

Proposed Domestic Building Environmental Standards (Scotland) Bill

Introduction

A proposal for a Bill to introduce new minimum environmental design standards for all new-build housing to meet the Passivhaus standard or a Scottish equivalent in order to improve energy efficiency and thermal performance.

The consultation runs from 4 May 2022 to 27 July 2022

All those wishing to respond to the consultation are strongly encouraged to enter their responses electronically through this survey. This makes collation of responses much simpler and quicker. However, the option also exists of sending in a separate response (in hard copy or by other electronic means such as e-mail), and details of how to do so are included in the member's consultation document.

Questions marked with an asterisk (*) require an answer.

All responses must include a name and contact details. Names will only be published if you give us permission, and contact details are never published – but we may use them to contact you if there is a query about your response. If you do not include a name and/or contact details, we may have to disregard your response.

Please note that you must complete the survey in order for your response to be accepted. If you don't wish to complete the survey in a single session, you can choose "Save and Continue later" at any point. Whilst you have the option to skip particular questions, you must continue to the end of the survey and press "Submit" to have your response fully recorded.

Please ensure you have read the consultation document before responding to any of the questions that follow. In particular, you should read the information contained in the document about how your response will be handled. The consultation document is available here:

[Consultation Document](#)

[Privacy Notice](#)

I confirm that I have read and understood the Privacy Notice which explains how my personal data will be used.

About you

Please choose whether you are responding as an individual or on behalf of an organisation.

Note: If you choose "individual" and consent to have the response published, it will appear under your own name. If you choose "on behalf of an organisation" and consent to have the response published, it will be published under the organisation's name.

on behalf of an organisation

Which of the following best describes you? (If you are a professional or academic, but not in a subject relevant to the consultation, please choose "Member of the public".)

No Response

Please select the category which best describes your organisation

Public sector body (Scottish/UK Government/Government agency, local authority, NDPB)

Optional: You may wish to explain briefly what the organisation does, its experience and expertise in the subject-matter of the consultation, and how the view expressed in the response was arrived at (e.g. whether it is the view of particular office-holders or has been approved by the membership as a whole).

Local Authority. Experience in the design and construction of affordable rented housing with particular experience relating to energy efficiency and approaches to housing compliant with desire for Net-Zero Energy Use at the Point of Delivery. The response was a collective view from relevant Council Services (e.g. New Supply (Housing), Planning, Housing Solutions, Investment and Repairs, Environmental Services, Finance). The collated response was approved by Corporate Management Team.

Please choose one of the following:

I am content for this response to be published and attributed to me or my organisation

Please provide your Full Name or the name of your organisation. (Only give the name of your organisation if you are submitting a response on its behalf).

(Note: the name will not be published if you have asked for the response to be anonymous or "not for publication". Otherwise this is the name that will be published with your response).

North Lanarkshire Council

Please provide details of a way in which we can contact you if there are queries regarding your response. Email is preferred but you can also provide a postal address or phone number.

We will not publish these details.

Aim and approach - Note: All answers to the questions in this section may be published (unless your response is "not for publication").

Q1. Which of the following best expresses your view of the proposed Bill? Please note that this question is compulsory.

Fully opposed

Please explain the reasons for your response.

The bill seeks to impose a rigid set of design criteria which could ultimately restrict development through some, all or a combination of:

- increased costs,
- delayed development due to short to medium term supply chain availability (resources and labour),
- site limitations where aspect either prevents orientation of buildings to achieve Passivhaus standards or, additional cost to achieve is non-viable.

There are also other methods currently being used that achieve Net Zero and comply with the Heat in

Q1. Which of the following best expresses your view of the proposed Bill? Please note that this question is compulsory.

Buildings Strategy. A current project being developed within North Lanarkshire demonstrates Net Zero with SAP ratings exceeding a score of 100 for both Energy and Environmental standards without the need for Passivhaus. These figures are being achieved without the need for MVHR which Passivhaus would require to be installed.

In our approach to the design of housing, prior to the 2024 requirement for non-gas heating systems, North Lanarkshire Council has exceeded minimum requirements of the Building Standards to enhance U-Values and the provision of PV energy generation. The proposed minimum standards would restrict the developer design choices and the use of Passivhaus could either reduce site capacity because orientation of houses prevent compliance or the compensatory measures to orientation may add significant cost uplifts which could render a prospective site unaffordable.

Where imposition of such a standard does lead to a reduction in site capacity that would potentially have the effect of increasing the requirement for land for housing. If this does occur this would then have an effect on a council's ability to protect greenfield and green belt locations from otherwise unsustainable development. This would appear to run counter to the holistic approach that we should be taking in balancing the need for housing with the requirement to tackle the Climate Emergency and Nature Crisis which are at the heart of the Draft National Planning Framework.

It should be noted that opposition to the proposal is not opposition to Passivhaus but we do not agree that this should be the sole standard.

From a regulatory point of view, we can see the positive elements of this method of construction but also the impact on the overall verification tied to building standards.

We believe that Passivhaus should be an available option to be utilised where and when it is deemed the most appropriate approach rather than a single limiting standard.

Q2. Do you think legislation is required, or are there other ways in which the proposed Bill's aims could be achieved more effectively? Please explain the reasons for your response.

Building Standards Technical Handbooks provide guidance in achieving standards set within the Building (Scotland) Regulations 2004.

The technical handbooks are functional guidance, this proposal is more a prescribed approach, so a change of legislation may be required if a prescribed approach is sought.

Given the view that a prescribed approach would be limiting to development proposals and has other consequences such as detailed elsewhere in this response then it is considered that any adjustment or amendment to performance standards should be sought via amendment of the Technical Handbooks and should be proposed within existing processes available to do so.

It is not believed therefore that legislation is required to achieve the benefits sought.

Q3. Which of the following best expresses your view on setting the Passivhaus standard or a Scottish equivalent as the most appropriate new build housing standards to contribute to eradicating fuel poverty?

Fully opposed

Please explain the reasons for your response.

Recent guidance provided within the Heat in Buildings Strategy will see the transition away from fossil fuels with two key objectives:

1. To identify and assess a new approach to home heating which complies with the impending requirements to heat homes via renewable means.
2. To seek to prevent or mitigate any additional pressure on tenant's expenses which may inadvertently lead to an increase in potential for fuel poverty.

Q3. Which of the following best expresses your view on setting the Passivhaus standard or a Scottish equivalent as the most appropriate new build housing standards to contribute to eradicating fuel poverty?

Existing Building Regulations provide a pathway for Sustainability Standards. These are reviewed at regular intervals by the Scottish Government and updated within new technical handbooks

As orientation is so important to a Passivhaus type of construction, we believe that this is suited to:

- a smaller scale site i.e., one-off house or small single street or
- part of a wider development, to make best use of appropriate locations,
- larger developments in which topography is amenable to Passivhaus.

The topography of many sites may bring challenges in trying to benefit from solar gain. This may lead to an increased cost that could prove to be prohibitive.

Scottish Government has a target to deliver 110,000 new affordable homes by 2032, of which 70,000 to be for social rent.

Adoption of Passivhaus, or equivalent, as a requirement for development will place additional strain on the ability of housing providers to meet these targets at a time when the sector is already facing challenges associated with market inflation, supply chain resourcing of materials and skilled labour supply.

In addition to this the requirements of Passivhaus can be largely influential on how a site layout can be utilised due to the preference for aspect which supports the use of solar gain via windows and the orientation of roof format to make best use of solar panels (either PV or solar thermal). From experience of examining the potential for Passivhaus at NLC's first Net Zero development it was determined that Passivhaus would not be the preferred option. The positioning of properties may limit the development potential of sites, thereby reducing the number of units available to be built and thus impacting on the scope to achieve target completions. To mitigate the orientation issues, it is possible via design amendments to compensate for a less than perfect aspect to achieve Passivhaus standards, but this can significantly increase the cost of construction.

Therefore Passivhaus should be an option to consider and utilise where appropriate site conditions allow, however this should not be the only option as this will become a restriction which may potentially prevent or constrain development.

As noted on NLC's Net Zero pilot site, EPC's will demonstrate 'A' rated properties for both Energy and Environmental (CO2) standards without the use of Passivhaus. This is an appropriate approach to seek to reduce the potential for fuel poverty.

A Scottish equivalent standard may be worthy of consideration, but this should allow flexibility within design standards which will not prevent or reduce development.

Q4. Which of the following best expresses your view on setting the Passivhaus standard or a Scottish equivalent as the most appropriate new build housing standards to contribute to a reduction in emissions?

Fully opposed

Please explain the reasons for your response.

Recent guidance provided within the Heat in Buildings Strategy will see the transition away from fossil fuels with two key objectives:

1. To identify and assess a new approach to home heating which complies with the impending requirements to heat homes via renewable means.
2. To seek to prevent or mitigate any additional pressure on tenant's expenses which may inadvertently lead to an increase in potential for fuel poverty.

Existing Building Regulations provide a pathway for Sustainability Standards. Existing Building Regulations provide a pathway for Sustainability Standards. These are reviewed at regular intervals by the Scot Gov and updated within new technical handbooks

We believe the Passivhaus type of construction suits a smaller scale site i.e., one-off house or small single

Q4. Which of the following best expresses your view on setting the Passivhaus standard or a Scottish equivalent as the most appropriate new build housing standards to contribute to a reduction in emissions?

street development as the orientation is so important
The topography of a site may bring challenges in trying to benefit from solar gain.
This may lead to an increased cost that could prove to be prohibitive

Scottish Government has a target to deliver 110,000 new affordable homes by 2032, of which 70,000 to be for social rent.

Adoption of Passivhaus or equivalent as a fixed requirement for development will place additional strain, on a system to achieve the objectives outlined above, that is already facing challenges associated with market inflation, supply chain resourcing of materials and skilled labour supply.

In addition to this the requirements of Passivhaus can be largely influential on how a site layout can be utilised due to the preference for aspect which supports the use of solar gain via windows and the orientation of roof format to make best use of solar panels (either PV or solar thermal). From experience of examining the potential for Passivhaus at NLC's first Net Zero development it was determined that Passivhaus would not be the preferred option. The positioning of properties may limit the development potential of sites, thereby reducing the number of units available to be built and thus impacting on the scope to achieve target completions. To mitigate the orientation issues, it is possible via design amendments to compensate for a less than perfect aspect to achieve Passivhaus standards but this can significantly increase the cost of construction.

It is believed that Passivhaus should be an option to consider and utilise where appropriate site conditions allow, however this should not be the only option as this will become a restriction which may potentially prevent or constrain development.

As noted on NLC's Net Zero pilot site, EPC's will demonstrate 'A' rated properties for both Energy and Environmental (CO2) standards without the use of Passivhaus. This is an appropriate approach to seek to reduce emissions from new-build homes.

A Scottish equivalent standard may be worthy of consideration, however this should not be proscriptive to the point of preventing development which significantly achieves broader objectives for sustainable affordable housing such as reduced emissions.

Q5. Which of the following best expresses your view of the process set out to ensure that the new standards are met in all new build housing? (see pages 14 to 16 in the consultation document)

Partially opposed

Please explain the reasons for your response, including your views on how effective the process would be in removing the 'performance gap' and on how the proposed verification process might work in practice.

Currently inspections are a contract between the client and contractor, and the person responsible for complying with the regulations does not require any qualifications or training. Therefore, something would need added to cover inspection check.

If this inspection requirement is placed on Building Standards, it would be an onerous burden in terms of resource and responsibility.

To address the performance gap, a project can be certified by Passivhaus Institute, or alternatively, the Certifier of Construction may be an appropriate route in terms of inspection/certifier but again additional cost burden.

Post completion there may be challenges to correct any issues in this type of construction. Future extensions and/or alterations to this type of house may pose challenges

Q6. What could be the market effects of the introduction of this proposal?

The potential market effects may include:

- Increase cost of production.
 - o Increased costs for certificates of construction
 - o Increased costs for certification by Passivhaus Institute (approx £1,500 per unit)
 - o An increase in material and testing costs particularly given the current climate of rapidly increasing construction costs. This proposal would further exacerbate the current issues thus potentially making new building housing unaffordable for the majority of people.
 - o Any reduction in site capacity will impact on land values and the resultant capital receipt the council receives for the sale of land. This could impact on the council's ability to invest in the North Lanarkshire Council's Ambition Programme which the capital receipts partially support. Similar reduced revenues would affect other local authorities and landowners.
- Requirement for specialised construction skills and specialised certifier or verifier with appropriate skills/knowledge.
 - o The assessment and inspection burden would be significant on verification.
- Delay production in the short to medium term until supply chain and labour skills are sufficiently available to meet demand.
 - o Increasing costs coupled with a shortage of skilled labour could impact on developer confidence and result in a slow-down in the housing market. Much needed new build housing will not be built at the rate required.
- Prevent market from achieving Scottish Government Targets for new-build housing completions.
 - o A reduction in private sector new-build completions will impact on Council / Scottish Government affordable housing targets as a proportion of these are purchased 'off-the-shelf' from private developers.

Financial Implications

Q7. Any new law can have a financial impact which would affect individuals, businesses, the public sector, or others. What financial impact do you think this proposal could have if it became law?

a significant increase in costs

Please explain the reasons for your answer, including whom you would expect to feel the financial impact of the proposal, and if there are any ways you think the proposal could be delivered more cost-effectively.

Costs will increase because:

- A more onerous design specification will require increased spend to achieve Passivhaus in favour of other design options.
- Restricted design development will increase demand for resources (material and skilled labour) which may not be readily available in the short to medium term.
- Potential for reduced site capacity may impact land values given the requirements for orientation of properties and where below ground costs are significant then the average cost per unit will increase.
- Additional verification and inspection costs in relation to the building standards service.

Equalities

Q8. Any new law can have an impact on different individuals in society, for example as a result of their age, disability, gender re-assignment, marriage and civil partnership status, pregnancy and maternity, race, religion or belief, sex or sexual orientation.

What impact could this proposal have on particular people if it became law? If you do not have a view skip to next question.

Please explain the reasons for your answer and if there are any ways you think the proposal could avoid negative impacts on particular people.

The physical change to properties would not have a direct impact on the groups identified, however if increased costs of production occur, then cost to purchase or rent will likely be increased as a result.

- These properties may be unaffordable to some groups within society, especially younger people, single parent families, low-income families.
- Gender budgeting may be a concern and should be considered.

Sustainability

Q9. Any new law can impact on work to protect and enhance the environment, achieve a sustainable economy, and create a strong, healthy, and just society for future generations.

Do you think the proposal could impact in any of these areas? If you do not have a view then skip to next question

Please explain the reasons for your answer, including what you think the impact of the proposal could be, and if there are any ways you think the proposal could avoid negative impacts?

Work to protect the environment is broader than simply decarbonisation of homes, which is a relatively small contributor to the overall carbon emissions issue.

Sustainable, strong and just economies require more than simply reduced costs at the point of use, while action on fuel Poverty is a critical issue this must be addressed within a broader approach.

Passivhaus has been only a limited contributor to these issues in the 20+ years of its existence and will hopefully be a key contributor to future environmentally sound development proposals. It should not, however, be the sole approach to future housing development.

Reasons:

Environmental enhancements may be achieved by Passivhaus however, similar enhancements in both improved housing energy consumption and emissions can be delivered by designing to other Net Zero specifications.

The impact on the construction market, affordable and the social housing targets may at least initially but potentially also over the longer-term have a negative impact on the desire to achieve a sustainable economy.

Where imposition of such a standard does lead to a reduction in site capacity that would potentially have the effect of increasing the requirement for land for housing. If this occurs, this would then have an effect on local authority Planning Services' ability to protect greenfield and green belt locations from otherwise unsustainable development. This would appear to run counter to the holistic approach that we should be taking in balancing the need for housing with the requirement to tackle the Climate Emergency and Nature Crisis which are at the heart of the Draft National Planning Framework.

General

Q10. Do you have any other additional comments or suggestions on the proposed Bill (which have not already been covered in any of your responses to earlier questions)?

Whilst a house may meet Passivhaus standards when first built if this standard does not apply to future modifications and extensions then the benefits may quickly be reduced.

This could have potentially costly and time-consuming impacts upon householders when making formal changes.

It could also have significant implications on performance if the householder conducts ad-hoc works on a DIY basis without according to the principals of Passivhaus.

With respect to social housing landlords, there is a need to examine and identify potential increased requirements relating to the repair and maintenance of Passivhaus dwellings, particularly in relation to ensuring airtightness. This may include a requirement for additional skills and training to ensure Passivhaus performance standards are retained. This training would not only be for contractor trades, but also to ensure proper awareness and understanding of technical staff working for local authorities etc. to ensure that property inspection, maintenance, repair and capital works replacement are appropriately attended to.

There may also be additional need to examine and agree construction designs that will not inhibit the replacement of removable items such as windows and doors etc. as these will retain a need to ensure that the installation of replacement items match the desired performance standards of the original.

Further consideration will also need to be given to how public procurement contracts are produced. Currently the Council operates within Public Procurement requirements for specification-based descriptions rather than named products. It is understood that some Passivhaus specifications may require named products or suppliers. If this is the case, then an appropriate procurement route must be determined.