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# Environmental Assessment Methods

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## Overview

In the UK there are 3 common sustainability benchmark tools – BREEAM, LEED and the SKA rating. The aim of these tools is to improve the environmental performance of a project. These tools can be used to assess the construction/fit out and/or refurbishment of a residential or commercial property by judging a number of factors including health and wellbeing and energy and waste. In some cases there may be a planning condition requiring a BREEAM rating to be achieved but in other cases it can be a voluntary to achieve a rating.

## Introduction

BREEAM is an environmental assessment method developed in 1990, by the Building Research Establishment (BRE). To have a project assessed, a qualified Assessor must be engaged. LEED is a system that was developed in the US in 1998. BREEAM and LEED were originally developed to target the construction of projects and then developed further schemes to assess refurbishments and fit outs. The SKA rating is only for the assessment of fit out projects.

## Building Research Establishment Environmental Assessment Method (BREEAM)

BREEAM is a voluntary assessment scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimize their environmental impacts. BREEAM is an assessment tool owned by the BRE.

Although originated in the UK, projects outside the UK can also be assessed, there are schemes available for; Austria, Germany, The Netherlands, Norway,

Spain and Sweden. Projects outside these countries can use BREEAM International. For projects in the UK, there are 6 standard schemes: New Construction, Communities, In-Use, EcoHomes, Refurbishment and Code for Sustainable Homes (soon to be replaced by the *Home Quality Mark*).

The assessment works by giving a building a score based on its performance against 8 sections; energy and water use, the health and well-being of inhabitants, pollution, transportation issues, materials, waste and ecology and management processes, and compares them to established benchmarks. There are minimum standards which are credits that have to be achieved in order to secure a specific rating. To support innovation, BREEAM offers additional 'innovation credits' for the recognition of sustainability related benefits or performance levels which are currently not recognised by standard BREEAM assessment issues and criteria.

The building's score for these 8 sections (and innovation credits if applicable) will establish its BREEAM rating. BREEAM "Outstanding" is the highest rating, followed by Excellent, Very Good, Good, Pass and Unclassified.

Although it is a voluntary scheme, some authorities require a BREEAM assessment, e.g. the Welsh Government National Planning Policy 4.11 requires new builds over 1000m<sup>2</sup> to achieve Very Good & Excellent for the credit 'ENE01 Reduction of Carbon Emissions'. It's also popular in the commercial sector, in particular high street names such as John Lewis and M&S.

To register a BREEAM assessment, the BRE charge between £120 to £1850 + VAT (depending on the scheme and the size) and then payment is required for certification which range from £505 to £2120 (depending on the scheme and the size). The BREEAM assessor can charge between £5,000 to

£15,000, depending on the complexity and size of the project to be assessed.  
Please refer to the WD Technical Briefing Note 16 BREEAM for more information.

## Leadership in Energy and Environmental Design (LEED)

LEED is a green building certification system developed by the US Green Building Council (USGBC). It is aimed at improving a building's environmental performance in areas such as energy savings, water efficiency and CO<sub>2</sub> emissions reduction.

Similar to BREEAM, LEED certification is available for 5 project types; Building Design and Construction, Interior Design and Construction, Buildings Operations and Maintenance, Neighbourhood Development and Homes. LEED is a point based system where building projects earn LEED points for satisfying specific green building criteria. The certification process offers four categories based on the number of points accrued, the highest rating is Platinum, followed by Gold, Silver and Certified.

There is a flat registration fee that is paid up front at the time of registration (\$900-\$1200). The certification fee is based on the size of the project and the rating system that the project was registered under.

## SKA Rating

The SKA rating system is also a voluntary assessment tool which began as a research project commissioned in 2005 by Skansen Ltd, together with RICS and AECOM, to establish whether it was possible to measure the environmental impact of an office fit out. It was formally launched in November 2009 and since then the SKA retail fit out assessment has been created. Later this year, SKA rating for Higher Education will be launched.

Anyone can access the online SKA tool and carry out an informal self-assessment of a project but to have the project certified, you need a licensed SKA assessor to undertake the SKA assessment.

As of July 2015 there are a total of 191 accredited assessors, assessments in progress (formal and informal): 2070, completed assessments (informal): 981. Formally certified assessments: 369, these assessments comprise the following ratings:

SKA scheme	Gold	Silver	Bronze
Offices	84	91	34
Retail	13	114	28
Pilot*	1	1	3

\*Such as Higher Education projects where an appropriate scheme may be developed in the future.

For a SKA assessment, the RICS charge £295 + VAT for each certification the assessors carry out. A qualified SKA assessor could typically charge £2,000-£5,000 per certification, depending on the nature and complexity of the project.

## Main differences

As of June 2015, the SKA rating only assesses the fit out of an office or a retail project. BREEAM and LEED are similar to each other but the main difference between the two is;

- the process of certification - BREEAM has trained Assessors who assess the evidence against the credit criteria and report it to the BRE, who then validate the assessment and issue the certificate. While LEED does not require formal training for someone to submit a project for certification, there is a credit available if an Accredited Professional (AP)

is used. The role of the AP is to help gather the evidence and advise the client. The evidence is then submitted to the USGBC which does the assessment and issues the certificate. (BREEAM also has a credit available if a BREEAM AP is involved in the project at an early stage, this person does not have to be the assessor). SKA has two options for assessment – informal (ie self-assessment with no certification) or formal with certification.

- In addition to individual building certification, LEED also includes certification paths structured for organisations seeking certification for multiple buildings.

BREEAM is more relevant in the UK as it uses UK policies but LEED can sit alongside as part of a global corporate policy.

The driver for LEED in the UK is often due to the client's global corporate policy or the needs of global tenants (ie Germany-based Siemens uses LEED for all its new buildings worldwide, with several buildings in Europe already registered under the LEED scheme).

There are also differences in the way LEED calculates credits; they are generally linked to the US Dollar (especially the energy credits), which means that if the exchange rate is unfavourable, then the building's rating could suffer.

At the moment, BREEAM appears to be more favourable in the UK; Government departments require BREEAM ratings of all their buildings and most local authorities require BREEAM as part of planning approval for developments over a certain size.

## Why undertake an assessment?

- Meet the client's contractual requirements
- Enhanced market value – possible higher rental incomes and increased marketability, increased energy efficiency and lower life time maintenance costs

- Demonstrate compliance with environmental requirements from occupiers, planners and development agencies
- Environmental improvement – in support of a wider corporate strategy or as a standalone contribution
- PR/Marketing – as a selling point to potential customers or tenants
- Staff and end user benefits – to create a better place for people to live and work
- Best Practice – ensuring best up to date practice, providing a checklist for comparing buildings and guiding their improvement
- Funding requirements – funding associated with some school projects over a certain value are tied to BREEAM rating
- Both BREEAM and LEED are supported by national regulation (planning policy in the UK and policy requirements/tax incentives in the USA)

## International Alternatives

Green Star; launched in 2002, Green Star is a voluntary environmental rating system modelled on BREEAM and developed by the Green Building Council of Australia to be relevant to continent's particular challenges. Versions of the system are also used in New Zealand and South Africa.

Estidama; is a sustainable urban planning initiative developed by the Abu Dhabi Urban Planning Council and is based on the four pillars of sustainability: environmental, economic, cultural and social. The initiative includes the Pearl building rating system as part of the Estidama integrated design initiative.



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# Environmental Assessment Methods and Willmott Dixon

Willmott Dixon has been involved with numerous certified projects including;

- Houghton Primary Care Centre – UK's first BREEAM 'Outstanding' Health Facility (certified in 2011)  
<http://www.willmottdixon.co.uk/projects/houghton-le-spring-urgent-primary-care-centre>
- Legal & General office in Stockley Park – 'Excellent' BREEAM Non-Domestic Refurbishment and Fit-Out (Design stage), first non-domestic refurbishment and fit-out project to achieve this rating  
<http://www.willmottdixon.co.uk/projects/fit-out-and-refurbishment-of-no-4-the-square-stockley-park>
- WWF headquarters in Woking – 'Outstanding' BREEAM Bespoke 2008 (certified 2014) <http://www.willmottdixon.co.uk/projects/-living-planet-centre-and-associated-footbridge>
- Mott MacDonald office fit out, London – SKA rating Gold, 2014  
<http://www.willmottdixon.co.uk/news/willmott-dixon-helps-mott-macdonald-achieve-gold-standard-for-sustainable-offices>

## References and further information

1. <http://ska-rating.com>
2. <http://www.usgbc.org/cert-guide/fees#bdc>
3. <http://www.architectsjournal.co.uk/news/leed-outstrips-breem-across-the-globe-including-europe/8643464.article>

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