Scottish Building Regulations: Proposed changes to energy and environmental standards

Determining the principles for a Scottish equivalent to the Passivhaus standard

Scottish Government Stage 1 Consultation Response Part 2 – Onward Review

December 2025

Scottish Government
Riaghaltas na h-Alba

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1 Introduction

1.1 Scope of report

Following the earlier publication of the Scottish Government Part 1 response to the July 2024 Stage 1 consultation on determining the principles for a Scottish equivalent to the Passivhaus standard, this document summarises the Scottish Government Part 2 response to the consultation.

The Stage 1 consultation covered topics set out in four sections and one Annex:

- Proposed components of the standard – Design
- Proposed components of the standard – Compliance
- Call for information on current standards
- Proposed delivery programme
- Annex A: Notes on proposed amendment of regulation

The Part 1 response focused on the regulatory changes required to enable the delivery of a Scottish equivalent to the Passivhaus standard, with The Building (Procedure) (Scotland) Amendment Regulations 2024 subsequently being laid on 12 December 2024.

This Part 2 response discusses the next steps and ongoing action to develop amended performance targets and supporting processes. The detail of proposed changes will be set out in a Stage 2 consultation.

1.2 Policy Background

In December 2022 the then Minister for Zero Carbon Buildings, Active Travel and Tenants' Rights confirmed that, in response to Alex Rowley MSP's Proposed Domestic Building Environmental Standards (Scotland) Bill, the Scottish Government would make subordinate legislation by 14 December 2024 to give effect to Mr Rowley's final proposal - "to introduce new minimum environmental design standards for all new build housing to meet a Scottish equivalent to the Passivhaus standard, in order to improve energy efficiency and thermal performance".

To develop proposals, a further review of energy standards within building regulations was initiated at the beginning of 2023. The outcome sought from the review is to require specific actions relevant to demonstrating compliance of construction work with regulations and standards for very low energy buildings which also address occupant comfort (thermal and indoor air quality).

1.3 Summary of consultation responses

Consultation activity ran from 31 July 2024 to 23 October 2024 and received a total of 350 responses. The breakdown of consultation responses by respondent profile is shown below:

Respondent profile	Number of respondents	% of total sample
Individuals	**164**	**47%**
Organisations (categories below)	**186**	**53%**
Designer / Consultant	61	17%
Contractor / Developer	36	10%
Industry Association	21	6%
Local Authority	19	5%
Manufacturer	16	5%
Housing Provider / Registered Social Landlord	8	2%
Professional Body	7	2%
Voluntary Organisation	5	1%
Advisory Body / Committee	4	1%
Other - Commercial Organisation	3	1%
Other - Warranty Provider / Academic Body / Political Party / Other	6	2%

Note that responses submitted from individuals are not categorised by organisation type, even where an organisation type is noted by the respondent.

1.4 Publication of responses

Of the 350 responses received, 64 instructed that their responses should not be published. Of these 64 responses, 25 were from individuals and 39 from organisations.

Accordingly, following final quality assurance checks, 290 consultation responses were published via the consultation webpage.

The full consultation analysis report is published separately and may also be accessed via the link on the consultation webpage.

Readers may find it useful to read the analysis report alongside the summary of actions contained in the following sections.

2 Consultation section 2 – Defining a Scottish equivalent to the Passivhaus standard

2.1 Identifying the components of an equivalent standard

Consultation questions 1 and 2 asked respondents if they broadly agreed with a range of statements on what 'equivalent' should not mean and what 'equivalent' should require consideration of, in delivery of amended building standards to address energy and environmental performance.

There was agreement that 'equivalent' should not necessarily mean that Passivhaus is adopted and implemented for all new developments or that standards must consistently achieve built outcomes at least as good as Passivhaus.

We can confirm that the new standard will not mandate for all new buildings to be fully Passivhaus certified or for certified Passivhaus products to be used. We will however take action to recognise fully certified Passivhaus buildings as an alternative means of compliance with standard 6.1 of the building regulations – see section 3.5.

There was disagreement that 'equivalent' should not necessarily mean a standard is set that requires a similar level of prescription on key energy-relevant elements of building specification.

Response to this feedback is captured elsewhere in this document, particularly within sections 3.2 and 3.3 and in section 7 'Next steps', which provides a summary of the actions to deliver a Scottish equivalent to the Passivhaus standard.

There was agreement with the majority of the statements on what 'equivalent' should require consideration of, however, there was disagreement that there should be an understanding of differences in outcome due to the application of our respective processes, including chosen calculation methodologies, with respondents generally feeling that compliance methodologies should produce consistent outcomes and the outcomes should match in-use performance. Sections 3.1 and 7 provide further information on this aspect.

3 Consultation section 3 – Proposed components of the standard – Design

3.1 Standard 6.1 and approved calculation methodology

Consultation question 3 sought views on the continued use of calculation tools implementing the UK methodologies i.e. the Home Energy Model (HEM) and the Simplified Building Energy Model (SBEM), on the basis that these tools are reviewed and shown to report representative outcomes. Respondents were encouraged to provide information supporting their views, including any experiences related to the use of the Passive House Planning Package (PHPP) as a calculation tool.

There was disagreement on the continued use of tools implementing the UK methodologies, with response themes including positive views of PHPP as a calculation tool, concerns that HEM was untested or that more work was needed on tools.

The Scottish Government recognises the importance of citing the use of compliance tools that are demonstrated to be robust, giving correct and consistent representation of the services and systems that are being selected in a useful way to provide compliance with building regulations for all developments across Scotland.

Interim consultation versions of the Scottish Wrapper/HEM and an updated SBEM were released for testing in September 2025. These reflect the proposed options for the level of challenge for new dwellings and non-domestic buildings and implement some additional elements as discussed elsewhere in this response.

It should be noted that these tools do not reflect some of the more procedural proposals of the review, such as the method of target setting. Once these have been confirmed, the compliance tools will be updated, with additional research activity where needed, and presented in final tools in 2026. This will enable extensive testing, use and any required refinement of the tools to take place in advance of the 31 March 2028 implementation date.

The Stage 2 consultation will provide further details on the proposed tools, request views on the direction of travel of finalising these tools and present consultation versions of the HEM/Scottish ‘wrapper’ and SBEM.

Given the responses to the Stage 1 consultation alongside industry feedback throughout the review via the Working Group consensus and with PHPP being a fundamental aspect of the Passivhaus system, we will continue work to recognise a modified PHPP as an additional tool that implements the approved methodology to demonstrate compliance with standard 6.1 ‘Energy demand’.

We will work with the Passivhaus Trust and research partners to modify the existing PHPP tool to align it with the requirements of a Building Regulations compliance tool.

Questions related to the proposed introduction of PHPP as a compliance tool will be presented in the Stage 2 consultation with associated research and

procurement activity being initiated in 2026. A modified PHPP regulatory compliance tool will be developed and released for testing during 2026.

3.2 Approach to defining overall building energy targets

Consultation question 4 asked respondents if they supported retention of the current approach and setting of relative performance targets for new buildings through an approved calculation methodology.

The majority of respondents did not support this proposal, calling for the use of absolute or defined targets instead. In response to this feedback and following additional stakeholder engagement through 2025, we have reviewed the options for setting targets under standard 6.1 ‘Energy demand’. These options will be presented in the Stage 2 consultation.

Consultation question 5 sought views on retaining delivered energy, covering only regulated energy use, as the main compliance metric for targets set under standard 6.1 ‘Energy demand’.

There was disagreement on the continued use of the delivered energy metric, covering only regulated energy use, with respondents suggesting an Energy Use Intensity (EUI) metric including unregulated energy use should instead be adopted. There was limited commentary provided on the use of delivered as opposed to primary energy. As delivered energy remains the most relevant metric for those that occupy and manage buildings, we will retain this metric.

It is proposed that unregulated energy use, as calculated by the compliance calculation methodology, will be reported but will not be assigned within the compliance calculation. Presentation of unregulated loads as information rather than as part of the compliance calculation is a sensible enhancement. Introduction of reporting within a transparent framework would be beneficial in establishing a clearer picture of overall energy demand in use, albeit still applying standard occupancy assertions.

Consultation question 6 asked respondents if they supported further consideration of the introduction of a prescriptive space heating demand limit for new buildings through building regulations. Given the strong positive response to this question, we will progress proposals to introduce a Target Space Heating Rate (TSHR), as calculated through the approved methodologies, as an additional compliance metric under standard 6.2 ‘Building insulation envelope’. We will seek views on whether this should only include elements of the specification related to the fabric, not taking the benefit of active services systems into account.

Consultation question 7 sought views on moving to application of regional climate data within the approved calculation methodologies and their application within compliance targets. The responses and wider review engagement showed agreement for the use of regional climate data on the basis that this will enable a more informed approach to building design and reporting on performance, which better reflects the impact of location on the building. Consultation versions of the domestic and non-domestic tools have been developed which implement a range of Scottish weather files.

3.3 Building fabric standards

Consultation questions 8 and 9 asked for feedback on exceeding ‘backstop’ values for fabric performance and limiting fabric infiltration through the building standards.

Respondents provided a broad range of comments on these topics. Given the extent of change implemented by the February 2023 standards and the effect of other measures within Section 6 of the Technical Handbooks, the case to improve on the ’backstop’ U-values is limited. This reflects the reporting on the cost/benefit of further improvements to fabric performance within the domestic research undertaken and also the need to retain a reasonable degree of flexibility.

Limiting fabric infiltration is one of the key elements needed to satisfy the requirements of achieving the Passivhaus standard. From the feedback received in response to the consultation and from wider stakeholder engagement as part of this review, it is apparent that setting a reasonable limit on fabric infiltration could focus action that contributes to achieving the desired outcomes of the Scottish equivalent to the Passivhaus standard. We are progressing with consultation proposals to set a provision in guidance for an ‘upper limit’ for fabric air infiltration.

3.4 Ventilation and occupant comfort

Consultation questions 10 and 11 sought views on the means by which effective ventilation of new buildings is best achieved and on whether further guidance should be given on the application of Mechanical Ventilation with Heat Recovery (MVHR) in new homes.

Given the strong support indicated for the use of MVHR, we will procure research outwith the Stage 2 consultation to understand where additional guidance would be beneficial. This will consider previous research procured on the 2015 standards. Engagement with stakeholders will commence at the appropriate time to be captured in confirmed guidance prior to March 2028.

However, the need for flexibility in solution to satisfy the requirements of the existing and proposed standards has been a theme throughout this review and was picked up in responses to question 10. As part of the potential additional guidance on MVHR we will continue to allow all the available solutions as a means of meeting the requirements of standard 3.14 Ventilation.

Consultation question 12 sought information from respondents on potential risks to occupant comfort that should be better addressed through the building standards.

Given the prevalence of responses related to summer comfort, we will review the guidance provided in support of standard 3.28 ‘Overheating risk’ to identify and develop additional information supporting improved compliance with the standard. We will also develop draft guidance on the use of PHPP as an additional method to assess and mitigate overheating in dwellings and some non-residential buildings.

To inform this updated guidance a research project will be procured in Winter 2025 with the revised guidance drafted for consultation in Summer/Autumn 2026.

3.5 Alternative means of compliance

Consultation question 13 asked respondents if they considered Passivhaus Certification to offer a feasible alternative means of compliance with standard 6.1 energy demand.

Responses indicated strong support for amending standard 6.1 energy demand to recognise Passivhaus certification as an alternative means of compliance. This is one further useful change that we can make to support the standards and will be progressed as a separate change outwith the Stage 2 consultation for potential implementation prior to March 2028.

3.6 Summary of proposals

Consultation question 14 requested any further comments or observations on the proposed components of the review which relate to building design.

A broad range of feedback was provided, which is covered in aspects that are dealt with in responses elsewhere in this document.

4 Consultation section 4 – Proposed components of the standard – Compliance

4.1 Principles of an evidence-led approach to compliance

Consultation questions 15 to 20 sought feedback on compliance management processes, effective risk identification and mitigation at both the early design stage and during construction, recording of project information during construction, handover of project information at completion stage and methods for effectively de-risking design and construction to achieve compliance assurance.

The feedback provided in response to these questions is being used to inform the ongoing work to develop guidance in support of the new regulatory requirement to produce energy and environmental design and construction statements.

The draft guidance will form part of the Stage 2 consultation.

4.2 Intent to develop guidance/application in practice

Consultation question 21 asked if respondents thought the proposals set out in the consultation presented a reasonable summary of why there is a need for improvement in compliance processes to deliver very low energy buildings.

Consultation question 22 asked for views on the proposed scope of application presented in the consultation and whether the recommended actions are appropriate to address the effective delivery of very low energy buildings.

Consultation question 23 asked if respondents supported the application of provisions from an early (pre-warrant) design stage through to completion and handover of the building. Information was also sought on points in the process that respondents considered there may be a need for particular emphasis on action to manage risk of failures in compliance.

Consultation question 24 asked for views on the key areas where the verification process should focus, to be effective in responding to an enhanced compliance reporting regime.

Consultation question 25 sought views on whether the recommendations presented in the consultation adequately described action to affect the key roles and responsibilities of those who contribute to building compliance.

The feedback provided in response to these questions will be used to inform the ongoing work to develop guidance associated with the new regulatory requirement to produce energy and environmental design and construction statements.

Draft guidance will form part of the Stage 2 consultation.

5 Consultation section 5 – Call for information on current standards

Consultation question 26 asked respondents if they were currently designing buildings to the February 2023 standards and had confirmed specifications they would be willing to share with us.

This question was asked in support of the related call for evidence launched prior to the consultation on the review webpage. Limited information was provided in response to the call for evidence and to this question. Where shared, information was recorded and anonymised to support the reporting on the current energy baseline for new buildings.

The Scottish Government would welcome any further information from those developing new build specifications. Please contact bsdenergystandardsreview@gov.scot if you would like to offer additional information.

Consultation question 27 asked respondents if they had experience related to the updated approaches adopted in the February 2023 standards to target setting and overheating risk, that they considered would be useful to inform the further review of energy and environmental standards.

Limited feedback was received on the current approach to target setting. Where information was provided, our response is captured elsewhere in this document.

In response to the feedback received on the approach to overheating risk, we will review the guidance provided in support of standard 3.28 ‘Overheating risk’ to identify and develop additional information that will further inform action to achieve compliance with the standard. We will also develop draft guidance on the use of PHPP as an additional option to assess and mitigate overheating in dwellings and some non-residential buildings.

A research project will be procured in Winter 2025 to inform the drafting of updated guidance for consultation in Summer/Autumn 2026.

Consultation question 28 asked respondents if they had undertaken any projects under the post-2023 energy standards which considered connection to a new or existing heat network, both district heat network and communal heating systems. Respondents were asked to share any information they considered influenced the outcome of projects, with reference to the type of system (district or communal) and the impact of current energy targets in particular. Respondents were also asked to confirm reasons for not considering a heat network solution.

The majority of respondents did not have experience of the type of projects in question. Where responses were provided, these focussed on elements that currently sit outside the building standards system and the scope of the consultation, for example funding for heat network development.

Outwith the energy standards review, some concerns have been raised in relation to how the 2023 standards are influencing the choice of heat solution. Where possible, the 2023 standards were generally set based on a cost

neutrality basis across heat solutions with the delivered energy demand target allowed to fluctuate to compensate for lower delivered energy efficiencies such as for heat networks as opposed to standalone building level heat pumps. We will continue to review where this intent may not have been realised in practice and update guidance in 2026 where needed.

Consultation question 29 asked respondents for any additional information on issues affecting development which they considered to have arisen from application of the current energy and environmental standards.

Feedback received focused on a number of areas including workforce skills and limitations with calculations and compliance assessments. The majority of concerns are picked up in response to other consultation questions, for example question 30 confirms a deferred implementation date has been set to allow industry to develop the required skills.

Additionally, concerns were raised regarding the costs and affordability of the existing and proposed new standards. As part of all reviews of energy standards, research is procured to identify uplifts in the level of challenge that could reasonably be delivered within the means of the current construction sector in Scotland. Information on associated costs are presented in the research and impact assessment published alongside the consultation.

6 Consultation section 6 – Proposed delivery programme

Consultation question 30 asked respondents if they agreed with the proposal to mandate the new standard in early 2028, with guidance and associated tools incorporating the approved methodologies being made available in 2026.

The majority of respondents agreed with this proposal. As part of the laying of amendment regulations in December 2024 the Scottish Government applied a coming into force date of 31 March 2028. This is to enable the construction sector to prepare for the changes.

Detailed proposals for specific changes to performance targets and supporting compliance processes will form part of the stage 2 consultation. Once confirmed, updated guidance and associated tools will be published in 2026. The Scottish Government will work with stakeholders and Local Authority Verifiers to confirm the final delivery programme at that point.

7 Next Steps

A Stage 2 consultation will set out the detail of the proposed performance targets and enhanced compliance regime.

The following provides a summary of actions and next steps for confirmed and proposed aspects of the Scottish ‘equivalent’ to the Passivhaus standard.

Delivery Programme

Implementation of new regulations and standards from 31 March 2028.

It is the intent for guidance and tools to be finalised for release after the analysis of the stage 2 consultation responses.

Alternative means of compliance

Fully certified Passivhaus buildings offer an alternative means of compliance with standard 6.1 ‘Energy demand’.

For implementation at the appropriate time between 2026 and March 2028.

Primary compliance metric – delivered energy

Delivered energy remains the main compliance metric for standard 6.1 ‘Energy demand’. Presentation of unregulated loads to sit alongside.

Updated guidance on unregulated loads to be developed for release after the analysis of the stage 2 consultation responses.

Secondary compliance metric – space heating demand

Proposal to introduce a space heating demand rate as calculated through the approved methodologies.

The stage 2 consultation will inform items to be included within the metric.

Method of target setting

A modified method of target setting to be presented in the stage 2 consultation.

Additional research will be required to confirm content of guidance.

Approved standard 6.1 ‘Energy demand’ compliance methodologies

Continued use of modified UK Government approved methodologies with potential recognition of the Passivhaus Planning Package (PHPP) as an alternative methodology.

Procurement activity through 2026 to confirm final tools and a modified PHPP.

Fabric performance for new buildings

To introduce a maximum upper limit to the declared design air-permeability alongside retaining the current ‘backstop’ U-values.

Stage 2 consultation feedback will inform updates to future guidance.

Ventilation and indoor air quality

Further guidance on Mechanical Ventilation with Heat Recovery (MVHR) in new homes added to the Technical Handbooks.

Research procured in 2026 with guidance drafted for consultation in Spring 2027.

Implementation from March 2028.

Overheating

Additional guidance provided in standard 3.28 ‘Overheating risk’ to support the use of PHPP as a third assessment method within the Technical Handbooks.

Research procured in 2025 with guidance drafted for consultation in Autumn 2026.

Implementation from March 2028.

Compliance and assurance

Continue work to develop a Building Standards Energy and Environmental Compliance Handbook to support requirements of the Building (Procedure) (Scotland) Amendment Regulations 2024.

Draft themes and evidence requirements within the stage 2 consultation.

Confirm guide for release after analysis of stage 2 consultation responses.

Additional useful actions

Review concerns regarding additional challenge for buildings connecting to heat networks.

Research procured in 2026 to understand where any changes to current standards could be beneficial to align action with Scottish Government targets.

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