

Sustainability labelling within building standards



RESPONDENT INFORMATION FORM

Please Note this form **must** be returned with your response to ensure that we handle your response appropriately

1. Name/Organisation

Organisation Name

Waterwise

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3. Permissions - I am responding as...

Individual

Group/Organisation

Please tick as appropriate

(a) Do you agree to your response being made available to the public (in Scottish Government library and/or on the Scottish Government web site)?

Please tick as appropriate Yes No

(b) Where confidentiality is not requested, we will make your responses available to the public on the following basis

Please tick ONE of the following boxes

Yes, make my response, name and address all available

or

Yes, make my response available, but not my name and address

or

Yes, make my response and name available, but not my address

(c) The name and address of your organisation **will be** made available to the public (in the Scottish Government library and/or on the Scottish Government web site).

Are you content for your **response** to be made available?

Please tick as appropriate Yes No

(d) We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

Please tick as appropriate Yes No

CONSULTATION QUESTIONS

1. Background

Buildings that are designed more sustainably have positive impacts on the potential for sustaining human wellbeing, whilst minimizing carbon dioxide emissions and reducing the use of finite resources. For a building to earn a sustainability label, it must demonstrate that a wide range of factors have been considered in its design, and that these factors are achieved in its construction.

Section 7 intends to make sustainable design within reach of all new buildings and not just belong to a niche market. Demanding sustainability standards are encouraged to be taken up by those who opt to demonstrate their green credentials by complying with upper levels.

Sustainability labelling aims to encourage consistency between planning authorities that use supplementary guidance to promote higher measures of sustainable construction in their areas. By making reference to this standard, local aspirations can be met by selection of clear national benchmarks.

Consultees are encouraged to respond on any aspect of the proposals but Scottish Ministers would welcome comments specifically on the issues that have been targeted. It is recognised that a 'yes' or 'no' is not always a satisfactory answer to the question. Consultees are therefore encouraged to add comments to expand their opinions, particularly when they disagree with the approach proposed.

1. Do consultees think the introductory text in section 7.0 adequately describes the aims, the scope and the terminology? Yes No

Comments

Waterwise welcomes the proposed approach and its inclusion of water efficiency. However, we would propose the following changes to reflect the important of water efficiency in its own right as well as as a sub-set of energy – this is reflected in the proposed approach but not currently in the introductory text. Other textual changes are suggested to reinforce the important of supporting behaviour change and the carbon footprint of heating water in the home, as well as treating and distributing it.

Proposed amendment:

7.0.3 Scope

The proposals on sustainability are intended to be broad regarding the built form that can be delivered through the building standards system, and can be divided into two sets:

- *Climate change, energy and water resources. Promote the more efficient use of carbon and energy as well as water. Reducing water use will reduce energy consumed to process and distribute water and to heat it in homes and buildings. Reducing use of both hot and cold water in the home is also important in terms of the sustainable use of resources. Feedback and communication with occupants is also important in raising awareness of consumption and encouraging performance to be optimized by providing information to occupants on running a sustainable home.*

2. Approach

Section 7 would be a new section of the technical handbooks containing a single standard that is mandatory for all building warrant applicants when proposing new buildings in Scotland. To comply with standard 7.1 there would need to be a label of a specified level of sustainability fixed to the building, in a similar way that an EPC needs to be fixed; for example in meter cupboard or utility space. The entry level, known as 'bronze' would be compliance with all the other standards, therefore the standard does not pose an additional burden on development. Only if an applicant chooses to aim for a higher level would there be a potential impact on the costs of building.

2. Do consultees consider that this approach offers a sensible and practical route to enable the building standards system to further the achievement of sustainable development in Scotland? Yes No

Comments

Waterwise broadly welcomes the approach and is very supportive of the introduction of water efficiency standards in the new silver and bronze levels (although we would like to see tighter fittings standards, as set out in section 4).

We appreciate that this innovative approach is designed to complement the existing standards, but we would also like to see water efficiency included in the base standards for Bronze level, for the following reasons:

- **because sustainable use of resources is central to the approach of Ministers, not only in its approach to Building Standards but more widely – as evidenced by the First Minister’s description of water at the announcement of the new Water Bill in September 2010 as “a major resource which is rapidly becoming a commodity of great worth”**
- **because the Met Office designated the first six months of this year in Scotland as the driest in 70 years, and there have been only four drier equivalent periods since records began in 1910: pockets of Scotland have experienced drought in recent years, and climate change will bring greater unpredictability of weather**
- **because per capita consumption of water - at 150 litres per day – is unsustainable**
- **because, for the reasons set out in the consultation, water efficiency helps reduce carbon emissions (and energy bills): on average, hot water use accounts for around 8% of Scotland’s energy use, and if every UK home reduced their hot water use by just 5%, the CO2 saving would be around one and a half times greater than the total CO2 emitted from all the homes in Edinburgh.**

3. Scope and balance

Building Standards Division of the Scottish Government has explored what aspects of the design and construction of domestic buildings related to sustainable development would be appropriate within the optional upper higher levels of sustainability. The aspects defined aim to be pertinent at the building warrant stage of development process when applicants are looking at the details of buildings. They aim to be broad, covering not only energy and carbon. They address issues that can be fairly controlled and simply verifiable within the building standards system, so they tend to be directed towards technical environmental performance issues of design. The eight aspects are:

1. Carbon dioxide emissions
2. Energy for space heating
3. Energy for water heating
4. Water use efficiency
5. Optimising performance
6. Flexibility and adaptability
7. Wellbeing and security
8. Material use and waste

3. Are consultees content that the defined aspects for domestic buildings reflect a balance of sustainability issues that can be delivered by the building standards system? Yes No

Comments

Waterwise is very supportive of this innovative, fittings-based approach, and welcomes the fact that a standard must be met on each of the eight aspects before the awarding of that standard overall, which means water efficiency will not lose out to carbon reduction measures. This will drive a sustainable, cost-effective, whole-house approach.

4. Levels and names

The bronze level is a building that complies with the 2010 standards. The next two upper levels, called silver and gold, have been defined for domestic buildings and the criteria to meet the upper levels in an aspect are intended to be fixed once defined. This should avoid regular redefining of baselines and subsequent confusion. But the system will have room to grow because a third upper level is identified as platinum, although this level has not been fully defined.

To achieve a bronze star level a new building must include some low or zero carbon generating technology ['LZCGT'] within the compliance calculation. This links with the obligations of local authorities' under Section 72 of the Climate Change (Scotland) Act. It is the existence of an LZCGT that differentiates bronze star from the bronze level. In practice buildings to a bronze level that do not have LZCGT will often have a higher fabric specification than a bronze star level building because they do not exploit a generating technology that could be used to offset higher heat losses through the building fabric in the carbon compliance calculation.

4a. Do consultees think the naming of the levels is clear and appropriate? Yes No

4b. Do consultees agree with the principle of fixing the levels within the aspects? Yes No

Comments

For the reasons set out in Section 2, Waterwise would like to see water efficiency included in the existing standards which make up Bronze” level – otherwise, water efficiency is not mandated but is treated as of secondary importance to energy efficiency, despite its ability to help deliver carbon reductions and its importance in the sustainable use of resources.

Waterwise believes the standards set for water-efficient fittings at Silver (S4) and Gold (G4) level are not tight enough, and do not reflect the best-available technology.

For example, 4.5 is the average effective flush rate for a dual-flush toilet currently, which is why we propose tighter standards for Silver and Gold. In addition, a 6-litre tap flow rate would be fine for a kitchen tap which needs a higher flow, but bathroom basin taps which do not need a higher flow should be set at a tighter standard.

Waterwise proposes the following revisions:

Silver: toilet 3.5 (effective flush for a dual-flush); showerhead 6; kitchen tap 6; bathroom basin tap 4 to 4.5

Gold: toilet 2.5 (effective flush for a dual-flush: these are available on the market); showerhead 5; kitchen tap 4; bathroom basin tap 3.

On Gold level, Waterwise very much welcomes the inclusion of a meter as one of the potential measures.

On the G5 (Optimising Performance) aspect we are similarly supportive of a real-time resource use display monitor on water, which would significantly help drive behaviour,. However, we believe that both S5 and G5 should contain engagement with the customer to support sustainable behaviour – Waterwise would be happy to work with the Scottish government on the definition for this.

Finally, on Platinum level, Waterwise would be very keen to work with the Scottish Government to define what P4 and P5 should look like – for example, water neutrality could be required (where a developer commits to retrofitting measures in existing schools, hospitals, businesses and/or homes in the area so that overall demand doesn’t increase as a result of the new development), and water meters.

5. Methodology and label

In order to move towards a more sustainable model of design and construction, a holistic approach is proposed. Together with the desire to keep the process simple and avoid bureaucratic procedures, this broad thinking has informed how an applicant would reach an upper level. Only once all the aspects comply with the upper level criteria would the overall higher level be awarded. No scoring or trade-off would be allowed. The design of the label still allows credit to be clearly illustrated in an individual aspect that has been verified as compliant with an upper level. Proposed coloured labels for domestic and non-domestic buildings are below and are at **full size (A4) in the first annexes of the domestic and non-domestic consultation guidance.**

Building Standards Scotland

Section 7: Sustainability
Non-domestic



Gold: Partly Achieved
Silver: Heat Pump
Bronze: Section 1-6, 2010 Standards

Building / Development:
64 Greenstreet,
Bigtown
XX9 9XX

Building Warrant Reference:
621621844KKY
Date:
10.10.2011

Building Standards Division's Technical Handbooks
Contain detailed guidance on the measures
to achieve levels of sustainability
www.xxxxxxxxxx.co.uk



This label must be fixed within the building

Building Standards Scotland

Section 7: Sustainability
Domestic



Gold: Partly Achieved
Silver: Achieved
Bronze: Solar thermal
Bronze: Section 1-6, 2010 Standards

Building / Development:
64 Greenstreet,
Bigtown
XX9 9XX

Building Warrant Reference:
621621844KKY
Date:
10.10.2011

Building Standards Division's Technical Handbooks
Contain detailed guidance on the measures
to achieve levels of sustainability
www.xxxxxxxxxx.co.uk



This label must be fixed within the building

5a. Are consultees content with the method of reaching the upper levels? Yes No

5b. Are there any comments to be made on the design of the label? Yes No

Comments

Waterwise is supportive of the proposed labels. They are quite complex and as such would not work on a product for sale in a shop or online, but they are appropriate for the complex nature of the information being imparted, for a home.

6. Conversions

The system of the optional upper levels has been designed for new domestic buildings. However it is recognised that when considering sustainable development it is often a good option to re-use or revitalize the existing building stock of our towns, cities and smaller communities. Building Standards Division does not propose to offer sustainability labelling to conversions at this stage however applications for verifiers to assess the criteria of the upper levels of sustainability, in some if not all of the aspects, in relation to an existing building converted into dwellings could be explored.

6. Do consultees consider a similar sustainability label should be made available for existing buildings that are dwellings following conversion? Yes No

Comments

Waterwise supports this proposal for the reasons set out in sections 2 and 4.

7. Contents of upper levels in the aspects for domestic buildings

Aspect of Carbon dioxide emissions

The labelling system's optional upper levels should balance the aspects of sustainable design and should not be overly carbon focussed. The 1st aspirational level (silver) beyond minimum standards sets a 45% reduction in carbon emissions for dwellings compared to 2007 standards. The Sullivan Report¹ recommendation of 60% features as the 2nd aspirational level (gold). A 3rd upper level (platinum) in this aspect would be net zero carbon.

7a. Do consultees agree that to treat 'sustainability in the round', the proposed upper levels in the critical aspect of carbon dioxide emissions are appropriate? Yes No

Comments

Aspects of energy and water (resource use)

The energy for space heating aspect sets backstops to ensure that a dwelling's fabric and form are designed efficiently regardless of the fuel source for heating. The water use efficiency and energy for water heating aspects combine the following: lowering use of water and energy through a simple fittings based approach; and a renewable contribution to heated water via tried and tested technologies such as solar water heating. The optimising performance aspect offers an opportunity to standardize the role that giving appropriate and targeted information to occupants can play in increasing the chances of efficient operation. Feedback and communication with occupants is important in raising awareness of consumption. Model guidance and display devices should show how to make the best of the dwelling's design and any technologies included.

7b. Do consultees consider these aspects together offer a straightforward approach to encouraging a more efficient use of energy and water resources? Yes No

Comments

Yes in terms of fittings, but a more comprehensive supportive approach to behaviour change should be set out than is currently.

Aspects of Flexibility and adaptability; and Well-being and security

Since 2007, Scottish building regulations have incorporated demanding regulations that increase accessibility and the varying needs of occupants for all new dwellings. As a next step in the aspirational upper levels of sustainability, the proposed focus is on lifestyle issues that are relevant for all. Homes should support patterns of more sustainable communities thus the defined aspects encourage conditions for occasional home working plus stronger considerations of daylighting and outside space in the design of new buildings. The issues of acoustic privacy and of home security are also addressed.

¹ 'A Low Carbon Building Standards Strategy for Scotland', <http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/sullivan>

7c. Regarding the upper level proposals on flexibility and adaptability, do consultees support the general approach to focus on design issues that are relevant to the wider public rather than the needs of particular groups?

Yes No

Comments

7d. Are the calculations for daylighting in the silver and gold aspects simple enough to easily verify; and meaningful enough to encourage better daylighted spaces in homes?

Yes No

Comments

Aspect of Material use and waste

The following matters related to material use in buildings were investigated in forming the proposals:

	Propose for 1 st upper level	Propose for 2 nd upper level	Flag as possible for 3 rd level
Sustainable materials including embodied energy			√
Responsible sourcing of materials			√
Recycled materials			√
Waste of the built form		√	
Provision for solid waste material recycling during use	√		

Sorting waste is an activity that occupants can make everyday contributions towards. It helps balance the technical design focus of many of the other aspects because it is part of an adaptive solution to a sustainable future. Reducing wastefulness of the built-form through encouraging demountable construction offers a practical route towards sustainable development via a long-life, loose-fit approach. The environmental, sustainable or ethical sourcing of materials is too complex at present to be simply verified at building warrant stage, but it is envisaged that the platinum level offers the ability to increase the scope for this aspect. Subject to European Construction Products Regulations, a third aspirational upper level could contain proposals (details to be determined) on the embodied energy of construction components, the responsible material sourcing, or the use of recycle.

7e. Are consultees content with the evolutionary approach proposed for defining aspects within the material use and waste aspect ?

Yes No

Comments

8. Non-domestic buildings

Defining measurements of sustainability that can be competently verified within the building standards system for non-domestic buildings presents a greater challenge due to these buildings' relative variety and complexity. Building Standards Division intends to progress work on defining upper levels of sustainability in non-domestic buildings in due course. At the outset of the standard it is proposed that as well as the baseline 'bronze' there will be a 'bronze star' level to recognize the inclusion of a LZCGT and link to the obligations of local authorities' duty under Section 72 of the Climate Change (Scotland) Act 2009.

Aspect of Carbon dioxide emissions

For non-domestic buildings the only upper levels defined are in the aspect of carbon dioxide emissions. The criteria make reference to the recommendations of the Sullivan Report with the 1st aspirational level (silver) at a 50% reduction in carbon emissions compared to 2007 standards and the 2nd aspirational level (gold) being a 75% reduction. A 3rd upper level (platinum) in this aspect would be net zero carbon. The presentation of the label would clearly show whether applicant complies with an upper level in this aspect.

8a. Do consultees view this approach for non-domestic buildings as clear and useful at the outset of the proposed section 7? Yes No

8b. Do consultees agree that the proposed upper levels in the aspect of carbon dioxide emissions only, for non-domestic buildings are appropriate? Yes No

Comments

Waterwise supports the intention to follow a similar path for non-domestic buildings on water efficiency as on domestic, for the reasons set out in sections 2 and 4. Non-domestic buildings have a significant contribution to make to reducing carbon emissions and water use, through water efficiency. Waterwise would propose the same, tighter fittings standards we set out in section 4, and would be happy to propose standards for urinals, for non-domestic buildings.

9. Proposed revision to model form to apply for a building warrant.

Appendix A of the partial Regulatory Impact Assessment (RIA) contains a proposal for a revised model form that would be used by all applicants for building warrant. The model form has been amended to include the sustainability standard rather than a separate form being created. A text box has been added that allows applicants to indicate if new buildings have been designed to achieve any of the optional upper levels as defined in the section 7 guidance. This should allow verifiers to focus their procedures relevant to section 7 on submitted plans and specification information where it is requested.

9. Do consultees consider this revised model form is a clear way for applicants to indicate their design proposals with regards to section 7? Yes No

Comments

General

Do consultees have any other comments on the proposals?

Comments
