

SUSTAINABILITY LABELLING USING THE BUILDING STANDARDS SYSTEM

Section 7 Sustainability

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. Standards which closely relate to sustainable living include those on energy, surface water drainage and noise isolation.

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 given to those designing to the standards within sections 1-6 of the Building (Scotland) Regulations. This will have the effect

¹ Brundtland Commission, United Nations, 1983.

of mainstreaming sustainable design, indicating that more sustainable design and construction does not form a niche market but is within the reach of all new buildings.

- 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

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. 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 home.
- **Quality of life; material use and waste.** Homes should be made more liveable for individuals, groups, families and communities by a more long-life design approach. More aspects of positive design for all new home occupants should be safeguarded, promoting well-being; and consequently reducing the likelihood of dissatisfaction that could result in an earlier inclination to move on or even premature redevelopment.

There are areas considered inappropriate for inclusion in the upper levels for domestic 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.

7.0.4 Explanation of terms

Aspect is a term used for a subject area of sustainability. Due to the coverage of building standards and the timing of the warrant process in the development process, aspects covering resource use and performance are more prominent in this standard. Examples of aspects named and defined in this standard for dwellings are:

- Energy for water heating;
- Well-being and security; and,
- Material use and waste.

Level is a term used as a banding, where all the aspects of sustainability have reached a certain cut-off point. The upper levels defined here are 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 these 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

7.0.5 Latest changes

This Section is completely new.

7.0.6 Relevant legislation

Reference to European legislation - to be added

7.0.7 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.

7.0.8 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.

7.0.9 Other sustainability indicators

Other tools to assess a level of sustainability for new buildings exist such as Ecohomes 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. But they cannot be used as a 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.

Guidance 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• Gold• 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. The specified levels of sustainability, as set out in 7.1.1 – 7.1.5, are simply verifiable sets of measures that are transparent to planners, funding bodies, purchasers, and tenants. To comply with this standard, it should not be necessary to secure expert evaluation beyond that already used in the design to demonstrate compliance with the standards in Sections 1 to 6.</p> <p>The first optional upper level ‘silver’ offers substantial benefits in a range of sustainability aspects but should be achievable to a sector of the mainstream market. The second optional upper level ‘gold’ is a more demanding target, initially aimed for by those intent on pursuing best practice.</p> <p>The aim is for balance in the setting of upper levels because sustainability is considered in the round rather than focusing on issues of energy or carbon emissions. Reaching upper levels should be a valid target for any new development regardless of size or location and efforts have been made to avoid individual aspects that could often upset applications which might regularly meet all of the other aspects of sustainability. In order to broadly address sustainability as much as possible, no one aspect should dominate over all others.</p>	

<p>Buildings that exceed a bronze or silver sustainability level by achieving the upper level criteria in one or more of the aspects are welcome. This additional achievement will be reflected in the graphical presentation of the sustainability label. However a rise up to the next level will only be recognised once all aspects for that particular level have been included.</p> <p>Buildings that exceed a gold sustainability level are also welcomed. A third upper level has been reserved for further recognition within the building standards system. At present, only the aspect of carbon dioxide emissions has been defined for this 'platinum' level.</p>	
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<p>7.1.1 Bronze level All the standards in sections 1 – 6 that apply to the building.</p>	
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<p>7.1.2 Bronze Star level 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; photovoltaic panels; combined heat and power units (fired by low emission sources); fuel cells; biomass boilers / stoves; biogas</i></p>
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<p>7.1.3 Silver level 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 in each of the aspects below.</p>	
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Climate change, energy and water resources

<p>S1. Carbon dioxide emissions:</p>	<p>Carbon dioxide emissions to be a 21.4% improvement on 2010 standards</p> <p>(This is equivalent to a 45% improvement on the 2007 standards)</p>	<p><i>The resultant TER from SAP 2009 calculation multiplied by 0.786, versus the DER.</i></p>
<p>S2. Energy for space heating:</p>	<p>Maximum annual demand for useful energy for space heating is as follows:</p> <ul style="list-style-type: none"> • 40kWh/m² for houses; or • 30kWh/m² for flats <p>One approach would be to use the output from box no.99 of the SAP 2009 worksheet and compare this with the maximum figures.</p>	
<p>S3. Energy for water heating:</p>	<p>a) At least 30% of the dwelling or the domestic building's or development's* annual energy demand for water heating should be from renewable sources and / or heat recovery (e.g. solar thermal water heating and associated storage; heat recovery from greywater)</p> <p>b) A display showing performance of the solar collector or other renewable source should be mounted in easily</p>	<p><i>a) Use output from SAP 2009 (annual energy demand for water heating) multiplied by a fraction (.3) versus a contribution from a specified installation of equipment using renewable energy. Renewable must be</i></p>

	<p>accessible space, for instance alongside controls for heating equipment or near the bathroom / shower room door.</p> <p>*A block assessment can be carried out as section 6.</p>	<p><i>dedicated for water heating</i></p>
S4. Water use efficiency:	<p>Enhanced or additional products should be used to encourage water efficiency including:</p> <ul style="list-style-type: none"> • 1 water butt for outdoor use per dwelling*; • WCs of average flush volume to be not more than of 4.5 l/m; • taps of flow rate to basins to be not more than 6 l/m; and, • shower heads with a shower flow rate not more than 8 l/m. <p>Reference to be made to the performance bands within Bathroom Manufacturers Association's water efficient product labelling scheme (BMA scheme) or equivalent standards</p> <p>* Flats, houses or maisonettes that do not have a door adjoining a landscaped area, or a rainwater pipe within that area, are excluded.</p>	<p><i>l/m = litres per minute.</i></p> <p><i>Flow rates referred to align with performance bands in BMA scheme. Baths not included.</i></p>
S5. Optimising Performance	<p>a) Provide guidance to the occupants of dwelling on the ways in which the building is intended to function and how to optimise its performance in the format of:</p> <ul style="list-style-type: none"> • A completed guide based on a template*, explaining the function of the systems used including, heating and ventilation and how to maintain optimal performance; and • Direct 'easy release' adhesive labels on all key heating and ventilation equipment including (if fitted): trickle ventilators, extract fans, mechanical ventilation with heat recovery (MVHR), heating controls (programmers, TRVs) <p>b) A smart meter should be installed on the electricity supply, or</p> <p>c) a real-time resource use display monitor should be installed on electricity and gas (if present), or LPG supplies, in an easily accessible position**.</p>	<p><i>*Research planned for late 2010 to produce a template for model guide. Applicant to make the template bespoke to the home. Explain the interaction between behaviour and summer and winter living in the home. Topics to include inter-relationships between insulation, heating and ventilation; use of windows, ventilators, and equipment controls. To go in an Annex.</i></p> <p><i>(This is additional to the information provided under Standard 6.8.) Is real-time available for non-electric?</i></p> <p><i>** requires definition.</i></p>

Quality of life, material use and waste

S6. Flexibility and adaptability	<p>a) A 'Home office' space dedicated for home working/ study, to include:</p> <ul style="list-style-type: none"> • 1.8 m of wall length for a desk of minimum 600 mm depth to be placed up against the wall. The desk space can be 'L' shaped in plan as long as each leg of the 'L' is a minimum of 1.2 m. • 2 switched electrical sockets. 	<p><i>Supporting diagram(s) to be added for home office arrangements.</i></p> <p><i>Issues of this space being presented as a small independent room to be addressed.</i></p>
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	<ul style="list-style-type: none"> • 2 phone points, at least 1 enabled for broadband connection if broadband is available at the development boundary. • For natural daylight and additional ventilation; clear sight to a window, glazed door or rooflight. The glazed element must be openable to external air. <p>For 1 or 2 bedroom dwellings, the space can be in any habitable room as long as there is no interference with the doorway and the requirements of Sections 3 and 4.</p> <p>For dwellings over 150 m², two dedicated spaces are required.</p>	<p><i>Daylight and ventilation to the home office to be as section 3</i></p>
S7. Well-being and security	<p>a) Noise between dwellings: Design performance levels for separating walls and separating floors of:</p> <ul style="list-style-type: none"> • Minimum airborne sound insulation: 58 dB DnT,w • Maximum impact sound transmission: 58 dB L'nT,w <p>b) Noise between rooms: Design performance level for a minimum airborne sound insulation of 45 dB Rw.</p> <p>c) Enhanced natural lighting to an apartment should be provided to the enhanced apartment by providing a glazed area of not less than 1/8th of the floor area of the apartment.</p> <p>d) Install a 13amp fused spur, suitable for an intruder alarm system, located within 2m of the main entrance door.</p>	<p><i>Noise – see supplementary guidance in annex C</i></p> <p><i>Further supplementary guidance may be needed on defining an 1/8th</i></p>
S8. Material use and waste	<p>Storage space should be provided for the recycling of solid waste. A dedicated internal space with a volume of at least 0.12 m³ (120 litres) and no dimension less than 450 mm, for storing recyclable material.</p> <p>This is in addition to present kitchen storage requirements in section 3.</p>	<p><i>See supplementary guidance in annex D.</i></p>

7.1.4 Gold level

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 in each of the aspects below

Climate change, energy and water resources

G1 Carbon dioxide emissions	<p>Carbon dioxide emissions to be a 42.8% improvement on 2010 standards.</p> <p>(This is equivalent to a 60% improvement on the 2007 standards)</p>	<p><i>The resultant TER from SAP 2009 calculation multiplied by 0.572, versus the DER.</i></p>
G2 Energy for space heating	<p>Maximum annual demand for useful energy for space heating is as follows:</p> <ul style="list-style-type: none"> • 30 kWh/m² for houses; or • 20 kWh/m² for flats 	<p><i>Notes as S2</i></p>
G3 Energy for	<p>a) An installation designed to provide at least 60% of the</p>	<p><i>Notes as S3</i></p>

water heating	building or development's annual energy demand for water heating from renewable sources and / or heat recovery (e.g. solar thermal water heating and associated storage; heat recovery from greywater) b) As S3	
G4 Water use efficiency	<p>Enhanced or additional products should be used to encourage water efficiency including. Provide:</p> <ul style="list-style-type: none"> • 1 water butt for outdoor use per dwelling (exclusions apply as S4); and <p>4 of the following 5 items:</p> <ul style="list-style-type: none"> • water meter; • WCs of average flush volume to be not more than 3.5 l/m; • taps of flow rate to basins to be not more than 4 l/m; • shower heads with maximum shower flow rate not more than 6 l/m. • rainwater harvesting or greywater recycling system designed to provide at least 20% of water required for toilet flushing <p>Reference to be made to the performance bands within Bathroom Manufacturers Association's water efficient product labelling scheme (BMA scheme) or equivalent standards</p>	<p>Notes as S4</p> <p><i>A guidance table to be drawn up to help establish the 20% of predicted use.</i></p>
G5 Optimising Performance	<p>a) As S5</p> <p>b) A smart meter should be installed on the electricity and gas (if present) supplies; and,</p> <p>A real-time resource use display monitor should be installed on electricity, water and gas (if present), or LPG supplies, in easily accessible position.</p> <p>c) A walk-through at completion by a nominated person* who has an understanding of the building fabric, any passive design principles and knowledge of the whole building services system</p>	<p>* Definition to follow late 2010 research</p>

Quality of life, material use and waste

G6 Flexibility and adaptability	<p>a) As S6</p> <p>b) A convenient secure <i>mobility space</i> to accommodate an electric wheelchair including charging socket. The space should also be suitable for the potential storage of a pram or bicycle (but not occupied at the same time as an electric wheelchair);</p> <p>c) Storage provision. Adequate and accessible general storage of 1m³ in volume per bedroom.</p> <p>The storage space should be capable of being closed off with a door but does not need to be in the bedroom. It is not a duplication of wardrobe space defined in</p>	<p><i>Supplementary clause on 'mobility space' is in annex B. Supporting diagrams for each of three requirements sizes, arrangements and how they can overlap to be drawn.</i></p> <p><i>Space would be in addition to storage that is designated for the future provision of a shower as section 3</i></p>
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	Section 3. Loft or attic space, only accessible by a ladder, would not be considered as counting towards storage space allocations due to their restricted accessibility. For one bedroom dwellings b) can be combined with a).	
G7 Well-being and security	<p>a) Noise between dwellings: Design performance levels for separating walls and separating floors of:</p> <ul style="list-style-type: none"> • Minimum airborne sound insulation: 59 dB DnT,w • Maximum impact sound transmission: 59 dB L'nT,w <p>b) Noise between rooms: Design performance level for a minimum airborne sound insulation of 47 dB Rw.</p> <p>c) Enhanced natural lighting should be as S7, and calculations to show average daylight factor (DF) of 2% and 1.5% for kitchens and living room/ dining/ study respectively, using the Simplified DF calculation in annex C</p> <p>d) Private outdoor space with room for occupants to sit outside of a size:</p> <ul style="list-style-type: none"> • 1.5 m²/bedspace (minimum 3m²/home, minimum short dimension of 1.2m) • 1m²/bedspace for a shared space <p>e) A fused spur as S7, and provide doorsets and windows which are tested and certified by a notified body as meeting a recognised standard for security; or install a full intruder alarm system that complies with BS EN 50131 & PD6662 (wired system) or a Class VI alarm to BS 6799 (wire free system) that conforms to ACPO guidelines</p>	<p><i>Private outdoor space: see supplementary guidance in annex C</i></p> <p><i>ACPO = Association of Chief Police Officers</i></p>
G8 Material use and waste	<p>as S8 plus:</p> <ul style="list-style-type: none"> • Consideration of waste arising from the built-form by demonstrating that key principles of demountable construction detailing* have been followed on submitted drawings; or, • (An option only where a site is occupied and warrant is for demolition and construction, to give some benefit to brownfield development) a demolition audit of existing buildings/ structures on site.** 	<p><i>* refer to existing guidance such as SEDA: 'Design and Detailing for Deconstruction'. Key principles related to details to be clearly identified and become diagrams for assessment of key principles of demountable detailing.</i></p> <p><i>**reference to standard format of demolition audits.</i></p>

7.1.5 Platinum level

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 in each of the aspects below

Climate change, energy and water resources

P1 Carbon dioxide	Carbon dioxide emissions to be a 100% improvement	DER=0
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emissions	on the 2007 standards. i.e. Zero Carbon	
P2 Energy for space heating	[not defined]	
P3 Energy for water heating	[not defined]	
P4 Water use efficiency	[not defined]	
P5 Optimising Performance	[not defined]	

Quality of life, material use and waste

P6 Flexibility and adaptability	[not defined]	
P7 Well-being and security	[not defined]	
P8 Material use and waste	[not defined]	

7.1.6 Statement of level of sustainability

A statement of the level of sustainability achieved must be affixed to the building prior to completion.

The statement must include the sustainability level achieved and should list the sustainability aspects included and the levels achieved. An example of an appropriate label is contained in annex A.

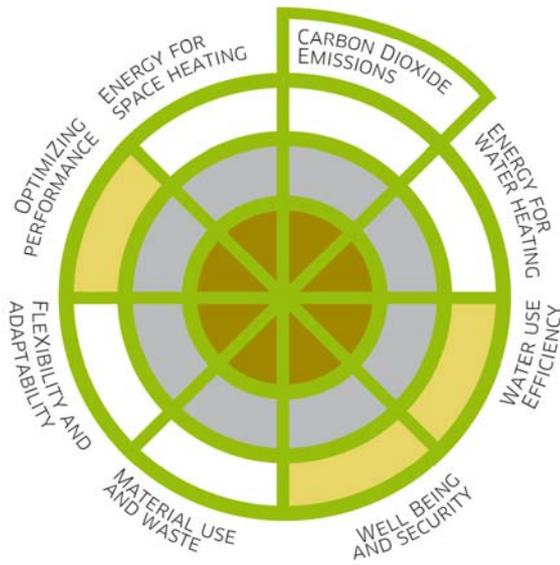
The A4 format and the fixing of a label would mirror the existing procedure for producing and affixing Energy Performance Certificates (EPCs)

- It would be the owner's responsibility to 'affix the label to the dwelling'.
- The Sustainability Label (SL) should be indelibly marked and located in a position that is readily accessible, protected from weather and not easily obscured. A suitable location could be in a cupboard containing the gas or electricity meter or the water supply stopcock.

Building Standards

Scotland

Section 7: Sustainability Domestic



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

This label must be fixed within the building



Annex B: Supplementary guidance in the aspect of Flexibility and adaptability

Mobility space (relevant to gold level)

The *mobility space* is to be whichever of the following is the larger:

- An electric wheelchair storage space of: 0.8m x 1.1m (for dwellings of 3 bedrooms or more, or over 150m², space for two electric wheelchairs), *or*
- A bicycle or pram storage space, for one bicycle, of size³: 2m x 0.75m. (for dwellings of 3 bedrooms or more, or over 150m², space for two bicycles)

Each mobility space must have an electrical socket for recharging. Ideally, it should be adjacent to the dwelling main entrance close to a secure and weatherproof access door on the entrance level. A single infant's pram or pushchair should generally be able to use the mobility space as defined by the cycle or wheelchair footprint.

The mobility space should be outwith the minimum corridor width noted in section 4 and clear of any door way, door swing, stair landing or space identified for a future stairlift installation.

Exemptions to the bicycle space defining the mobility space would include :

- If a motor vehicle garage is provided then this could be adequate for bicycle storage as long as there is still sufficient room for a the single motor vehicle, or
- If secure communal bicycle storage is provided that serves a number of dwellings. This would need to be sized on the number of bedrooms in total or overall size of all dwellings served.

If either of the above are present, then the mobility space will be defined by the wheelchair size(s) and the separate bicycle storage allocation (garage or communal store) would not need a charging point.

Garden sheds should not be proposed as such bicycle stores. Proprietary storage systems such as hanging storage for bicycles should not define the floor space provision.

³ This includes some space for manoeuvring. A size of 1.8m x 0.5m for 1 cycle would suffice for space required to park at a Sheffield stand according to the New Metric Handbook

Annex C: Supplementary guidance in the aspect of Well-being and security

C1. Noise (relevant to silver and gold levels)

Performance levels for noise isolation for separating walls and separating floors should be verified by carrying out a sound test. The current levels in Standard 5.1 are:

- Minimum airborne sound insulation: 56 dB DnT,w
- Maximum impact sound transmission: 56 dB L'nT,w

Detached houses would not require assessment for noise separation

The performance levels for sound insulation between rooms refers to internal partitions in all dwellings and intermediate floors within houses and maisonettes. The current level in Standard 5.2 is 43 dB Rw. These should be verified by manufacturer's literature.

C2. Private outdoor space (relevant to gold level)

The private outdoor space should be accessible only to occupants of designated houses or flats by provision of at least one of the following:

- a private garden and/or patio;
- a balcony and/ or roof terrace with the front open to air; or
- a communal garden or courtyard.

In a studio or single bedroom flat then the balcony could be a 'Juliet' type where the size requirements could then be provided by a space immediately inside of the doors. No overlapping is allowed with any other spatial requirements of the room in question. The glazed doors could also contribute to meeting enhanced daylight provision.

The outdoor space should be secluded and large enough for the occupants of designated dwellings to share. It must be clear that the space is only to be used by occupants of designated dwellings. Buildings themselves, walls, fencing, planting or other barrier could all be used to define the space.

For the purposes of verification from plans, a bedroom of less than 10m² provides 1 bedspace, greater than 10m² provides 2 bedspaces.

C3. Simplified Daylighting (DF) calculation (relevant to gold level):

$$DF = \frac{52 \times M \times W}{A}$$

Where:

A = Area of all room surfaces (ceiling, floor, walls and windows), in m².

M = A correction factor for dirt or ease of cleaning, consisting of:

1.0 (vertical glazing) or,

0.8 (sloping glazing) or,

0.7 (horizontal glazing).

W = Glazed area of windows or rooflights, taking account of framing, in m². Measure glazed panes or measure window area including frames then multiply by:

0.9 for metal patent glazing

0.8 for metal large pane

0.7 for timber large pane

0.6 for timber 'Georgian' pane

For PVC panes, assume equal to timber.

Annex D: Supplementary guidance in the aspect of Material use and waste

D1. Storage space for the recycling of solid waste (relevant to silver level):

The storage space should:

- be able to store small amounts of recyclable material (e.g. metal, glass, plastic, cardboard and/or paper);
- be convenient for the dwelling layout;
- be accessible;
- be easily cleanable;
- be additional to the general 1m³ kitchen storage in Section 3;
- be additional to storage space in the optional upper level of Flexibility and adaptability; and,
- facilitate temporary storage before transfer to a main storage point or a collection point, whether for the dwelling or for a group of dwellings

It is recognised that local authority provision, resources and preferences for collecting separately or together will vary across Scotland. Therefore subdivision into containers for different materials is optional.

D2. Material use and waste; general guidance on materials used in construction

[Short text to be added relating to issues on:

- Embodied energy
- Use of recycled materials in construction
- Local sourcing of materials
- Ethical sourcing of materials

links to be added to:

- BRE Green Guide to Specification
- WRAP
- Others such as Greenspec or National Green Specification...]