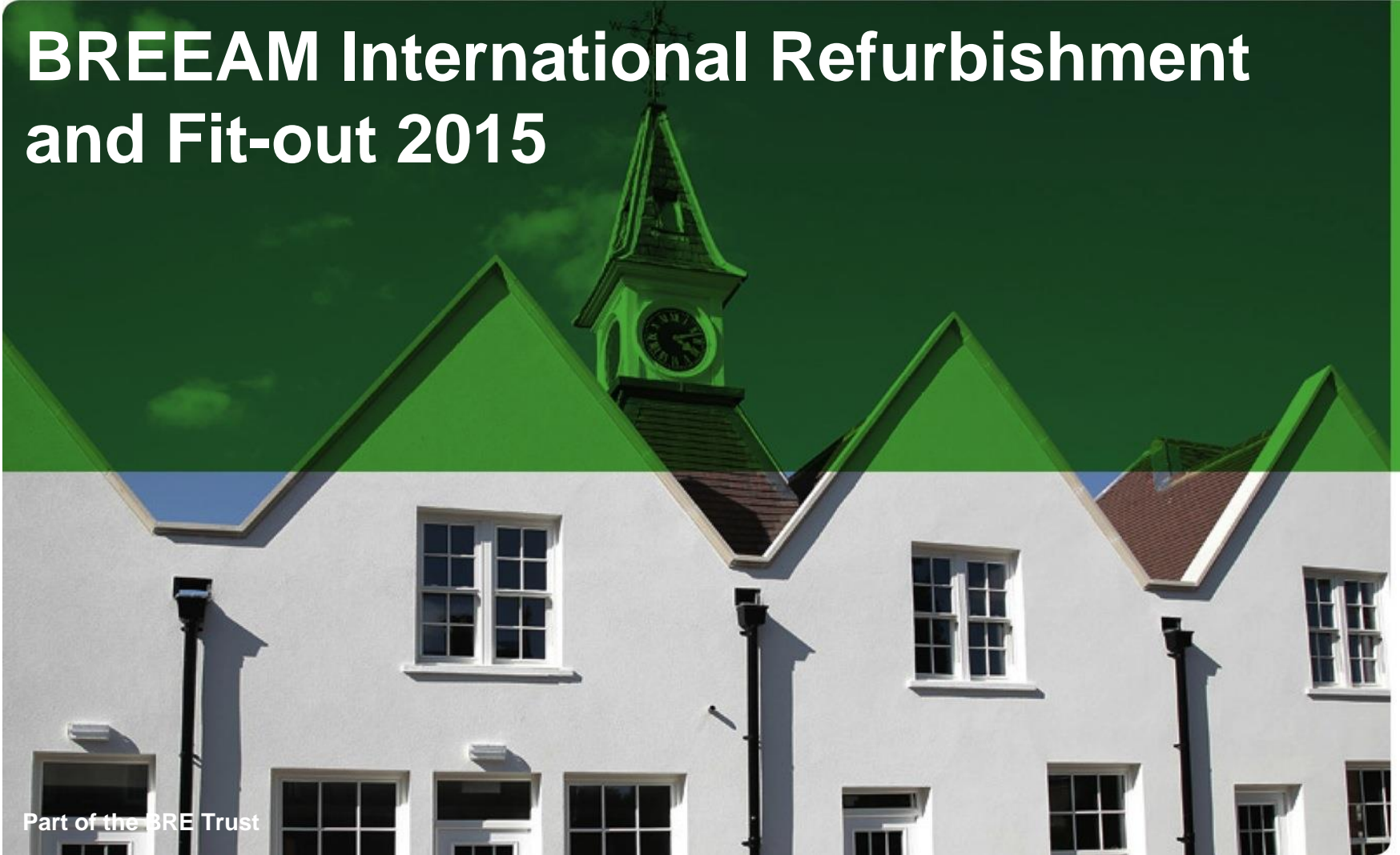


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BREEAM International Refurbishment and Fit-out 2015



Part of the BRE Trust

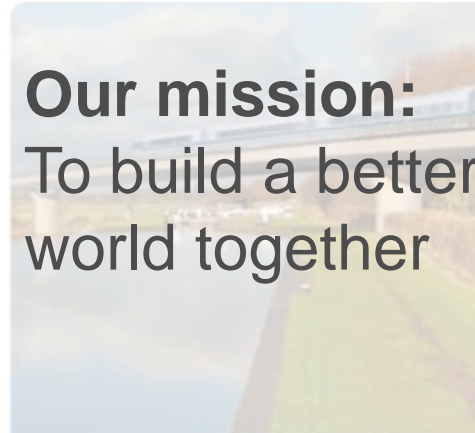
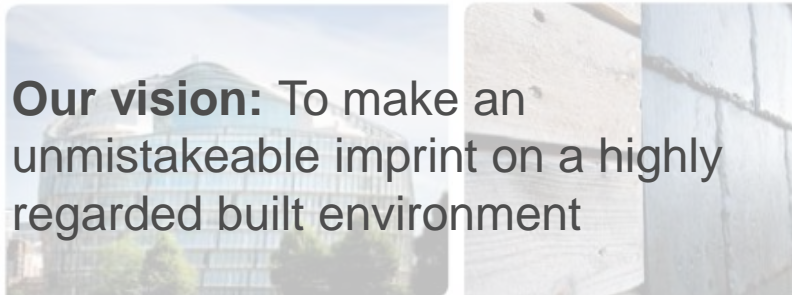
bre



BRE making a **positive difference** in the built environment since 1921



We use cutting edge **research...**

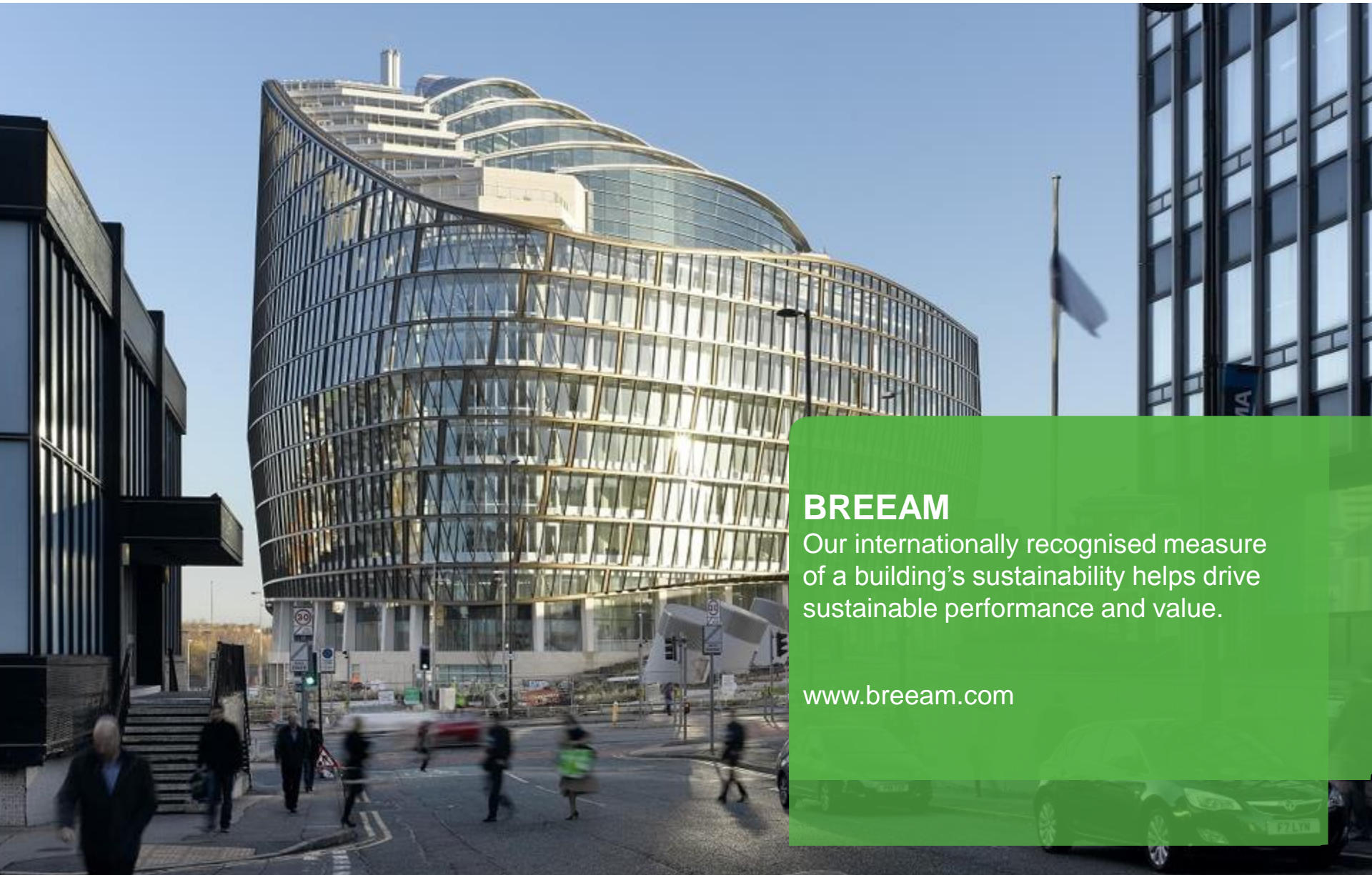


...to develop **products, services standards and qualifications**

...to bring about positive **change** to the built environment.



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Our internationally recognised measure of a building's sustainability helps drive sustainable performance and value.

www.breeam.com

The business case for Green Buildings

A growing body of evidence that Green Buildings pay



Examples:

- ‘Certificated buildings are definitely higher valued and create safer long-term investments’ NCC, Norway
- 71% of investors would accept higher costs for sustainable real estate.
- Rents are 21% higher and transactions are 18% higher
- 46 mins more sleep per night on average for office workers with windows

Business case for Green buildings

Environmental

- Reduced CO₂
- Less waste
- Lower water consumption
- Reduced pollution (air, water, land)
- Improves biodiversity
- Resource efficiency

Social

- Occupant health
- Occupant satisfaction
- Air quality
- Thermal comfort
- Visual quality (light)
- Acoustics
- Access
- Responsible / ethical sourcing
- Economic prosperity

Economic

- Lower risk for investment (resilience)
- Increased return on investment
- Higher value
- Lower running costs
- Reduced sick leave
- Resource efficiency
- Better retention of staff and tenants
- Staff productivity
- Reputation

BREEAM

- Driving sustainability in real estate
- Independent, third party certification, based on sound science
- Communities, Infrastructure, New Buildings, Refurbishment, Fit-out and Existing Assets

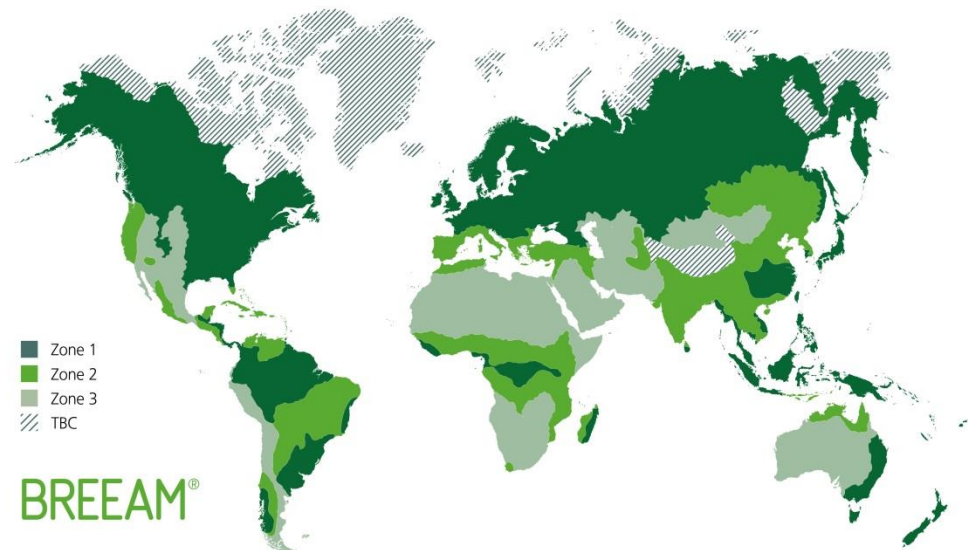


BREEAM International Refurbishment and Fit-out

- Draft scheme published 10th March 2015
- Live for assessments in May
- Based on UK version, adapted for international/local standards and conditions
- E.g. precipitation zones, climatic zones, regulations



World map of BREEAM precipitation zones



Piloting

- Identifying opportunities and limitations in refurbishing existing buildings



Structure

- Modular structure
- Clients can gain certification against the parts relevant to their scope of work
- Provides flexibility
- Provides comparability across the property market



How it works:

- The online assessment tool will **filter** the applicable criteria automatically based upon rules set out in the technical manual
 - The criteria not applicable to an assessment part are filtered out from the assessment
- The separate parts combine to provide a **single score** and rating e.g. a parts 2 & 3 assessment with an 'Excellent' rating
- All assessments are capable of achieving a rating from 'Pass' to 'Outstanding' to recognise the performance of that project



The image shows a BREEAM UK Interim Certificate for the Design Stage of a project. The certificate is for 'Greenstones Warehouse' located at '72 Eco Street, London, N5 1BU'. It was assessed by 'Smith & Sons assessing Ltd' on '18 July 2014'. The certificate shows a 'BREEAM Refurbishment and Fit-Out 2014: Industrial' score of 87% and an 'Outstanding' rating, represented by five green stars. The certificate also lists the assessed parts: Part 1: Base Build - Structure & Fabric (Outside of scope), Part 2: Base Build - Core Services (Outside of scope), Part 3: Fit-Out - Local Services (Assessed), and Part 4: Fit-Out - Interior Design (Assessed). The certificate includes a QR code and the BREEAM logo.

Shell

**Part
1**

Fabric and Structure: external envelope including walls, roof, windows & floor

**Part
2**

Core Services: centralised M&E plant including heating, cooling & ventilation

Fit-out

**Part
3**

Local Services: localised services including lighting, local heating, cooling & ventilation

**Part
4**

Interior Design: Interior Finishes, Furniture, Fittings & Equipment

Part 1 Fabric and structure

- Covers external fabric of the building
- Key issues include:
 - Daylighting
 - Energy performance
 - Passive design
 - Acoustics
 - Flood resilience
 - Materials and waste
 - Durability and adaptability

Part Fabric and Structure

1



Part 2 Core services

- Covers core building services plant e.g. central boiler, AHU's
- Key issues include:
 - Overall project management e.g. commissioning
 - Energy performance
 - Pollution issues e.g. GWP of refrigerants, NOx emissions etc.
 - Health issues e.g. indoor air quality, ventilation rates, thermal comfort
 - Resilience and adaptability

Part

Core Services

2



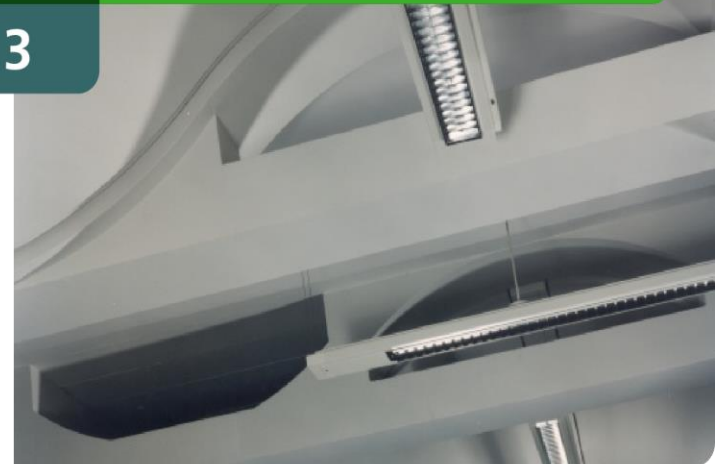
Part 3 Local services

- Covers local building services e.g. local cooling, heating, ventilation and lighting (as relevant) e.g.
 - Lighting efficiency & controls
 - Local metering of services
 - Other issues as applicable to core services but tuned to be more applicable to local services

Part

Local Services

3



Part 4 Interior Design

- Main focus on management, health, waste, materials including:
 - Overall project management
 - Measures to design out waste
 - Impact of work on health & wellbeing e.g. VOCs, thermal comfort
 - Use of sustainable materials e.g. LCA of products
 - Low use water fittings (where within scope of refurbishment zone)

Part Interior Design

4



Register and assess on www.breeam.com/projects

The screenshot shows the top navigation bar of the BREEAM website with links: FEATURE TOUR, EXPLORE, MY PROJECTS, SUPPORT, LOG IN, REGISTER, BREEAM WEBSITE, and SEND US FEEDBACK. The BREEAM logo is on the left and the 'bre' logo is on the right. The main banner features a modern office interior with a glass atrium and a central white podium. The text on the banner reads: 'BREEAM Refurbishment and Fit-out: Register your assessments here from the 31st of October 2014'. Below the banner are four circular indicators, with the first one being green.

Getting Started with BREEAM Projects - BETA

WELCOME

Welcome to BREEAM projects, the one stop shop for assessing and certifying your project against BREEAM.

If you're a BREEAM assessor you can use

REGISTER FOR YOUR
FREE ACCOUNT

Already registered? [Log in here](#)

WHAT YOU GET

Signing up will give you access to the information and tools you need to apply BREEAM to your project. You'll get access to performance data from certified projects to help communicate strategies, an area where you can create and



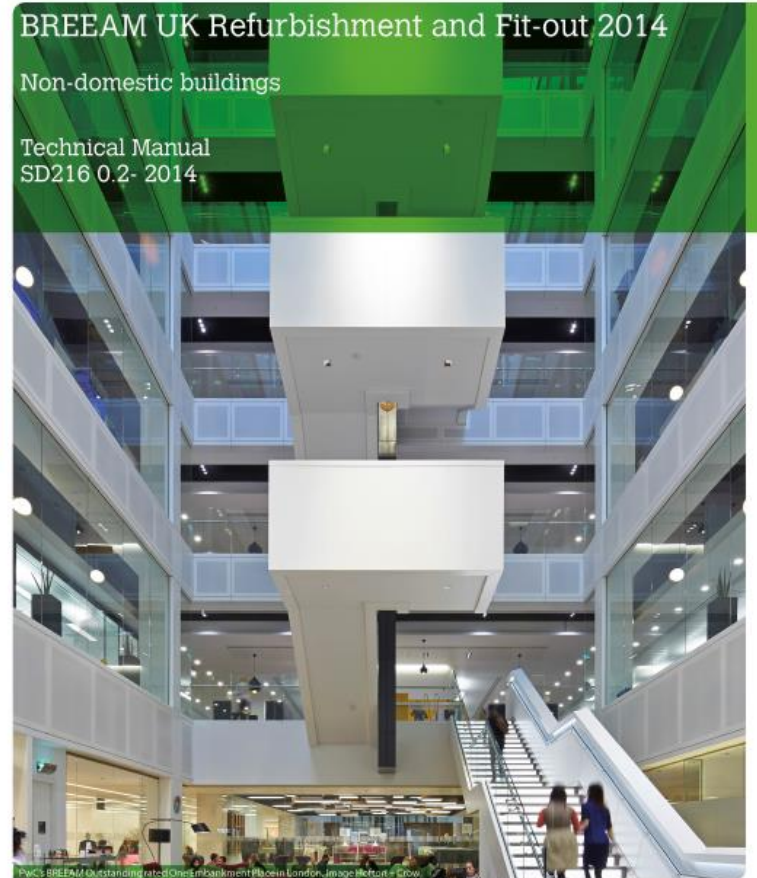
Understand

- Based on UK scheme, see here:
www.breeam.com/ndrefurb
- Draft International version will be available here:
<http://www.breeam.com/resources>

BREEAM UK Refurbishment and Fit-out 2014

Non-domestic buildings

Technical Manual
SD216 0.2- 2014



Create a pre-assessment

[Pre-assessment details](#) [Issues](#) [Reports](#)

Pre-assessment : test1 (test1)

Initial Details

Pre-assessment details

Initial Details

Issues

Management

Health & Wellbeing

Energy

Transport

Water

Stage 1 filtering: Scope of the assessment

Part 1 : Fabric and structure

Yes ▼

Part 2 : Core services

▼

Part 3 : Local services

▼

Part 4 : Interior design

Yes ▼

Explore BREEAM data: www.breeam.com/projects/explore

Explore BREEAM

EXPLORE THE DATA BEHIND BREEAM PROJECTS

Explore

Listings

Maps

Data

Data Lab

Explore

425,000+
Certificates

1,900,000+
Registered Buildings

60+
Countries

New paper: Sustainable refurbishment of heritage buildings

Key finding: Heritage buildings tend to out-perform standard refurbishment projects and almost perform as well as new build projects!

- Outlines the common challenges and solutions for heritage buildings in achieving high BREEAM ratings
- Includes example solutions from case study buildings

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Briefing Paper

Sustainable Refurbishment of Heritage Buildings

– Can BREEAM help to deliver it?

Kiruthiga Balson, Gavin Summerson and Steven Stenlund



Benefits of BREEAM Refurbishment and Fit-out

- Flexible whilst being transparent about your scope of works
- Can be used for all building types (including mixed new build/refurb)
- Provides comparability between projects
- Empathetic with historic buildings e.g. grade 1, 2, 2* listed buildings
- Assists with Corporate Social Responsibility (CSR) obligations

Benefits of BREEAM Refurbishment and Fit-out

- Get ahead of your competition & showcase industry best practice
- Save operating costs and reduce risk
- Minimise water use, CO₂ emissions and waste
- Enhance occupant comfort and increase productivity

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Thank you.

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