

SUSTAINABILITY LABELLING USING THE BUILDING STANDARDS SYSTEM

Section 7 Sustainability

NON-DOMESTIC GUIDANCE. For consultation, 1 November 2010



7.0 Introduction

7.0.1 Background

Sustainable development can be defined as meeting “the needs of the present without compromising the ability of future generations to meet their own needs.”¹ It follows that the process of sustainable development and the quality of ‘sustainability’ to aspire to within the built environment should account for:

- social, economic and environmental factors;
- the potential for long-term maintenance of human wellbeing, which in turn depends on the wellbeing of the natural world and the responsible use of natural resources;
- the exploitation of natural resources without destroying the ecological balance of the area where these resources originate or are processed, and;
- the ability to be maintained.

The Building (Scotland) Act 2003 allows Scottish Ministers to regulate for the purpose of furthering the achievement of sustainable development. In Scotland, sustainability is embedded into the building regulations for all new buildings, rather than reference being made to new buildings achieving levels within a voluntary system. Since 2005, good progress has been made by strengthening the standards on, for example, energy and accessibility for all new buildings so they are comparable with the best in Europe.

Whilst the standards within sections 1 to 6 of the 2010 Technical Handbooks achieve a level of sustainability, there is further scope for improvement. Scottish Ministers consider that it is not practicable at this time to require every building to incorporate higher performance standards or further sustainability measures but developers may wish to gain recognition for building to higher standards, or they may be required to if either a planning authority or funding body make constructing to a higher level a condition of approval or funding.

Higher standards to measure sustainability that includes: resource use and human wellbeing within and around the building; will enable higher quality buildings to be created. The introduction of section 7 is the next step in encouraging the sustainable design and construction of all new buildings within a broader context of sustainable development. Reducing CO₂ emissions from new buildings also supports targets within the Climate Change (Scotland) Act 2009.

7.0.2 Aims

The intention of the standard in section 7 is to:

- Recognise the level of sustainability already achieved by the building regulations. By setting the 2010 standards as the benchmark level, credit will be given to those designing to the standards within sections 1-6 of the Building (Scotland) Regulations. This will have the effect of mainstreaming sustainable design, indicating that more sustainable design and construction does not form a niche market but is relevant and within the reach of all new buildings.

¹ Brundtland Commission, United Nations, 1983.

- Encourage more demanding sustainability standards through at least two enhanced upper levels.
- 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.

7.0.3 Scope

Sustainability measures are intended to be broad regarding the built form that can be delivered through the building standards system. However, at present there is only one aspect within a non-domestic sustainability standard (carbon dioxide emissions).

7.0.4 Extended scope related to standard for domestic buildings

It is expected that non-domestic buildings will follow a similar approach to domestic buildings by defining areas of sustainability that are verifiable via the building standards system and this development of criteria for non-domestic buildings will happen in due course. The sustainability criteria already defined for domestic buildings have been 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. Feedback and communication with occupants is also important in raising awareness of consumption and encouraging performance to be optimized by providing information to a building's occupants.
- **Quality of life; material use and waste.** Buildings should be pleasant environments for individuals, groups, and communities to occupy. More aspects of positive design for all new occupants should be safeguarded, promoting well-being; and consequently reducing the likelihood of dissatisfaction that could result in premature redevelopment. A future-proofed long-life design approach will favour the accommodation of many functions in the long-term.

There are areas considered inappropriate for inclusion in the upper levels for buildings due to the complexity of some subjects related to sustainable buildings such as material sourcing and embodied energy. However supplementary guidance that makes reference to other sources of information, may be included on this subject. In response to the Sullivan Report² ambition of total-life zero carbon buildings by 2030, the importance of embodied energy may grow as building performance improves further and building material use grows in relative importance to the overall resource impact of the built form.

7.0.5 Explanation of terms

Aspect is a term used for a subject area of sustainability. There is currently only one aspect within a non-domestic sustainability standard (carbon dioxide emissions).

Level is a term used as a banding, where all the aspects of sustainability have reached a certain cut-off point. The upper levels, once defined, will be fixed and should not change in any subsequent revision although levels that are more demanding may be added in the future. It is possible that some aspects from upper levels may become absorbed into guidance in sections 1 to 6, to meet revised mandatory functional standards over the next few reviews. However, in any event they should not be seen as predictions because the process for review of these sections runs independently of section 7.

² 'A Low Carbon Building Standards Strategy for Scotland'. Report of a panel appointed by Scottish Ministers; chaired by Lynne Sullivan. 2007

7.0.6 Latest changes

This Section is completely new.

7.0.7 Relevant legislation

Reference to European legislation - to be added

7.0.8 Retrospective application

Scottish Ministers have powers under section 25 of the Building (Scotland) Act 2003 to make a Direction to local authorities where they consider that buildings of any description to which building regulations apply ought to comply with a provision of the regulations.

This power will be exercised to direct local authorities to enable retrospective application of section 7 for buildings that have been assessed by verifiers. This would only be relevant for buildings that have complied with the sections 1-6 that have been in force since October 2010 and where an applicant seeks the recognition that a specified level of sustainability on a label offers. Directions to local authorities, which enable the following measures, will be published on the Building Standards Division website.

7.0.9 Certification

Scottish Ministers can, under section 7 of the Building (Scotland) Act 2003, approve schemes for the certification of design or construction for compliance with the mandatory functional standards. Such schemes are approved on the basis that the procedures adopted by the scheme will take account of the need to co-ordinate the work of various designers and specialist contractors. Individuals approved to provide certification services under the scheme are assessed to ensure that they have the qualifications, skills and experience required to certify compliance for the work covered by the scope of the scheme. Checking procedures adopted by Approved Certifiers will deliver design or installation reliability in accordance with legislation.

7.0.10 Other sustainability indicators

Other tools to assess a level of sustainability for new buildings exist such as BREEAM that has been used widely in Scotland. These indicators may be selected as appropriate for some developments as they cover issues broader than building standards is able to include. They can be adopted in addition to the section 7 standard and guidance but they cannot be used as an alternative method to meet an optional upper level of sustainability within building standards.

Standard

7.1

Mandatory Every building must be designed and constructed in such a way that:

(a) with regard to a dwelling, it achieves a level of sustainability in respect of carbon dioxide emissions, resource use, building flexibility, adaptability and occupant well-being specified by the Scottish Ministers;

(b) with regard to a non-domestic building, it achieves a level of sustainability in respect of carbon dioxide emissions specified by the Scottish Ministers; and,

(c) a statement of the level of sustainability achieved is affixed to the building.

Limitation:

This standard does not apply to alterations, extensions or conversions.

Draft text for consultation	Notes
<p>7.1.0 Introduction</p> <p>The specified levels of sustainability are as follows:</p> <ul style="list-style-type: none">• Bronze• Bronze star• Silver (Carbon dioxide emissions aspect only, at present)• Gold (Carbon dioxide emissions aspect only, at present)• Platinum (Carbon dioxide emissions aspect only, at present) <p>The award of an overall upper level depends upon meeting all aspects, rather than allowing trade-offs to achieve a score, reinforcing the fact that sustainable outcomes rely on holistic integrated design. Therefore the award of an upper level at silver, gold or platinum is not available until the other aspects of the specified levels of sustainability as set out in 7.1.1 – 7.1.5 are defined as simply verifiable sets of measures that are transparent to planners, funding bodies, purchasers, and tenants.</p> <p>However non-domestic buildings that exceed a bronze sustainability level by achieving the upper level criteria in any of three upper levels in the aspect of carbon dioxide emissions are welcomed. This achievement will be reflected in the graphical presentation of the sustainability label.</p>	
<p>7.1.1 Bronze level</p> <p>All the standards in Sections 1 – 6 that apply to the building.</p>	
<p>7.1.2 Bronze star level</p> <p>All the standards in sections 1 – 6 that apply to the building, and in addition the building must include the use of a low and zero carbon generating technology.</p>	<p><i>LZCGT list: Wind turbines; water turbines; heat pumps (all varieties); solar thermal panels; solar</i></p>

	<i>photovoltaic panels; combined heat and power units (fired by low emission sources); fuel cells; biomass boilers / stoves; biogas</i>
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7.1.3 Silver level in the aspect of carbon dioxide emissions only All the standards in sections 1 – 6 that apply to the building for the bronze level, and in addition the building should comply with the criteria below.		
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S1. Carbon dioxide emissions:	Carbon dioxide emissions to be a 28.6 % improvement on the 2010 standards. (This is equivalent to a 50% improvement on 2007 standards)	<i>The resultant TER from SAP calculation multiplied by a fraction (.714) versus a DER calculation.</i>
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7.1.4 Gold level in the aspect of carbon dioxide emissions only All the standards in sections 1 – 6 that apply to the building for the bronze level, and in addition the building should comply with the criteria below		
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G1. Carbon dioxide emissions	Carbon dioxide emissions to be a 64.3% improvement on the 2010 standards. (This is equivalent to a 75% improvement on 2007 standards)	<i>The resultant TER from SAP calculation multiplied by a fraction (.357) versus a DER calculation.</i>
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7.1.5 Platinum level in the aspect of carbon dioxide emissions only All the measures in Sections 1 – 6 that apply to the building for the bronze level, and in addition the building should comply with the criteria below		
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P1. Carbon dioxide emissions	Carbon dioxide emissions to be a 100% improvement on the 2007 standards.	<i>DER=0</i>
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Building Standards

Scotland

Section 7: Sustainability Non-domestic



Gold:
Silver: Partly Achieved
Bronze Star: 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.xxxxxxxx.co.uk

This label must be fixed within the building

