An Introduction to BREEAM and the Code for Sustainable Homes

Ropemaker, a BREEAM ‘Excellent’ office development in South Islington
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Two key methods for assessing the sustainability of buildings in England are introduced below – BREEAM (British Research Establishment Environmental Assessment Method, recently revised with BREEAM 2008 in August of this year) and Code for Sustainable Homes.

BREEAM

Introduction
BREEAM is the British Research Establishment Environmental Assessment Method. It is used to assess the environmental performance of new and existing buildings.

Standard types of BREEAM assessment scheme exist for common building types:
- Courts
- EcoHomes (used for refurbished homes; for assessment of new homes Code for Sustainable Homes replaced EcoHomes in April 2007)
- Education – introduced from August 2008 (replaces the existing BREEAM Schools assessment but will expand to include BREEAM Further Education)
- Healthcare – introduced from August 2008 (replaces the NHS Environmental Assessment Tool)
- Industrial
- Multi-residential
- Offices
- Prisons
- Retail

Less common building types (e.g. leisure complexes) can be assessed against tailored criteria under the Bespoke BREEAM assessment.

The BREEAM scoring system
The assessment relates to eight areas:
- Overall management of the building
- Energy use
- Health and well being
- Pollution
- Transport
- Land use and ecology
- Materials
- Water

The assessment looks at each of these areas and awards credits according to the performance of the building against specific criteria. The credits in each of these areas are then added together to produce an overall rating based on a weighting system1. The building is then rated, and a certificate awarded, on a scale of:

1 BREEAM 2008 has, since August, given greater importance in the weighting system to areas of energy, transport, materials and waste with the aim of making it more difficult to achieve the points needed to achieve BREEAM Excellent and the new BREEAM Outstanding rating.
PASS, GOOD, VERY GOOD, EXCELLENT (70% overall score) or (since August 2008) OUTSTANDING (85% overall score).

BREEAM 2008 also introduced:
- **Mandatory minimum requirements e.g. for energy and water consumption** - this is aimed at avoiding the criticisms of the old BREEAM system as it requires designs to tackle energy issues directly to ensure the highest BREEAM ratings are achieved.
- **Additional "Innovation Credits"** - for developments that introduce innovative technology. Innovative designs will be reviewed to determine whether any environmental benefit will be achieved and credits will be awarded for those that provide such a benefit. These credits are in addition to those that can be earned in relation to the other categories of assessment and will enable higher ratings to be achieved.

**BREEAM assessment process**
A BREEAM assessment involves inspections by a licensed BREEAM assessor. Previously assessment was only undertaken at the design stage, but BREEAM 2008 introduced a new two stage assessment and certification process: design stage and post construction. The aim is to ensure that design stage promises are carried through to the construction phase – a development should achieve the same rating for post construction as at design stage.

**Islington’s approach to BREEAM**
Non-residential developments and residential refurbishments should seek to achieve the relevant BREEAM assessment (retail, office, education, bespoke, etc) rating of ‘Excellent’.

Policy support:
Policy CS1 of the withdrawn submission draft of Islington’s Core Strategy (withdrawn in July 2007), which the Council has adopted as a non-statutory development control advice note\(^2\), states that the Council will require all major developments to be built to BREEAM excellent standard, or to an equivalent level if BREEAM is superseded. London Plan policy 4A.1 requires developments to make the fullest contribution to the mitigation of and adaptation to climate change and to minimise emissions of carbon dioxide and policy 4A.3 requires developments meet the highest standards of sustainable design and construction

Policy development:
Policies on sustainable buildings are under development as part of the Core Strategy – Option CC1 in the Issues and Options report considers use of BREEAM for non-residential developments and residential refurbishments.

**Further information**
http://www.breeam.org/

\(^2\) This is being used as an advice note while a new Core Strategy is produced; it should be read in conjunction with Islington’s Unitary Development Plan (2002) and the London Plan.
**Code for Sustainable Homes**

**Introduction**

In April 2007 the Code for Sustainable Homes replaced Ecohomes for the assessment of new housing in England (BREEAM Ecohomes is still used for refurbished homes). The Code aims to protect the environment by providing guidance on the construction of high performance homes built with sustainability in mind. CLG sees it as the key tool for driving forward sustainability in housing.

The Code is closely linked to Building Regulations, which are the minimum building standards required by law. Minimum standards for Code compliance have been set above the requirements of Building Regulations. The Code signals the future direction of Building Regulations in relation to carbon emissions from, and energy use in homes, providing greater regulatory certainty for the homebuilding industry.

From 1st May 2008 it has been mandatory for all new homes to have a rating against the Code (this may be a ‘nil’ rating indicating no assessment was undertaken). In addition, since April 2008 all new social housing has to be built to a minimum of Code level 3. Requirements for meeting certain Code levels will be stepped up over time to help meet the Government’s 2016 target for all new homes to be built to zero carbon standards.

**The Code Scoring System**

The Code for Sustainable Homes assesses homes in nine design categories:

- Energy and CO2 emissions
- Water
- Materials
- Surface water run-off
- Waste
- Pollution
- Health and well-being
- Management
- Ecology

The issues are assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standard needed to satisfy Building Regulations or other legislation. They represent good or best practice and are considered to be technically feasible and deliverable.

The Code contains mandatory performance levels in 7 key areas:

- Energy efficiency /CO₂
- Water efficiency
- Surface water management
- Site Waste Management
- Household Waste Management
- Use of Materials
- Lifetime homes (applies to Code Level 6 only from April 2008)

The Code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home. The different levels are made up by achieving both the appropriate mandatory minimum standards (in the seven areas identified above) together with a proportion of the ‘flexible’ standards. A level 6 home would need to score over 90% and have net carbon emissions of zero.
Comparison of overall ratings for BREEAM and the Code

- BREEAM Very Good ≈ Code Level 3
- BREEAM Excellent ≈ Code Level 4
- BREEAM Outstanding ≈ Code Level 5

Key requirements to achieve higher levels of the Code

<table>
<thead>
<tr>
<th>CODE LEVEL</th>
<th>Min reduction in dwelling CO2 emission rate over target emission rate*</th>
<th>Max water consump’n (l/person/day)</th>
<th>Total % points score on Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>10%</td>
<td>120</td>
<td>36%</td>
</tr>
<tr>
<td>Level 2</td>
<td>18%</td>
<td>120</td>
<td>48%</td>
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<tr>
<td>Level 3</td>
<td>25%</td>
<td>105</td>
<td>57%</td>
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<td>Level 4</td>
<td>44%</td>
<td>105</td>
<td>68%</td>
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<tr>
<td>Level 5</td>
<td>100%</td>
<td>80</td>
<td>84%</td>
</tr>
<tr>
<td>Level 6</td>
<td>Zero carbon</td>
<td>80</td>
<td>90%</td>
</tr>
</tbody>
</table>

The Code assessment process

Similar to the new BREEAM approach, Code assessments are carried out by an accredited assessor in two phases:

- Design Stage Review - Based on design drawings, specifications and commitments; results in an interim certificate of compliance
- Post Construction Review - Based on the design stage review; confirmation of compliance including site records and visual inspection.

Islington’s approach to the Code

Residential developments should aim to achieve Code Level 4.

Policy support:
Policy CS1 of the withdrawn submission draft of Islington’s Core Strategy (withdrawn in July 2007), which the Council has adopted as a non-statutory development control advice note3, states that the Council will require all major developments to be built to BREEAM excellent standard, or to an equivalent level (i.e. Code Level 4).

London Plan policy 4A.1 requires developments to make the fullest contribution to the mitigation of and adaptation to climate change and to minimise emissions of carbon dioxide and policy 4A.3 requires developments meet the highest standards of sustainable design and construction.

Policy development:
A policy on Sustainable Homes is under development as part of the Core Strategy – see Option CC1 in the Issues and Options report.

Further information
http://www.communities.gov.uk/publications/planningandbuilding/codesustainabilitystandards

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3 This is being used as an advice note while a new Core Strategy is produced; it should be read in conjunction with Islington’s Unitary Development Plan (2002) and the London Plan.
Appendix 1: BREEAM 2008 – Summary of Changes to Old System

- **Environmental weightings will differ quite considerably from before** - Greater importance will be given to areas of energy, transport, materials and waste in the weighting system with the aim of making it more difficult to achieve the points needed to achieve BREEAM Excellent (70% overall score) and the new BREEAM Outstanding (85% overall score).

- **Introduction of mandatory minimum requirements for energy and water consumption** - This is aimed at avoiding the criticisms levied on the current BREEAM system as it will require designs to tackle energy issues directly to ensure the highest BREEAM ratings are achieved.

- **A new two stage assessment and certification process: design stage and post construction** - The aim is that the design stage promises will now have to be carried through the construction phase with quality construction processes to achieve the same rating for the finished product.

- **Introduction of additional "Innovation Credits"** - For developments that introduce innovative technology. The innovative designs will be reviewed to determine whether any environmental benefit will be achieved and credits will be awarded for those that do. These credits are in addition to those that can be earned in relation to the other categories of assessment and will enable higher ratings to be achieved.

- **New assessment schemes** - Introduction of BREEAM Healthcare (replaces the NHS Environmental Assessment Tool) and BREEAM Education (replaces the existing BREEAM Schools assessment but will expand to include BREEAM Further Education) assessments.