A closer look at the major green building rating tools in use around the world:

BREEAM

Presented by: tony lee luen len, GBCM

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BREEAM

BRE Environmental Assessment Method is the most widely used environmental assessment method for buildings with over 110,000 buildings certified and over half a million registered for certification.

Established by BRE (Building Research Establishment Ltd) in 1990, it has since been exported in various guises across the globe. Its equivalents in other regions include LEED North America and Green Star in Australia, and HQE in France.

For more information on BRE, go to: www.bre.co.uk
UK ASSESSMENTS

Non Domestic

Offices
Retail
Industrial
Education
Healthcare
Courts
Prisons
Bespoke: All Other Categories

Domestic

Code For Sustainable Homes: New Houses
Ecohomes: Refurbished Houses
Ecohomes XB: Housing Associations & Stock Managers
Multi-residential

ASSESSMENTS OUTSIDE OF THE UK

Gulf
Europe Retail
Europe Offices
Europe Industrial
Europe Toyota Retail Units
International Bespoke

Across:
Innovate property’s green office in Leeds, UK achieved a BREEAM excellent rating. The development is naturally ventilated with high levels of natural daylighting throughout.
1. Licensed BREEAM assessor

2. Registration (N/A if BREEAM International 2008)
   - design registration form
   - post construction registration form

3. Quality assurance (QA) and auditing
   Documents required:
   - assessment report template
   - signature (electronic ok)
   - supporting information

4. Certification
   Possible assessments re-submittal

Below: supporting documentation
The BREEAM gulf scheme can be used to assess the environmental impacts of any building located in the gulf region (United Arab Emirates, Oman, Qatar, Bahrain, Saudi Arabia and Kuwait) which complies with this scope document.

Above: BREEAM gulf has region-specific credits for water and energy.

SECTION WEIGHTING

<table>
<thead>
<tr>
<th>BREEAM Section</th>
<th>Credits Achieved</th>
<th>Credits Available</th>
<th>% of Credits Achieved</th>
<th>Section Weighting</th>
<th>Section score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>7</td>
<td>10</td>
<td>70%</td>
<td>0.08</td>
<td>5.60%</td>
</tr>
<tr>
<td>Health &amp; Wellbeing</td>
<td>11</td>
<td>14</td>
<td>79%</td>
<td>0.15</td>
<td>11.85%</td>
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<tr>
<td>Energy</td>
<td>10</td>
<td>21</td>
<td>48%</td>
<td>0.14</td>
<td>6.75%</td>
</tr>
<tr>
<td>Transport</td>
<td>5</td>
<td>10</td>
<td>50%</td>
<td>0.05</td>
<td>2.50%</td>
</tr>
<tr>
<td>Water</td>
<td>4</td>
<td>6</td>
<td>67%</td>
<td>0.30</td>
<td>20.1%</td>
</tr>
<tr>
<td>Materials</td>
<td>6</td>
<td>12</td>
<td>50%</td>
<td>0.09</td>
<td>4.5%</td>
</tr>
<tr>
<td>Waste</td>
<td>3</td>
<td>7</td>
<td>43%</td>
<td>0.05</td>
<td>2.15%</td>
</tr>
<tr>
<td>Land Use &amp; Ecology</td>
<td>4</td>
<td>10</td>
<td>40%</td>
<td>0.07</td>
<td>2.8%</td>
</tr>
<tr>
<td>Pollution</td>
<td>5</td>
<td>12</td>
<td>42%</td>
<td>0.07</td>
<td>2.94%</td>
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<tr>
<td><strong>Total Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>59.19%</strong></td>
</tr>
<tr>
<td><strong>BREEAM Rating</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>***</td>
</tr>
</tbody>
</table>
EXAMPLE: BREEAM GULF
### USING LOCAL STANDARDS

**Checklist A10 / Country Reference Sheets** ensures that appropriate local codes are integrated in the process.

<table>
<thead>
<tr>
<th>Credit Number</th>
<th>Reference in BREEAM manual</th>
<th>Issues to be covered by the local best practice standard/guide/tool</th>
<th>Do you have local equivalent best practice codes/guidance/tools that are being used in the analysis?</th>
<th>BRE G Accepted/Rejected Proposed Standard</th>
<th>BRE G Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tra 3</td>
<td>Local standard defining “net lettable area / serviceable floor area”</td>
<td>Gross internal floor area excluding all internal structural and party walls (but not partitioning or other non-load-bearing walls within the tenancy area which are included in the area), ancillary areas for services, ancillary areas to main function areas and circulation areas.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tra 4</td>
<td>National best practice road lighting guide</td>
<td>Minimum and average maintained illuminance levels for pedestrian pathways and cycle paths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Met 1</td>
<td>Nationally recognised LCA tool</td>
<td>Evidence confirming that the tool addresses the whole life cycle of the building, including service life and disposal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LE2</td>
<td>Guidance on land decontamination</td>
<td>As per checklist A15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pol 5</td>
<td>National water authority - flooding</td>
<td>Define flood risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>National meteorological institute</td>
<td>Develop flood maps</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**USE OF LOCAL STANDARDS**
1. BRE proposal for development of evaluation criteria
   Documents needed for this step are:
   - site plan and building plans
   - BREEM international bespoke application form

2. BRE Draft Bespoke 2008 scoring spreadsheet
   Documents needed:
   - Proposal acceptance form
   - Building questionnaire completed
   - Up-to-date set of building plans
   - If a kick-off meeting is requested, the fee is £550 + travelling expenses and time.
3. BRE final criteria.
   Documents needed:
   - Comments response templates

Notes:
The fee for criteria development ranges from £3,000 to £5,500.
Remaining fees including certification range from £2,900 to £5,000 depending on building size.

Across: C&A store, Mainz, Germany. This retail unit underwent a major redevelopment by developer Redevco who were the first to achieve a BREEAM rating for a refurbishment project in mainland Europe.
BREEAM, LEED & GREEN STARS
CATEGORIES

**BREEAM (Gulf)**

Management  8 %
Health & Wellbeing  15 %
Energy  14 %
Transport  5 %
Water  30 %
Materials  9 %
Waste  5 %
Land Use & Ecology  7 %
Pollution  7 %

**Offices**

**Green Star SA**

Management  9%
IEQ  15%
Energy  25%
Transport  9%
Water  14%
Materials  13%
Land Use & Ecology  7%

**LEED**

Sustainable Sites  20 %
Water Efficiency  7 %
Energy & Atmosphere  25 %
Materials & Resources  19 %
Indoor Environmental Quality  22 %

**Emissions**  8 %

| TABLE 1: GENERAL COMPARISON BETWEEN LEED, BREEAM AND GREEN STAR SCHEMES |
|---|---|---|
| **LEED** | **BREEAM** | **Green Star** |
| Assessment method | Performance rating method (PRM) based on ASHRAE 90.1-2004 Appendix G | UK National Calculation Methodology (NCM) based on Approved Document PartL7A | National Australian Built Environment Rating System (NABERS) |
| Scope of assessment | % of improvement based on annual energy cost | Energy performance certificate (EPC) rating: CO² based index | Energy methodology Predicted greenhouse gas emissions |
| Simulation tool | Software approved by the rating authority and subject to requirements specified in ASHRAE 90.1-2004 Appendix G | Approved software interfaces to SBEM method. Approved Dynamic Simulation Modelling software | Software must meet the requirements laid down in Green Star Office Design Tool |
| Energy performance related credits/ points (%) | 14.5% of total available points | 14.7% of total available points | 14.1% of total available points |
BREEAM, LEED & GREEN STAR REQUIRED EXPERTS

BREEAM
Licensed Assessor
Licensed Acoustician
Registered Ecologist
Specialist Commissioning Manager

Green Star
Registered Ecologist

LEED
Commissioner
BREEAM, LEED & GREEN STAR

FEES

BREEAM (International Bespoke)

Criteria development: USD 4,600
£ 3,000 to £ 5,500 + VAT (depending on building type)
Registration + Certification: USD 4,400
£ 2,900 (5,000 m2 or smaller) to £ 5,600 (50,000 m2 or larger) + VAT

Green Star

Registration: ZAR 15,000
2,500 m2 or smaller: USD 2,000
70,000 m2 or larger: USD 10,000
Certification: (Design or As Built) USD 2,000
ZAR 15,000
70,000 m2 or larger: + VAT USD 10,000

LEED

Registration: USD 900 / 1,200
(depending on membership)

LEED Certification:
4,650 m2 or smaller: USD 2,250
46,500 m2 or larger: USD 30,000

FEES COMPARISON
A closer look at the major green building rating tools in use around the world:

BREEAM

Tony Lee Luen Len,
Green Building Council Mauritius
tony@ecosisltd.com