland to be reduced by 42% by 2020 and at least 80% by 2050 on 1990 levels. The Climate Change Plan outlines the steps we will take to reduce emissions across the economy, including in the residential and services sectors, which will see their emissions reduced by 23% and 59% respectively by 2032 on 2015 levels. New and more ambitious climate targets were subject to consultation in 2017 with a new Climate Change Bill to be introduced to Parliament in due course.⁸

⁵ <http://www.gov.scot/Publications/2017/11/6179>

⁶ Scottish House Condition Survey 2016: Key Findings, Chapter 4: Fuel Poverty, <http://www.gov.scot/Publications/2017/12/5401/348228>.

⁷ Scottish Greenhouse Gas Emissions, 2015, table B1, <http://www.gov.scot/Publications/2017/06/9986/342095>.

⁸ New Climate Change Bill: Climate Change Bill Consultation – <http://www.gov.scot/Topics/Environment/climatechange/Newclimatechangebill>

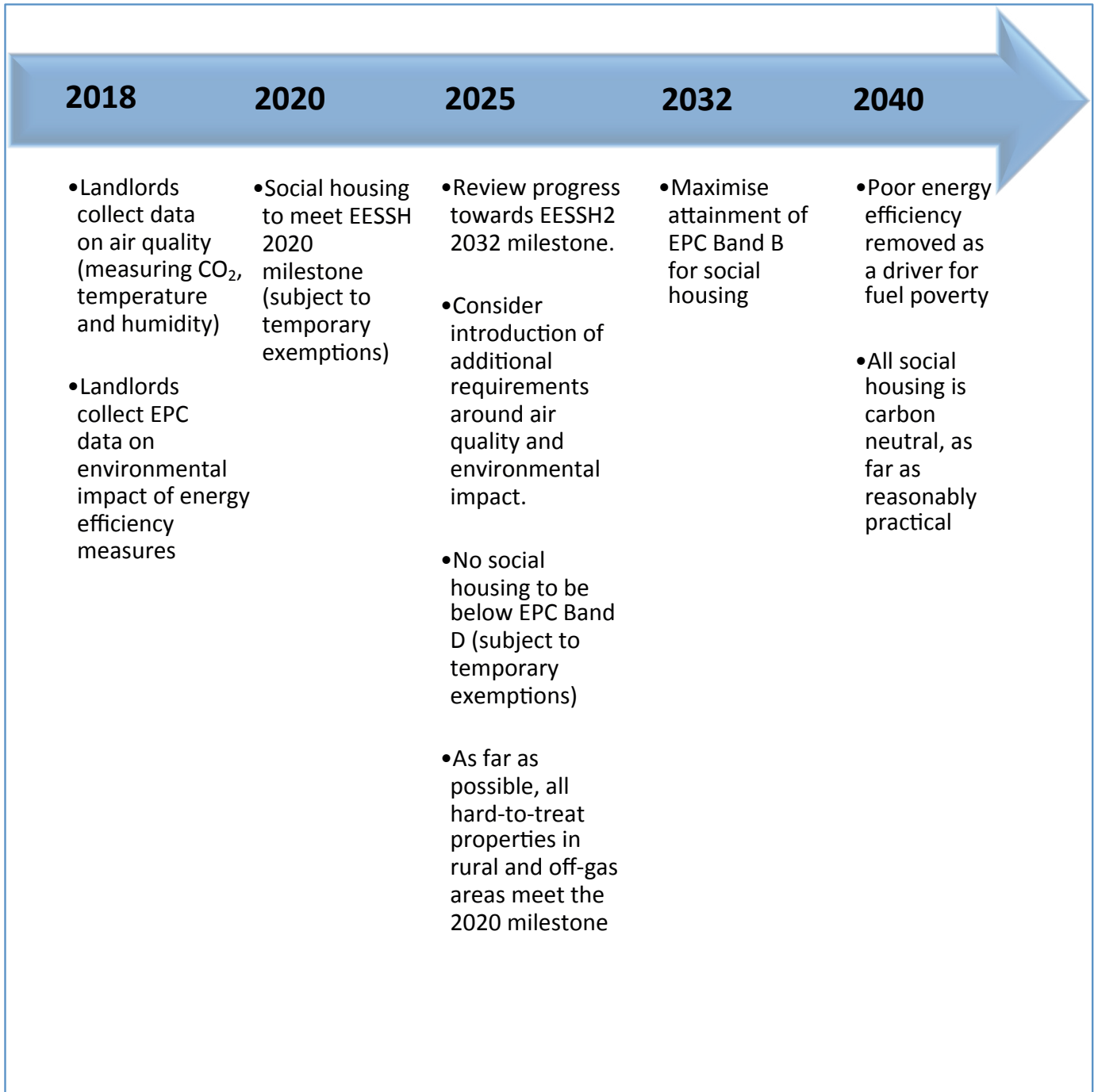
Air Quality

23. Air quality is a key health issue affecting people, homes and energy efficiency. While improvements in energy efficiency can lead to improvements in health outcomes, particularly for older people, young children, and those with respiratory and other chronic health conditions, there is the potential for unintended consequences adversely affecting the air quality in a home.
24. One of the health conditions affected by poor indoor air quality is asthma. The UK has one of the world's highest rates of asthma, and it is estimated that around 320,000 people in Scotland are presently receiving treatment for asthma, a fifth of whom are children.⁹ The reasons for the high prevalence of asthma are not clear, and could be due to a number of factors. However, poor ventilation can lead to poor indoor air quality, and in some cases problems can be exacerbated by:
- modern design (e.g. more airtightness; reduced air movement due to fire doors; chemical components in modern construction);
 - insulation (by increasing air-tightness or creating cold spots); and
 - the behaviour of occupiers (e.g. closing vents to reduce heat loss, closing windows due to security concerns, low recognition of health impacts of air quality).
25. Innovative technologies mean homes can potentially be very efficient. Proper use of energy and ventilation systems will help ensure air exchange rates meet recommended levels, and effective tenant engagement and advice is vital for successful outcomes in these regards.

9 <http://www.gov.scot/Resource/0052/00525472.pdf> Scottish Health Survey, 2016 Edition: Chapter 10: Respiratory Health.

PART TWO: PROPOSED STANDARD

EESSH2: Proposed Trajectory



Overview of the proposals for EESH2

26. The current milestone for EESH 2020 is to meet a minimum standard for energy efficiency for all social homes. This minimum standard is set as specific SAP ratings based on house and fuel types.¹⁰ We are proposing future activity for EESH2, as follows:

- a challenging and aspirational target to maximise the number of social rented homes meeting an EPC B by 2032;
- the EESH2 milestone to include air quality and environmental impact requirements (from 2025);
- a floor of EPC D as the minimum energy efficiency standard for a house to be let, subject to limited temporary exemptions. We are also seeking views on when this minimum standard should come into force;
- a vision for 2040 for social housing's contribution to realising our fuel poverty, energy efficiency and climate change ambitions; and
- we intend to carry out another review of EESH in 2025 to assess progress and confirm any additional requirements of the 2032 milestone or 2040 vision.

2032 Milestone

27. Households that are living in, or vulnerable to, fuel poverty spend a larger proportion of their income on fuel bills. Improving energy efficiency is one of the most sustainable ways to lift households out of fuel poverty. It saves money on fuel bills year-after-year as well as helping to protect against future changes in fuel prices.
28. Social landlords, tenants, energy suppliers and the Scottish Government should act together to maximise the attainment of EPC B for social housing by 2032 (the standard is set out in Table 3 overleaf). This aligns with wider targets for Energy Efficient Scotland, climate change emissions reductions and domestic heat. Compared with our proposals in the Energy Efficient Scotland consultation for the owner occupied sector and the PRS, this milestone supports social housing improving energy efficiency faster than the other domestic sectors.
29. We recognise the challenges in meeting this standard for all property and fuel types, and so are proposing a lower target of EPC C reflecting the difficulties of improving detached houses and houses reliant on some fuel types (e.g. oil, LPG, solid fuel). However, on the basis of current stock estimates these properties account for only 6% of social housing.
30. It is intended that the new milestone will be simple to communicate and understand, and marks a major step change towards removing poor energy efficiency as a driver for fuel poverty in social housing. The milestone will also be challenging to meet; achieving it will depend on funding streams to support the necessary works and there will also be a practical limit to how much improvement is possible in some cases.

¹⁰ See paragraphs 5-6 for details of SAP and the 2020 milestones.

Table 3: EESSH targets for 2032 (by fuel and dwelling type)

EE Rating	EPC Band			
	Gas	Electric	Biomass	Other fuels
Flats	B	B	B	C
Four-in-a-block	B	B	B	C
Houses (other than detached)	B	B	B	C
Detached	C	C	C	C

31. This longer-term approach to 2032 allows for alignment with social landlords' longer-term business planning cycles, however, meeting the 2032 target cannot be the sole responsibility of social landlords. Realising this aspiration for the sector will also require action from government, tenants, and energy suppliers e.g. through joined-up government policy on void periods and new-build properties; alignment with health outcomes; and working with tenants to make best use of improvements and encourage take-up.

32. The EESSH 2020 milestone is based on the principle that all stock can be brought up to standard, subject to a small proportion of exemptions. The new 2032 milestone indicates a shift in the framing of the standard to a milestone which maximises attainment rather than 100% compliance. This will require a new approach which recognises that for certain landlords less than full attainment for all stock of the new milestone will not be failure, provided all reasonable efforts have been undertaken to improve the energy efficiency of their stock. In maximising attainment of the new standard, comparisons across peer groups of similar stock types will be helpful in providing rationale for performance, and encouraging sharing best practice.

33. The percentage of housing across the sector which meets this standard will be a measure of progress against the standard, with the SHR continuing to monitor performance.

Question 1: What are your views on the proposed target to maximise the proportion of social housing meeting EPC B by 2032?

Question 2: What are your views on the proposal for a lower target of EPC C for detached houses and houses reliant on specific fuel types (e.g. oil, LPG and solid fuel)?

2025 Review and Additional Factors in the 2032 Milestone

34. There remains uncertainty about the development of the energy supply over the next five years. A review of the new EESSH2 standard is proposed for 2025 (or earlier, subject to UK Government announcements on hydrogen and the re-provisioning of the gas network) to:
- assess progress towards meeting the new standard;
 - consider the 2032 milestone in the context of technological developments; and
 - consider additional requirements of the 2032 milestone regarding air quality and strengthening the condition currently in EESSH 2020 on environmental impact (that no energy efficiency measure should result in a detriment to the environmental impact of a property).
35. Hard-to-treat properties in rural and off-gas areas present specific challenges for landlords. Some of these fall into categories for a temporary exemption from the EESSH 2020 milestone. In the period up to 2025, landlords should focus on bringing hard-to-treat properties in these areas up to the 2020 milestone. Some gas-fuelled houses also currently fail EESSH 2020. These should not be neglected, but landlords should avoid large scale investment in gas-grid improvements until the future situation on re-provisioning is clearer.
36. From 2025, it is proposed that any new energy efficiency measures should be installed on the principle of no detriment to air quality and, where necessary, additional measures should include provision for improving ventilation (including the installation of mechanical ventilation where required), and that provision should be included for the monitoring of the performance of proposed measures.¹¹
37. It is proposed that the Scottish Government and social landlords work together at the earliest opportunity to collect and analyse data on air quality, to identify where air quality issues arise and how they can be mitigated. Tenants have a responsibility for making proper use of their homes, but landlords will be expected to engage with them to provide clear advice and examples of good practice and involve them in the development of projects.
38. Similarly, from 2025 it is proposed that any new energy efficiency measures should be installed on the principle of no detriment to the modelled environmental impact of a building. This principle is already a condition of EESSH 2020, however, it is proposed that this is strengthened with landlords asked to collect data on the modelled environmental impact of measures installed to improve energy efficiency. This will include any EPCs produced before and after installation and data from other SAP assessments carried out by landlords. This requirement would be supported by an improved reporting mechanism, with the period to 2025 used for monitoring and analysis purposes.

¹¹ Poor ventilation can lead to poor indoor air quality. Common manifestations of this include an accumulation of moisture, house dust mites and volatile organic compounds in the air inside homes. Excess moisture generated by normal domestic activity such as washing, cooking and passive drying can also be retained in the building envelope, and the impact of moisture exhaled during sleep can be significant. This can lead to problems with dampness and condensation, can contribute to illnesses such as asthma, and encourage the growth of moulds.

39. Further requirements proposed for the 2032 milestone include:

- that the new standard is to allow for small variations i.e. ± 1 SAP point in measuring progress, to recognise potential inconsistencies in reporting;
- the installation of measures must allow sufficient time for engagement with tenants to ensure best use is made of measures;
- landlords must factor in the maintenance of measures and allow for deterioration over time; and
- local authorities must support the EESSH2 milestone as part of their local authority energy efficiency strategy. This will include appropriate use of district heating schemes.

Question 3: What are your views on the proposed content of the review:

- (a) to assess progress towards meeting the new standard?**
- (b) to consider the 2032 milestone in the context of technological developments?**
- (c) to consider any additional requirements of the 2032 milestone regarding air quality and environmental impact?**

Question 4: In terms of the timing of the review, what are your views on:

- (a) the proposal to review the new standard in 2025?**
- (b) the proposal to review the standard earlier if UKG has made announcements on hydrogen and the re-provisioning of the gas network?**

Question 5: Do you have any other comments on the further requirements proposed for the EESSH 2032 target?

Minimum Standard

40. The EESH 2020 milestone sets a minimum standard of at least EPC D and the majority of social housing will meet this. However, some homes which rely on oil-fuelled heating, and some exempt properties, will be below this minimum. It is projected that 0.5% social housing stock will fall below EPC D after EESH1 in 2020 (c3,000 homes).
41. The EESH2 milestone is an aspirational target and may not be achievable for all stock (e.g. it may be more challenging for landlords with harder to treat traditional properties, or tenement stock where remaining energy efficiency improvements may be more limited). A minimum standard is therefore proposed that no social housing can be let if their energy efficiency performance is below EPC D (there may be situations where temporary exemptions would continue to apply – see from paragraph 43).
42. We are proposing that this minimum standard would apply from April 2025, which is the same timeframe by when privately rented properties will be required to have EPC D, as confirmed in the Energy Efficient Scotland Route Map. It is proposed that social housing that cannot be brought up to EPC D by April 2025, and is not subject to temporary exemptions, should not be let to social tenants.

Question 6: What are your views on the proposed minimum standard that no social housing should have an energy efficiency rating of less than EPC D?

Question 7: It is proposed that this minimum standard of EPC D applies to social housing from April 2025, in line with the standard for the private rented sector. What are your views on this timescale for social housing?

Exemptions

43. The EESH guidance recognises obstacles to bringing some properties up to the 2020 standard.¹² While landlords should try to ensure that all properties meet this standard, there may be technical difficulties, lack of consent, or barriers of costs and funding. In prescribed circumstances, landlords can report temporary exemptions for properties that cannot be brought up to the 2020 standard.
44. The estimates of costs and attainment rates set out in the next part of this consultation show that there are constraints on the ability of landlords to bring all properties up to the new standard for 2032. It may be possible to achieve the standard with future technological developments. However, we consider it appropriate to frame the standard in terms of maximising attainment rather than achieving the standard for all properties in the sector, though the percentage of properties meeting the standard will be monitored to demonstrate progress. Leading from this, we also consider that framing the target in these terms means that a procedure for exemptions is not required. However, landlords would need to provide a short narrative explanation of their performance in their annual returns to the SHR.

¹² EESH guidance (see footnote 1), paragraph 10.1

45. We recognise that temporary exemptions will still be required for some properties that cannot meet the 2025 minimum standard of EPC D (e.g. where tenants refuse permissions for work to be undertaken). However, other exemptions that are currently recognised (e.g. technical, excessive cost, unable to secure funding)

will no longer apply to new social lets from 2025 (see Table 4 below). This addresses the situation of tenants living in properties subject to long-term exemptions, and which may no longer be considered as of a suitable standard of social housing accommodation.

Table 4: EESSH Exemptions

	Current Exemptions for EESSH	Will exemption apply to minimum standard from 2025?
A	Technical	NO
B	Social	YES
C	Excessive Cost	NO
D	New Technology	YES
E	Legal	YES
F	Disposal	YES
G	Long-term Void	YES
H	Unable to Secure Funding	NO

Question 8: What are your views on the proposal that landlords would need to provide a short narrative explanation of their performance in their annual returns to the SHR?

Question 9: What are your views on the proposal that limited exemptions should apply to the 2025 minimum standard for new lets?

Use of New Technology

46. Landlords have risen to the challenge of EESH1, with innovative approaches to new technologies already being adopted.¹³ In maximising attainment of EESH2 post-2020, investment in new technology that delivers improvements in energy efficiency, even if those measures are not fully recognised by SAP methodology, is to be encouraged.
47. The current *EESH Guidance for Social Landlords* addresses this point. If landlords are satisfied that an innovation provides tangible benefits for energy efficiency and is in the best interests of tenants, they can consider a measure which, on paper, does not meet the relevant EESH rating. Landlords must be satisfied that they have robust evidence to support this decision.¹⁴
48. This approach is proposed to continue through EESH2. Additionally, as with other energy efficiency measures, it is proposed that when implementing any new or innovative approaches, effective monitoring and evaluation is crucial in assessing/measuring the effectiveness of an intervention. To ensure a robust evidence base is developed, such assessment must be standardised and independently analysed where possible.
49. Tenants should be involved and empowered as part of this monitoring process e.g. tenant control systems and smart connected thermostats can be adopted to improve outcomes and messaging. Consistent messaging to tenants on the efficient and effective running of their homes is vital, and landlords should ensure that all tenants are furnished with the information they need particular to their property.

Question 10: What are your views about the proposed approach to recognising new technology in EESH2?

2040 Vision

50. By 2040 poor energy efficiency should be removed as a driver for fuel poverty in social housing and as far as reasonably practical all social housing should be carbon neutral. This vision should reduce fuel costs for tenants and maximise the energy efficiency potential of the social housing stock.
51. This approach supports the vision set out in our Energy Efficient Scotland Route Map that by 2040, our homes and buildings are warmer, greener and more efficient, and will also contribute to emissions reduction targets.

Question 11: Do you have any comments on the EESH 2040 Vision for (a) poor energy efficiency to be removed as a driver for fuel poverty and for (b) social housing to be carbon neutral?

¹³ Examples of these can be found at: <http://www.energysavingtrust.org.uk/scotland/tools-calculators/green-network-social-housing>

¹⁴ EESH guidance (see footnote 1), paragraph 5.12

PART THREE: FINANCIAL IMPLICATIONS

52. The proposed EESHS2 standard¹⁵ has been developed through the EESHS Review Group and relevant Sub-Groups (Level and Measurement, Funding and Costs, Health and Affordable Warmth, and Innovation and New Technology). Membership of the Sub-Groups was drawn from the wider Review Group members and other relevant organisations/experts (e.g. other social landlords, architects).

Methodology

Social landlord case studies

53. In estimating the impact of the proposed new standard, a similar process was undertaken to that which was introduced when developing EESHS1. A number of social landlords, both local authorities and RSLs, volunteered to model how much of their stock could be upgraded to the new standard, and at what cost. The volunteers were selected to represent a broad range of landlords (e.g. landlord/dwelling type, urban/ rural). Their stock comprises around 19% of local authority stock, 5% of RSL stock, and 12% of total social sector stock. The representativeness of the case study stock was assessed using Scottish House Condition Survey (SHCS) data. This indicated that the stock of the case study landlords was broadly representative of the wider Scottish social housing stock.

54. In the first stage of the modelling, landlords upgraded their stock to meet EESHS1 in 2020, and reported how much of their stock would already comply with EESHS2 in 2020. The second stage involved applying a set of reasonable measures to the dwellings which failed to meet EESHS2. These measures are classified as “reasonable” on the grounds that they offer reasonable payoff in terms of fuel bill savings relative to the cost of installing them. The third stage involved applying a set of additional measures to the upgraded stock, and recording dwellings that will meet EESHS2 after reasonable and additional measures had been applied. “Additional measures” refer to measures which tend to offer a lower payoff than reasonable measures. The fourth and final stage involved recording dwellings that will meet EESHS2, after reasonable, additional and further energy efficiency measures have been applied. The set of “further measures” was not pre-specified, but instead landlords were free to model the impact of any other upgrades that they thought might be relevant for their stock. Table 5 sets out the measures modelled under each of these stages.

15 See paragraph 27

Table 5: Measures modelled by case study landlords for ESSH2

Reasonable Measures
Switch from existing heating system to condensing gas boiler
Upgrade existing gas boiler
Double glazing
Secondary glazing
Heating controls
Storage heaters
Loft insulation top up
Floor insulation
Compact fluorescent lighting
External Solid Wall insulation
Internal Solid Wall insulation
Water heat reclamation
Thermostatic Radiator Valves (TRVs)
Cavity Wall Insulation
Hot water tank and pipe insulation
Replace secondary heating
Flat roof insulation
Room-in-the-roof insulation
Switch from storage heaters to electric wet
Switch from storage heaters to gas
Switch from storage heaters to air source heat pump
Switch from storage heaters to quantum storage
Additional Measures
Biomass boiler
Air source heat pump
Ground source heat pump
Solar hot water (solar thermal)
Solar Photovoltaic (PV)
Micro combined heat and power
Further Measures
Insulated doors
Cavity wall insulation with external
Triple glazing
Flue Gas Heat Recovery
Battery storage linked to PVs

National Household Model

55. A parallel cost/benefit analysis was undertaken by the Scottish Government using the National Household Model (NHM), which is also used by the UK Government and the Committee on Climate Change. The base year stock was drawn from the SHCS, and an assumption for demolitions

and new build was then applied for future years. The flexibility of the NHM allowed a slightly different modelling approach to be used – instead of applying upgrades in a set order, the model searched through a set of measures (see Table 6) to find the subset of measures which met the specified EPC rating at the lowest upgrade cost.

Table 6. Measures modelled in National Household Model for EESHS2

Insulation and heating efficiency	Renewables
Gas boiler upgrades	Air source heat pumps
Cavity wall insulation	Biomass boilers
Double glazing	Ground source heat pumps
Draught proofing	Solar PV
External wall insulation	Solar thermal
Floor insulation	
Internal wall insulation	
Loft insulation (top-up)	
Low energy lighting	
Secondary glazing	
Storage heater	
Tank insulation	

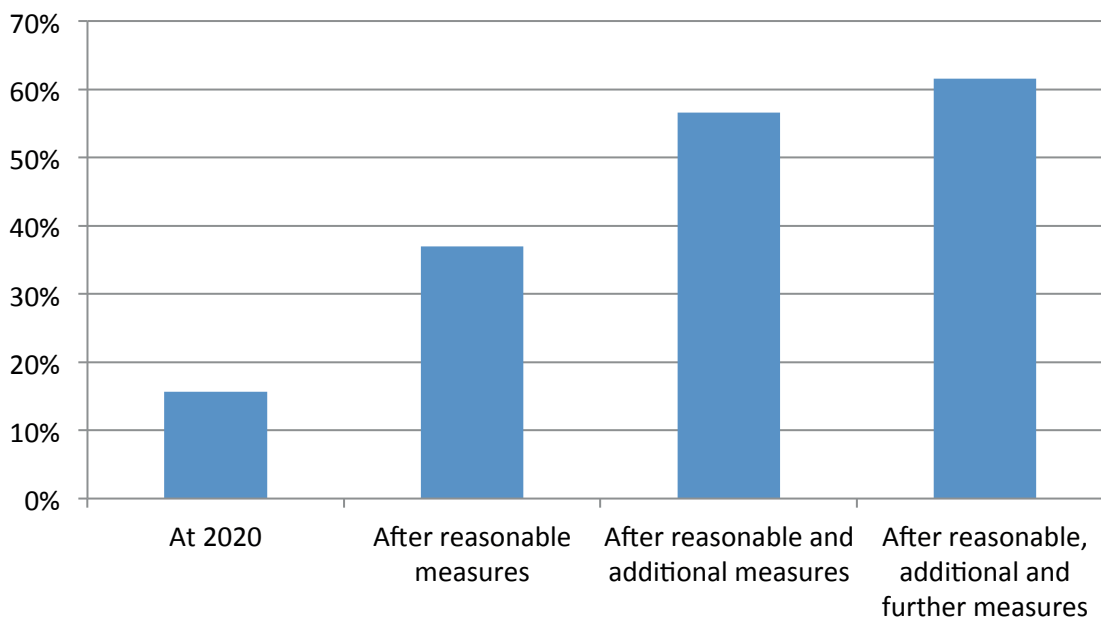
56. The list of measures modelled in the NHM is not exhaustive; for example, community heating was not modelled as the NHM is not designed for spatial analysis. In addition, various restrictions were placed on the availability of measures to try to account for problems that may arise in practice. For example, only 50% of pre-1919 stone dwellings were assumed to be suitable for wall insulation, and for solar PV, not only were mid- and ground-floor flats excluded, but in addition it was also assumed that only 50% of top-floor flats and houses which have a roof of at least 30m² also have a suitable pitch and orientation for solar panels.

57. The base year stock was first upgraded to meet EESHS1 in 2020 at least cost, and the costs and benefits of EESHS2 were then calculated by upgrading this stock to meet EESHS2 in 2032.

Attainment rates and costs

58. As set out previously, the case study exercise was broken down into four stages: upgrading to EESSH1, then applying reasonable, additional and further measures. Figure 1 shows how the attainment rate of EESSH2 increased at each stage of the modelling.

Figure 1. EESSH2 attainment rates after different stages of case study exercise



59. As the case studies cover a significant share of the total social housing stock (c.12%), and the case study stock is broadly representative of the wider social stock, the case study results were grossed up to estimate indicative figures at the Scottish level. These are reported in Table 7, which also provides the results from the NHM by way of comparison. While the results for case study landlords are broken down into the local authority and RSL sectors, this breakdown should be regarded as less robust than the results for the sector as a

whole, due to any bias as a result of the smaller sample. While the same point applies to the NHM results, the effect may be smaller due to the random nature of the sampling as well as the weighting factors to ensure the survey results reflect the overall stock. Given that over the period to 2032 there are likely to be significant technological developments which could affect the type and costs of upgrades, as well as the cost and carbon intensity of different fuels, the figures should be regarded as indicative rather than precise.

Table 7. Projected compliance rates and costs of EESHS2

	LAs	RSLs	All social landlords
Case studies grossed up to sector level			
EESHS 2 compliance	55%	87%	62%
Total cost	£1.5bn	£1.9bn	£3.4bn
Cost per dwelling not meeting EESHS 2 in 2020	£5,500	£9,300	£7,100
Cost per all dwellings in stock	£4,800	£6,900	£5,800
National Household Model			
EESHS 2 compliance	47%	51%	49%
Total cost	£1.7bn	£2.0bn	£3.7bn
Cost per dwelling not meeting EESHS 2 in 2020	£5,100	£5,600	£5,400
Cost per all dwellings in stock	£5,000	£5,400	£5,200
Cost per upgraded dwelling ¹	£5,300	£6,100	£5,700

1. The case study results did not report on the number of dwellings which will not meet EESHS2 in 2020, but which were not upgraded in the modelling because no upgrades were considered technically suitable. This is likely only to apply to a small number of dwellings, as confirmed by the NHM modelling – the cost per upgraded dwelling in the NHM results (£5,700) is only somewhat higher than the cost per dwelling not meeting EESHS2 in 2020 (£5,400).

60. The results in Table 7 show that, based on the case study results, it is estimated to cost around £3.4bn to achieve just over 60% attainment of EESHS2, as compared to a cost from the NHM modelling of £3.7bn to raise about half of the stock to EESHS2. Given the somewhat different characteristics of the stock in the two modelling exercises, differences in software used, and different modelling approaches, these results can be considered to be broadly similar.

61. The average costs are calculated in different ways. Dividing the total cost by the stock which will not meet EESHS2 in 2020 gives an average cost of £7,100 in the case study exercise, as compared to a corresponding cost of £5,400 in the NHM exercise. Dividing the total cost by total stock gives an average of £5,800 for the case study as compared to £5,200 for the NHM. Thus the NHM results have both a lower average cost as well as a lower projected attainment rate. The reason why the average cost in the NHM is lower but total cost is higher is because, as noted above, the NHM modelling allows for a degree of demolition and new build over time, and thus the total stock for EESHS2 is larger than in the case study results, which are grossed up using the latest (2016) published stock figures.

Benefits

62. While the benefits of meeting ESSH2, in terms of fuel bill and energy savings and carbon abatement, were not reported in the case studies, they are available from the NHM modelling, as set out in Table 8.

Table 8. Benefits of meeting ESSH2 (NHM modelling)

Total annual fuel bill savings	£110 million
Average fuel bill savings for upgraded stock	£160
Total annual energy savings	1.3 TWh
Average annual energy savings for upgraded stock	940 kWh
Carbon abatement – including electricity	0.4 MtCO ₂ e
Carbon abatement – excluding electricity	0.2 MtCO ₂ e

63. Tackling fuel poverty is at the forefront of our ambitions for ESSH2, and NHM projections indicate that meeting the new standard could reduce the average annual fuel bill of homes which are upgraded by c.£160, producing total savings of over £100m per year.

64. Meeting ESSH2 is further estimated to reduce annual carbon emissions by around 0.4 MtCO₂e for all fuels. This estimate is based on current carbon intensity factors; the saving will be lower depending on the degree to which the electricity and gas grids are decarbonised over time. Since emissions from generating electricity are attributed to the energy rather than the residential sector for the purposes of climate change reporting, Table 8 includes the estimated annual carbon abatement from fuels other than electricity, of 0.2 MtCO₂e.

Funding

65. Data on investment to date indicates that most of the funding for meeting the EESH has come from landlords own resources.¹⁶ A variety of funding sources to help landlords meet EESH are available, and these include:

- **Climate Challenge Fund (CCF)** delivered by Keep Scotland Beautiful on behalf of the Scottish Government. CCF provides support to communities to take local action on the impacts of climate change.
- **Energy Company Obligation (ECO)** UK Government scheme placing an obligation on energy suppliers to meet carbon and fuel bill reduction targets. Funding available via energy companies for energy efficiency measures, subject to certain criteria.¹⁷
- **Help to Heat** Subsidises gas connections for households that meet certain criteria relating to fuel poverty risk. This can include connections carried by independent gas transporters.
- **Feed in Tariffs** Delivered by energy providers. Whoever owns the renewable system will be paid for any electricity generated and surplus electricity exported to the national grid.
- **Renewable Heat Incentive (RHI)** Similar to the feed in tariffs however there are some important differences due to the fact there is no 'National Grid for Heat' and so importing and exporting heat is not relevant.
- **Home Energy Efficiency Programmes for Scotland: Area Based Schemes (HEEPS:ABS)** Delivered by the Scottish Government via local authorities. Provides funding to private sector households for installation of energy efficiency measures. Can be accessed by social landlords to help owners/private landlords in mixed tenure schemes.
- **HEEPS: Loans (Registered Social Landlords Scheme)** Delivered by the Energy Savings Trust. Provides interest-free, unsecured loans from £100,000 to £1m repayable over up to 10 years, to assist RSLs improve the energy efficiency of their stock or reach the EESH target.
- **Community and Renewable Energy Scheme** Delivered by Local Energy Scotland. Provides loan finance of up to £150k to not-for-profit community based organisations to cover pre-planning costs for any renewable project.
- **District Heating Loan Fund** Delivered by the Energy Savings Trust. Provides loans up to £400,000 on a commercial basis to support district heating networks.
- **Renewable Energy Investment Fund** Delivered by Scottish Enterprise Scottish Investment Bank. Key areas for support are: marine, district heating and community energy.
- **Scottish Partnership for Regeneration in Urban Centres (SPRUCE)** The Scottish Government established SPRUCE using European Regional Development Funds in conjunction with the JESSICA (Joint European Support for Sustainable Investment in City Areas) programme. The fund manager is Amber Infrastructure. Social housing providers are invited to develop renewable energy projects and energy efficiency schemes as part of the retrofit of their existing housing stock.

16 Total investment to meet EESH in 2016/17 was £100m (£112m in 2015/16). Around 80% of this came from social landlords' own resources, with around 20% from other funding sources e.g. the Scottish Government, UK Government, ECO. Landlords forecast £140m investment to meet EESH in 2017/18

17 The ECO3 consultation was launched on 30 March and is available at: <https://www.gov.uk/government/consultations/energy-company-obligation-eco3-2018-to-2022>

66. Through the EESSH Review Funding and Costs Sub-Group, a number of recommendations were made regarding effective funding for EESSH2. It should be noted that Scottish Government does not have direct control over all funding streams available to social landlords to assist in the attainment of EESSH. Recommendations from the Sub-Group include:

- comprehensive, multi-year funding streams to be considered for introduction at the earliest opportunity in support of EESSH2. Longer-term funding will realise a wide range of benefits for landlords and contractors alike, particularly in rural areas;
- where practical, universal access and eligibility should be considered, with the launch of Energy Efficient Scotland and publication of the Energy Efficient Scotland Route Map providing an opportunity in this regard. This may be particularly helpful when considering investment in mixed tenure blocks and, beyond the existing offering through the equity loans pilot¹⁸ and its potential expansion, should be aligned with energy efficiency offerings to the PRS and owner occupied sector;
- given their shared outcomes, the numerous existing funding streams should be consolidated where possible to encourage a simplified and effective funding offering;
- to ensure best value is achieved and savings delivered, collaborative procurement (including through access to Scotland Excel frameworks) is to be encouraged;
- landlords should take every opportunity to share their best practice and experience (good and bad) e.g. through the EESSH Knowledge Hub or EST Green Network for Social Housing;¹⁹
- seed corn funding should be considered to support delivery of feasibility studies, improving levels of expertise and providing a wider resource for all landlords to inform investment decision-making;
- similarly, funding is to be considered to support the development of a small group of experts to assist landlords in delivering energy efficiency projects. This would be a national resource, of particular assistance to those landlords who may not have the capacity or experience in securing suitable funding, and may also realise benefits in employment and training opportunities for young people;
- buddying is to be developed to assist landlords in meeting EESSH2 (and should be established practice before 2020). Representative bodies (e.g. SFHA, GWSF) may assist in this regard;
- to ensure that EESSH2 is not a barrier to sensible investment, innovative interventions must be eligible for funding (e.g. technology that may not be recognised by SAP). Consideration should be given to fast-tracking such interventions, with enabling/incentivising funding to kick-start these approaches. This may also encourage smaller landlords to be involved, and again should be ready for introduction from the commencement of EESSH2.

18 Further information is available at: <http://www.energysavingtrust.org.uk/scotland/grants-loans/heeps/heeps-equity-loan-scheme>

19 See <http://www.energysavingtrust.org.uk/scotland/tools-calculators/green-network-social-housing>

67. With proposed targets for domestic heat from low-carbon technologies by 2032, a focus in the early years of EESH2 on energy efficiency and bringing off-gas grid properties (predominantly, though not exclusively, rural) up to the standard is advised. Funding options are to be developed to specifically help landlords with off-gas grid properties maximise their attainment of EESH2, and should be ready for introduction from the commencement of EESH2.
68. EESH2 will be delivered within the wider context of Energy Efficient Scotland. In terms of funding support, it will draw on the success to date of the HEEPS Area Based Schemes and Warmer Homes Scotland, and may include continued provision of grant and loan support followed by expanded and directed incentivisation. The Energy Efficient Scotland Route Map sets out the detail of how the programme will be implemented, including detail on energy efficiency standards for the owner occupier sector and the PRS with cross-tenure funding considerations crucial to meeting standards.

Question 12: Do you have any views on the assessment of (a) costs, (b) benefits and (c) funding implications of EESH2?

PART FOUR: IMPACT ASSESSMENTS

69. Under our wider plans for Energy Efficient Scotland, and alongside this consultation document, we have published impact assessments for Energy Efficient Scotland which include considerations of EESH2.²⁰ These include:

- A Business and Regulatory Impact Assessment.
- An Equalities Impact Assessment.
- An Environmental Impact Assessment.

We welcome views on our assessment of the impact of the proposals which we set out in these documents. There is an opportunity to comment on the impact assessments through the Energy Efficient Scotland consultation, and encourage all relevant parties to respond to the consultation.

²⁰ The Impact Assessments are available at:

Energy Efficient Scotland – Partial Business and Regulatory Impact Assessment <https://beta.gov.scot/ISBN/9781788518529>
Energy Efficient Scotland – Environmental Assessment: Environmental Report <https://beta.gov.scot/ISBN/9781788518512>
Energy Efficient Scotland – Equality Impact Assessment <https://beta.gov.scot/ISBN/9781788518482>

PART FIVE: HOW TO RESPOND

Submitting Your Response

70. We are inviting responses to this consultation by 27 July 2018.
71. Please respond to this consultation using the Scottish Government's consultation platform, Citizen Space. You can view and respond to this consultation online at: <https://consult.gov.scot/better-homes-division/social-housing-post-2020>. You can save and return to your responses while the consultation is still open. Please ensure that consultation responses are submitted before the closing date of 27 July 2018.
72. If you are unable to respond online, please complete the Respondent Information Form (see "Handling Your Response") to:

**Consultation on the Energy Efficiency
Standard for Social Housing
Scottish Government
1H South
Victoria Quay
Edinburgh
EH6 6QQ**

73. It would be helpful to have your response by email or using the electronic response form. The electronic response form can be accessed at the following website address: <https://consult.scotland.gov.uk>. You can also email your response to EnergyEfficientScotland@gov.scot.

Handling Your Response

74. If you respond using Citizen Space (<http://consult.scotland.gov.uk/>), you will be directed to the Respondent Information Form. Please indicate how you wish your response to be handled and, in particular, whether you are happy for your response to be published.
75. If you are unable to respond via Citizen Space, please complete and return the Respondent Information Form included in this document. If you ask for your response not to be published, we will regard it as confidential, and we will treat it accordingly.

Publication of Responses

76. Where respondents have given permission for their response to be made public, and after we have checked that they contain no potentially defamatory material, responses will be made available to the public at <http://consult.scotland.gov.uk>. If you use Citizen Space to respond, you will receive a copy of your response via email. Following the closing date, all responses will be analysed and considered along with any other available evidence to help us. Responses will be published where we have been given permission to do so.
77. Everyone who responds should be aware that the Freedom of Information (Scotland) Act 2002 applies to the Scottish Government. We would therefore have to consider any request made to us under the Act for information relating to responses made to this consultation exercise.

Comments and Complaints

78. If you have any comments about how this consultation exercise has been conducted, please send them to:

**Consultation on the Energy Efficiency
Standard for Social Housing
Scottish Government
1H South
Victoria Quay
Edinburgh
EH6 6QQ**

Scottish Government Consultation Process

79. Consultation is an essential part of the policy-making process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work. You can find all our consultations online: <http://consult.scotland.gov.uk>. Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post. Consultations may involve seeking views in a number of different ways, such as public meetings, focus groups, or other online methods such as Dialogue (<https://www.ideas.gov.scot>).

80. Responses will be analysed and used as part of the decision-making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review;
- inform the development of a particular policy;
- help decisions to be made between alternative policy proposals; and
- be used to finalise legislation before it is implemented.

81. While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

Next steps

82. The Scottish Government will review responses to the consultation before reaching a final view on the standard for ESSH post 2020.



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