

## Briefing Paper

# Delivering Sustainable Buildings: Value of BREEAM to Retail in the UK

**Azita Dezfouli, Currie & Brown**  
**Adam Mactavish, Currie & Brown**  
**Chris Ward, BRE**



# Executive Summary

The retail sector is a core component of the UK economy, employing **2.8 million people**. The sector is the second highest consumer of electricity in the UK and is directly responsible for around a fifth of UK carbon emissions. Beyond their direct economic and environmental impacts, retail and associated spaces are typically at the heart of communities, creating a sense of place and shaping how people interact.

This study considers how investing in more sustainable buildings that achieve the higher BREEAM UK New Construction 2014 scheme and BREEAM UK Refurbishment and Fit-out 2014 scheme ratings can add value to both retail developers and retailers. A simple value model has been developed focusing on how sustainability can help:

## Attract customers

encouraging them to visit more often and stay longer

## Underpin effective operations

providing a productive environment to support the business

## Manage costs and income

so that they are predictable and proportionate

BREEAM certification, the assessment process and, importantly, meeting the performance standards stipulated under the various assessment areas can help retailers and developers to improve the performance of their buildings. Adopting BREEAM performance standards brings valuable operational efficiencies, associated with using a consistent industry standard method while also acting as a spur to innovation and a tool to assist communications within project teams and other stakeholders.

Examples from retailers and developers demonstrate the value that they place on creating and occupying sustainable buildings, with BREEAM performance standards being important tools in helping deliver their corporate goals.

# Introduction

The retail sector is central to the UK economy with over 290,000 retail outlets directly employing 2.8 million people, and annual sales of £339 billion<sup>1</sup>. Retail is the second highest consumer of energy in the UK and is responsible for around a fifth of all UK carbon emissions<sup>2</sup>. In 2013, energy use and associated carbon emissions cost the sector £3.3 billion<sup>2</sup>. Beyond their direct economic and environmental impacts, retail and associated spaces are typically at the heart of communities, creating a sense of place and shaping how people interact.

*290,000 retail outlets employ 2.8 million people*

This study considers how investing in sustainable retail buildings can help businesses be more successful. Specifically, it assesses the value offered by applying the criteria within the BREEAM assessment process and by gaining certification that a project meets the requirements for Very Good, Excellent or Outstanding

ratings for the BREEAM UK New Construction 2014 and BREEAM UK Refurbishment and Fit-out 2014 schemes.

Traditionally, assessments of the benefits of sustainable buildings focus on the operational payback (e.g. utility savings) achieved on the additional investment required. These factors are important, but the potential benefits from sustainable construction are much broader. This study illustrates how meeting BREEAM requirements delivers a fuller range of benefits for developers and retailers, by improving their product or service, reducing cost and managing risk.

*In 2013, energy use and associated carbon cost the sector £3.3 billion*

The study draws on examples of the approaches and benefits seen by some of the UK's largest and most experienced developers and retailers, and includes guidance for those aiming to get the most out of their investment in sustainable retail buildings whatever their size or role in the sector.

<sup>1</sup> Retail Economics, 2016. Retail Stats and Facts. [www.retailconomics.co.uk](http://www.retailconomics.co.uk)

<sup>2</sup> British Retail Consortium, 2015. 25 in 5 - Unlocking energy efficiency through smart regulation. [www.brc.org.uk](http://www.brc.org.uk)

# Value of sustainable retail buildings

Premises are only one component of a broad and complex array of sustainability challenges facing the retail sector, ranging from ethical management of supply chains through to effective use of the natural resources that go into products. Nonetheless, retail premises, including shops, retail parks and storage and distribution warehouses are still at the heart of most retail businesses and typically represent the largest operating cost after employment.

Over 75% of retail purchases are still made in shops, and data suggest that for every 1% increase in dwell-time purchases increase by 1.3%<sup>3</sup>.

*Creating attractive environments that shoppers want to visit and spend time in is therefore a key strategy for creating valuable retail premises.*

by their increased awareness of the impact of their lifestyle and environment on their health and wellbeing.

However, with online sales growing at over 10% per year, and at over 30% per year for household goods<sup>4</sup>, consumer and retailer expectations and requirements from the physical retail environment are changing rapidly with an increased focus on food and leisure as well as retailing space. Further, customer expectations are also affected

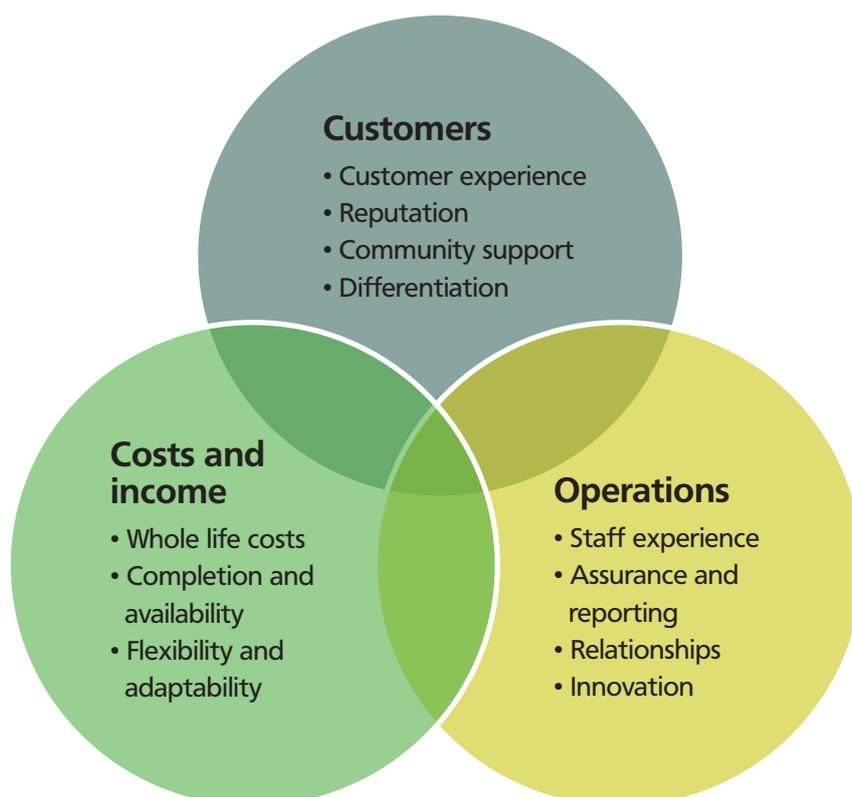
Sustainable retail buildings present a major opportunity to provide improved quality and a better experience for employees, shoppers and communities whilst also reducing operating costs and addressing some of the fundamental environmental impacts of the sector.

Value is created by increasing income, reducing costs or by helping to manage business risks. Priorities will vary depending on the business' activities. For investors, developers and asset managers, premises are the prime means of creating value, while for retailers they are a platform for sales and brand development. However, for all parties, successful premises will:

- Attract customers - encouraging them to visit more often and stay longer
- Underpin effective operations - providing a productive environment to support the business
- Manage costs and income - so that they are predictable and proportionate

The scope of these topics is expanded in Figure 1 with each component described further in Table 1. The challenge is to discover ways of delivering against each of these goals at the same time rather than, for example, trading off customer experience against cost or operational effectiveness.

Figure 1 Key factors influencing value of sustainable retail buildings



**Table 1 Summary of factors influencing value of sustainable retail buildings**

Theme	Link to value	Priorities
<b>Customers</b>		
Customer experience	Customer satisfaction with the environment and overall shopping experience is a key influence on value because of the link to footfall and dwell time and consequently sales.	To provide a variety of environments where people want to go and spend time. The retail and wider environment should be interesting, stimulating, accessible and comfortable.  There is now increasing evidence that the quality of the light, air, temperature and other factors are important factors in helping to attract customers <sup>5</sup> .
Community support	Local communities are typically a major target audience for both customers and employees. As a result, the perception of a project by the community and degree to which local people have positive views about a development or retailer is very important.	Initiatives to enhance community relations begin during the design development phase and continue through construction and operations. All of those associated with a project, whether working directly for the retailer, developer or for a contractor can influence the community's view about a scheme.
Reputation	Perception of the location / shop / organisation by key stakeholders such as customers, investors and employees can affect sales, cost of capital and ability to attract and retain good people.	Different stakeholders will have varying priorities. From a sustainability perspective, investors may be most interested in evidence that regulatory, climate and other risks are effectively managed, while local customers may be concerned about disruption during construction and operation and the overall impact on the local economy.
Differentiation	New developments will benefit from a clear identity and 'reasons to visit' in preference to other available options.	Whilst sustainability performance in isolation may not be a Unique Selling Point (USP) it can form part of a positive story and brand for a new location, whilst innovative sustainability initiatives, for example high quality open spaces or ecological habitats (green roofs / walls) can be differentiators in their own right.
<b>Operations</b>		
Staff experience	Store staff are the largest non-product cost of most retailers <sup>6</sup> . Attracting and retaining staff at all levels is important in delivering good customer service and operating effectively. This will increasingly be the case as online offerings mean customers look for more information and high service levels from shops.	Working environments should enable staff to work effectively and comfortably, whilst also providing features that stimulate and inspire.  Design features can help improve the environment for staff as well as customers. However, equally or more importantly are the way in which the buildings are operated and the approach to consulting and engaging employees to understand what works and what doesn't.
Assurance and reporting	Many retailers and developers must respond to an extensive range of compulsory or voluntary standards and reporting obligations.  During construction it is important to be sure of meeting regulatory or planning requirements and, in many cases, higher internal standards <sup>7</sup> .  During operations, many businesses will need to meet regulatory requirements such as mandatory greenhouse gas emissions reporting or voluntary initiatives such as the Global Real Estate Sustainability Benchmark (GRESB) initiative. These and many other requirements make efficient access to the right information on property performance important.	The approach to design and development should both ensure compliance with external and corporate standards and put in place systems for efficient collation and reporting of this information thereby substantially reducing internal or asset manager data processing costs.
Innovation and relationships	The retail environment is constantly evolving. Successful organisations need to be consistently challenging themselves and their partners to ensure they are tackling the right issues in the right way.	Good two way communication between developers and retailers and their respective project teams and suppliers is an important means of identifying and incorporating new thinking.  Business processes should help to identify and positively respond to external challenges, e.g. from stakeholders, benchmarks, policy makers, etc.

<sup>5</sup> World Green Building Council, 2016. Health, Wellbeing and Productivity in Retail. [www.worldgbc.org](http://www.worldgbc.org)

<sup>6</sup> Retail Operations: six success factors for a tough market, 2013. [www.ey.com](http://www.ey.com)

<sup>7</sup> For example, those described in the John Lewis Partnership Responsible Development Framework (<http://www.responsibledevelopment.co.uk/>) or Hammerson's Sustainability Implementation Plan (<http://sustainability.hammerson.com/development-approach.html>)

Theme	Link to value	Priorities
<b>Costs and income</b>		
Lifetime cost	<p>Property costs are amongst the highest operating costs for retailers and effective management of capex, rent, utilities, maintenance and other expenses are essential for profitable business.</p> <p>Similarly developers need to be able to secure good returns on the capital invested in a development. These returns are influenced by the value of the space provided, frequency and duration of any void periods, the level of ongoing maintenance and other expenditure and the cost of debt finance.</p>	<p>Both developers and retailers can benefit from taking a lifetime view of costs so that opportunities for savings that give a suitable return can be adopted.</p> <p>In some cases investment by one party (i.e. a developer) may result in savings for another (i.e. the retailer), whilst still unusual there are now examples of these benefits being valued by the retailer with the developer receiving additional income as a result.</p>
Flexibility and adaptability	<p>Developers need to be able to change the layout and functionality of their premises, to respond to the evolving customer and occupier requirements pattern. Adaptable and flexible design can therefore help increase the longevity of a retail destination and substantially improve its ability to retain value.</p>	<p>By providing flexible space capable of aggregation and subdivision, and of accommodating varying levels of servicing, both owners and occupiers can benefit by adjusting space to meet changing requirements.</p> <p>By building flexibility and adaptability into the base design, future changes can be accommodated more rapidly with less waste, saving costs and minimising disruption to income.</p>
Completion and availability	<p>Retail buildings are only generating value when they are available for use. Many new retail buildings will achieve daily sales of £700 to over £1,000 per m<sup>2</sup> of sales floor<sup>8</sup>. Unforeseen impacts on development timescales or loss of space due to the need for refurbishment or reactive maintenance all impact value.</p>	<p>Minimising risks to construction programmes and operational availability are important priorities and these should influence designs and specifications. As the climate changes, the stresses to which buildings can be expected to be exposed will also change, including, for example, loads on refrigeration and other cooling plant and the impacts of extreme weather (e.g. flooding).</p>

# The role of BREEAM

## BREEAM: a tool for delivering sustainable buildings

BREEAM was conceived as a tool for helping developers and their teams to take a structured approach to delivering more sustainable buildings. The BREEAM UK New Construction 2014 and BREEAM UK Refurbishment and Fit-out 2014 schemes assess performance against 51 individual assessment issues spanning nine categories:

- Management
- Health & wellbeing
- Water
- Waste
- Pollution
- Energy
- Transport
- Materials
- Land use and ecology

A tenth category, Innovation, rewards projects for demonstrating innovation and exemplary performance. 'Credits' are awarded for meeting the BREEAM performance requirements for each assessment issue.

A project must demonstrate that it has met the requirements of specified mandatory performance standards and secured a minimum weighted score of other credits in order to secure an overall rating of Pass, Good, Very Good, Excellent or Outstanding. Assessments are undertaken by licensed assessors and are quality assured by the scheme owners, BRE Global Limited. Although it is possible to obtain an interim certificate based on the design intent, full certification is against the completed building.

## BREEAM in the retail sector

Around 7% of the nearly 7,000 BREEAM certified non-domestic buildings are in the retail sector, ranging from single units to entire shopping centres<sup>9</sup>. Over 80% of retail certificates are for Very Good or higher ratings, with around 20% rated Excellent or above.

Several major retail developers use BREEAM as an important component of their approach to sustainable development, including The Crown Estate, Argent, Hammerson, and the John Lewis Partnership, each of which are committed to certifying new developments using BREEAM<sup>10, 11, 12</sup>.

*Nearly 90% of London boroughs require a minimum of BREEAM Very Good*

a minimum BREEAM rating of Very Good with half requiring that a minimum of Excellent is achieved.

*7% of nearly 7,000 BREEAM certified non-domestic buildings are in the retail sector*

Planning Authorities across the UK use BREEAM extensively as a means of defining their requirements for sustainable construction. For example, of the 32 London Boroughs, nearly 90% require significant non-domestic developments to achieve

8 Retail Week, 2016. Top 30 bricks-and-mortar retailers by sales densities. [www.retail-week.com](http://www.retail-week.com)

9 BREEAM, 2014. The Digest of BREEAM Assessment Statistics Volume 01, 2014. [www.breeam.com](http://www.breeam.com)

10 The Crown Estate, 2015. Development Sustainability Principles. <https://www.thecrownestate.co.uk/media/476284/development-sustainability-principles.pdf>

11 Hammerson, 2015. Hammerson Design Standard for Sustainable Developments. <http://sustainability.hammerson.com/assets/download222.pdf>

12 Argent, 2016. Sustainability. <http://www.argentpl.co.uk/sustainability>

# How BREEAM can enhance value

BREEAM can offer value to a project or business most directly through its effect on the quality and performance of the completed building. However, the process of undertaking the assessment and the receipt of a formal BREEAM certificate also provide other forms of significant value.

## Value of certification

BREEAM provides a formal independent certification that the development, refurbishment or fit out process has exceeded mandatory minimum requirements across a broad range of topics.

Over and above the effect of the measures required to achieve a specific rating, the certification process is valuable for several reasons. As a sustainable property standard, certification is, perhaps, of greatest value to asset developers and owners. However, certification is also of benefit to occupiers particularly those looking for a straight forward means of gaining assurance that their space has met or exceeded good practice standards and provides a basis for efficient operations.

*BREEAM provides formal independent certification that development, refurbishment or fit-out has exceeded mandatory minimum requirements*

## Ability to formally discharge planning or other obligations

Certification provides a means of formally demonstrating that a project has met any minimum standards required by a planning authority, developer, landowner or other stakeholder. The requirement might be for the achievement of a specific rating or it may relate to particular aspects of the approach, i.e. achieving a positive change in ecological value. In either event, the formal independent review of project information provides a useful tool for demonstrating the standards achieved.

## Increased assurance for investors and other stakeholders

By requiring design and construction stage certification, investors can have confidence that the projects they fund are meeting their corporate requirements without needing to commission additional monitoring / performance assessments.

Stakeholders will know what the project has achieved and can quickly appreciate the standards achieved without needing to check for greenwash / consistency of terminology / methodology etc.

Convincing investors of strong sustainability credentials is beneficial; in over 90% of 29 empirical studies reviewed, high standards of sustainability performance were linked to a lower cost of capital<sup>13</sup>.

One recent analysis<sup>14</sup> has suggested that the cost of finance through Green Bonds is typically lower than for traditional (grey) alternatives by up to 20 basis points. BREEAM certification is used as a means of demonstrating the green 'use of proceeds' for a range of green

bonds products<sup>15</sup> as well as the GRESB Green Bonds Guidelines for the Real Estate Sector<sup>16</sup>. The savings from use of green bonds can be substantial with Unibail-Rodamco saving over €500,000 a year in interest payments on a €750 million green bond issued in 2014 where BREEAM certification was used as one of the criteria for demonstrating appropriate use of proceeds<sup>17</sup>.

## Readily understood flexible 'common currency' for communicating to stakeholders

The clearly described and widely used BREEAM standards mean that the requirement for and meaning of gaining certification can be relatively easily understood by a wide range of stakeholders. This gives assurance that suitable standards are being achieved whilst retaining the flexibility to customise the approach to reflect the nature of the opportunities at each development.

Similarly, project teams can be tasked with achieving an overall rating (perhaps with minimum standards for specific assessment areas) without the need to set out separately each performance standard. The flexibility in the standard means that it will provide an achievable challenge for a range of project settings rather than requiring the use of a lowest common denominator approach or a fresh approach to each development that might otherwise be needed.

BREEAM certification can be used as a measure of performance in ways that cannot easily be replicated with 'self-certification'. For example, BREEAM is an approved standard by the Global Real Estate Sustainability Benchmark (GRESB) and can be used to demonstrate performance and help secure the 11% of the overall assessment score linked to building certification<sup>18</sup>.

## Increased confidence in the delivery of client requirements

The external third party review involved in certification means that the client can be confident that the standard has been achieved. The clear standards required for certification also reduces the potential for clients to become involved in lengthy and unhelpful negotiation about the approach and being encouraged to accept less good solutions that are more expedient.

## Summary of the benefits of certification

Certification does add to the costs of development both in the form of the assessor's time and BRE's fees for quality assurance. However, these costs need to be set against the benefits of reassurance that the desired standards have been achieved and the utility of having external validation of both the approach and resulting performance.

Securing an independent audit that both the scope of a sustainability strategy and its implementation are appropriate for an individual project would be far more expensive than obtaining BREEAM certification, and there would still be a risk that external stakeholders would either not fully appreciate the approach taken and might ask for an 'equivalent' BREEAM rating, thereby undermining the approach.

Many developers and retailers choose to voluntarily enhance or customise BREEAM for their own purposes with specific requirements or additional standards (Example 1). These will help them refine, expand and focus the process as appropriate whilst retaining the benefits of established standards, benchmarks and quality assurance.

<sup>13</sup> University of Oxford and Arabesque Partners, 2015. From the stockholder to the stakeholder: how sustainability can drive financial outperformance. [http://www.arabesque.com/index.php?tt\\_down=51e2de00a30f88872897824d3e211b11](http://www.arabesque.com/index.php?tt_down=51e2de00a30f88872897824d3e211b11)

<sup>14</sup> Barclays Bank, 2015. The Cost of Being Green. [www.environmental-finance.com](http://www.environmental-finance.com)

<sup>15</sup> For example, the Digital Realty 'Green Bonds Use of Proceeds' statement allows projects to use BREEAM certification (to Very Good or higher ratings) as a means of demonstrating the environmental credentials of the fund. <https://www.digitalrealty.com/data-center-solutions/sustainability/green-bond/>

<sup>16</sup> GRESB, 2016. Green Bond Guidelines for the Real Estate Sector. [http://gresb-public.s3.amazonaws.com/2016/content/GRESB-Green-Bond-Guidelines\\_October16.pdf](http://gresb-public.s3.amazonaws.com/2016/content/GRESB-Green-Bond-Guidelines_October16.pdf)

<sup>17</sup> Unibail-Rodamco, 2014. Additional criteria for a Unibail-Rodamco 'Green Bond'. [http://www.unibail-rodamco.com/W/cms\\_sites/SITE\\_16406/ressources16406/pdf1/UR-GREENBOND-D1-EN.pdf](http://www.unibail-rodamco.com/W/cms_sites/SITE_16406/ressources16406/pdf1/UR-GREENBOND-D1-EN.pdf)

<sup>18</sup> GRESB, 2016. GRESB Real Estate Assessment Reference Guide. [www.gresb.com](http://www.gresb.com)

### Example 1 Adapting BREEAM tools to help meet corporate policies

The Crown Estate's Development Sustainability Principles<sup>19</sup> define the organisation's requirements and expectations at each stage of the development process including metrics, KPIs and targets for priority areas. The Crown Estate set an aspiration to achieve BREEAM Excellent for major new retail developments (with a minimum of Very Good), in addition to separately highlighting several of the priority areas performance, which use the same systems and methods as those used in BREEAM. This use of consistent methods, whilst setting the organisation's own priorities and standards, helps to efficiently deliver their policy goals in a manner that is familiar to the industry thereby minimising the need to learn new approaches and maximising the potential to transfer lessons learnt across the industry.

The John Lewis Partnership Responsible Development Framework<sup>20</sup> is another good example of a developer using the BREEAM system to achieve their own priorities as part of the certification process thereby maximising the efficiency of the system whilst retaining full control over the approach.

## Value of the BREEAM process

As with certification, the BREEAM process provides benefits to both projects and organisations that go beyond the effects of meeting specific credit requirements. The value of the BREEAM process is, in part, linked to the skills, experience and approach of the assessor and design team. An active and enthusiastic BREEAM Accredited Professional (AP) can help to energise the assessment process whilst a more reactive approach is unlikely to deliver the same range of benefits.

Some retailers that have invested significantly in their own bespoke standard and who choose not to routinely follow the certification route still benefit from using BREEAM standards in their organisation's policies.

### Engagement and communications within project team

Clients find<sup>21</sup> that the BREEAM process is a valuable means of exploring the detail of a building design and helping co-ordinate and build a shared understanding of the approach and constraints applying to the project. By systematically reviewing a wide range of project considerations and sharing information about how they are being addressed, the client and project team can achieve a more detailed shared appreciation of the project.

The assessment process also helps to make explicit key project objectives and associated decisions that might not have been articulated previously or in so much detail.

### Helping align developers and retailers

As with other rented property, a constructive relationship between a landlord and tenant is critical to achieving the best overall solution. The clearly defined BREEAM criteria can help both parties to discuss options specifically and with less potential for misunderstanding. Further, the nature of the BREEAM process requires actions by both landlords and retailers to achieve higher ratings. One result of this is that there are often earlier and more specific discussions about the steps to be taken to reduce the environmental impacts of the development and the respective responsibilities of each party.

### Innovation

While the BREEAM process is structured and is based around closely defined performance standards, clients comment that the assessment process can help stimulate innovation as project teams seek to identify ways of meeting performance standards in the most effective manner or within the constraints of a particular process.

Further the regular review and updating of the scope and performance standards used within BREEAM means that project teams are exposed to new issues and expectations on a regular basis. For example, the 2014 update to the BREEAM UK New Construction scheme introduced the option to secure credits by preparing a climate change adaptation strategy. This process mirrors initiatives by leading retailers to adopt a structured approach to the assessment of climate change risks to their operations (Example 2).

Whilst some organisations will want to go beyond BREEAM standards to focus on their own priorities and new thinking, for many, reference to current performance standards provides a useful means of keeping on top of current initiatives and incorporating them within projects.

### Example 2 Managing climate risks

As part of its approach to future proofing its buildings, Marks and Spencer commissioned Arup to create a climate change risk assessment and adaptation investment appraisal tool for its UK stores to ensure they remain fit for purpose. The tool can be used to assess current and future climate risks (flooding, water stress and extreme temperatures) across the M&S UK store portfolio, and can estimate the costs and benefits of potential adaptation and resilience measures to reduce these risks.

Recommendations for new weather and climate change resilience clauses in the design specifications, as well as enhancements to adverse weather policies and procedures, have been made as part of this project.

<sup>19</sup> The Crown Estate, 2015. Development Sustainability Principles. <https://www.thecrownestate.co.uk/media/476284/development-sustainability-principles.pdf>

<sup>20</sup> John Lewis Partnership, 2016. Responsible Development. <http://www.responsibledevelopment.co.uk/>

<sup>21</sup> Feedback from retail developers

### Common language, standards, methods and data flows

Perhaps the biggest benefit of using a structured assessment method for helping to manage the delivery of sustainability goals is that it simplifies communications by providing a standard set of terminology, methods and performance standards.

The benefits of consistency for the whole supply chain from product manufacturers to sub-contractors, consultants and architects are substantial, as they enable efficiencies to be achieved and investment planned.

Without current standards for reference, each client, project team member or planning authority would need to develop their own approach resulting in substantial duplication and potential for conflict, for example where a client and planning authority have different approaches to assessing the same topic or where different members of a project team use different methods, or metrics. Further, a standard approach helps to minimise the effects of any individual or organisation's own particular biases influencing the approach so that important topics are overlooked or excluded.

The increased use of standardised approaches also helps in managing and collating data. For example, by specifying metrics for the collation of waste and other construction site data it enables clients to be able to be confident that information is broadly comparable, while site teams do not need to maintain multiple sets of data used to calculate and report for different purposes.

The risk here is that an overly prescriptive set of standards would be too restrictive, result in unnecessary activities or costs, or in the worst case that incorrectly drafted requirements result in poor decisions or products / solutions being unfairly disadvantaged. An effective and open process for stakeholder challenge is therefore essential if the benefits of standardisation in approach are not to be undermined. BRE operate an active programme of engagement with assessors and their clients, including through customer liaison workshops, to help ensure good two way communications are maintained.

### Summary of the benefits of the process

The benefits of using the BREEAM process can best be described by considering the work involved in defining and keeping up to date a new full set of bespoke performance standards covering all aspects of the development process. The time taken in researching, defining and validating new standards would be considerable. To these development costs, should be added, the need to describe requirements in sufficient detail for project teams to implement them consistently and robustly, and the likelihood that constructors may add a risk premium to their fees, for understanding and addressing unfamiliar performance requirements.

### Value of meeting BREEAM standards

While certification and the assessment process provide benefits in their own right, the effects of complying with BREEAM standards underpins the success of the approach and if these do not provide value then certification and the process itself are of no consequence.

Using the categories described above in 'Value of sustainable retail buildings' under the headings of Attracting customers, Effective operations and Cost and Income, Figure 2 provides a qualitative assessment of each of the BREEAM UK New Construction 2014 scheme and BREEAM UK Refurbishment and Fit-out 2014 scheme assessment issues, highlighting those that should strongly support a particular benefit. Each category is then assessed in more detail together with examples of applicable assessment issues.



Figure 2 Contribution of BREEAM performance standards to retail businesses

BREEAM Assessment Issue	Customers				Operations				Cost and income		
	Customer experience	Community Support	Reputation	Differentiation	Staff experience	Assurance and reporting	Relationships	Innovation	Whole life cost	Speed to completion	Availability
<b>Management</b>											
Man 1: Sustainable procurement											
Man 2: Life cycle cost and service life planning											
Man3: Responsible Construction Practices											
Man 4: Commissioning and handover											
Man 5: Aftercare											
<b>Health &amp; Wellbeing</b>											
Hea 01: Visual Comfort											
Hea 02: Indoor Air Quality											
Hea 04: Thermal Comfort											
Hea 05: Acoustic Performance											
Hea 06: Safety and Security											
<b>Energy</b>											
Ene 01: Reduction of CO2 Emissions											
Ene 02: Energy Monitoring											
Ene 03: External Lighting											
Ene 04: Low and Zero Carbon Technologies											
Ene 05: Energy efficient cold storage											
Ene 06: Energy Efficient Transportation Systems											
Ene 08: Energy Efficient Equipment											
<b>Transport</b>											
Tra 01: Public Transport Accessibility											
Tra 02: Proximity to Amenities											
Tra 03: Cyclist Facilities											
Tra 05: Travel Plan											
<b>Water</b>											
Wat 01: Water Consumption											
Wat 02: Water Monitoring											
Wat 03: Leak Detection											
Wat 04: Water Efficient Equipment											
<b>Materials</b>											
Mat 01: Life Cycle Impacts											
Mat 02: Hard Landscaping and Boundary Protection											
Mat 03: Responsible sourcing of materials											
Mat 04: Insulation											
Mat 05: Designing for durability and resilience											
Mat 06: Material efficiency											
<b>Waste</b>											
Wst 01: Construction Waste Management											
Wst 02: Recycled aggregates											
Wst 03: Operational Waste											
Wst 05: Adaptation to climate change											
Wst 06: Functional adaptability											
<b>Land use and Ecology</b>											
LE 01: Site Selection											
LE 02: Ecological Value of Site and Protection of Ecological Features											
LE 03: Mitigating Ecological Impact											
LE 04: Enhancing Site Ecology											
LE 05: Long Term Impact on Biodiversity											
<b>Pollution</b>											
Pol 01: Impact of Refrigerants											
Pol 02: NOx Emissions											
Pol 03: Surface Water Run Off											
Pol 04: Reduction of Night Time Light Pollution											
Pol 05: Noise Attenuation											
<b>Key</b>											
		Negative		Very small benefit		Benefit		Very large benefit			
		No strong link		Small benefit		Large benefit					

## Customers

BREEAM performance standards can help in attracting customers to retail spaces in several ways:

- Helping to develop and maintain a positive relationship with local communities during development and avoiding potential causes of nuisance during operations
- Helping to enhance shoppers' experience when visiting the retail venue
- Helping to create a positive view of the venue and / or specific organisations - e.g. the shop or centre owner
- Creating points of difference that can set the retailer or development apart from peers

Many BREEAM credits help address the above points, particularly those in the Health and Wellbeing, Management, Land Use and Ecology, and Transport categories. In addition, the ability to demonstrate environmental good practice in all areas of BREEAM can help develop a good reputation in the eyes of consumers whilst helping to effectively manage the risk of poor performance and undermining customer trust in the brand.

## Customer experience

Customer experience is the ultimate arbiter of success for many retail locations, and with growing public confidence in buying more products online, the quality and diversity of new retail locations is increasingly important. Much of the customer experience provided by a new store or centre results from exciting architecture and effective mix of offers, however sustainable design considerations covered by BREEAM can also play a role, such as lighting, access to and visibility of greenspace, air quality and thermal comfort<sup>22</sup>. Also critically important is the safety and security of a new development (see BREEAM assessment issue Hea06: Safety and security) as concerns on these points could rapidly undermine the confidence in and attractiveness of a location<sup>23</sup>.

BREEAM assessment issue Man05: Aftercare awards credits for projects undertaking post occupancy evaluation to assess how the building is meeting its design requirement, with an exemplary credit available for organisations going further to gather structured data on occupant satisfaction. Such information is crucial if the sector is to effectively learn and refine their approach to development and store design so that it provides the best possible environment for customers and staff. As well as formal satisfaction surveys, there is growing interest in the use of other information sources to gauge customer perceptions, for example social media commentary and other informal sources can yield much useful information<sup>24</sup>.

Example 3 describes how retailers have combined sustainability and other design features to achieve exemplary environmental performance and high levels of both customer and staff satisfaction.

### Example 3 Environmental best practice and a great customer experience

By investing in detailed Building Performance Evaluation of two of its Sustainable Learning Stores, Marks and Spencer has been able to monitor and evaluate the benefits of the sustainable features included in each BREEAM Excellent certified building. Importantly this also includes assessment of customer and staff perceptions and their levels of satisfaction.

The store at Cheshire Oaks incorporates a very energy efficient design with highly insulated fabric and displacement ventilation systems. These measures together with high levels of natural daylight and associated lighting controls result in energy and carbon emissions being around 40% less than a comparable store. As well as energy savings the new store used lifecycle cost and carbon analysis as part of a comprehensive approach to materials efficiency, durability and end of life reuse.

Evaluation of customer satisfaction using the Building Use Studies (BUS) methodology placed the building in the top 1% of assessed stores for design, in the top 5% for customer satisfaction and top 7% for employee productivity. Employee surveys showed that satisfaction levels were 22% higher than a comparable store.

Other Sustainable Learning Stores at Ecclesall Road and Stratford City demonstrate a similar range of benefits. The findings from these innovative projects have been used to inform the development of new and existing stores. Applying key lessons to four existing 'Simply Food' stores resulted in energy savings of up to 40% together with improvements in the quality of the environment. Specific initiatives included use of LED lights throughout sales areas to reduce energy consumption and improve lighting quality, recovering waste heat from refrigerators and thereby improving the consistency of internal temperatures, and installing rainwater irrigated green walls to improve biodiversity and appearance.

## Community support

A positive relationship with the community is key to the success of a retail centre, not least because local residents are a significant source of custom and potential employees. A study by Sustrans showed that, in Bristol, over 42% of shoppers lived within half a mile of the shopping centre (nearly four times the proportion estimated by shopkeepers in the city), and that over the course of a week visitors on foot spend more than those coming by car<sup>25</sup>.

Many retail schemes will incorporate an element of stakeholder consultation, however requirements in BREEAM assessment issue

Man01: Project brief and design formalise the process and the defined minimum consultation content helps to ensure that the consultation process covers a full range of relevant topics. Whilst following this process does not guarantee a successful consultation outcome it does provide a template for consultation and ensuring that the benefits of third party inputs are gained at a stage when they can be considered in the development of the design details. Some retailers and developers make significant efforts to enhance the local benefits of their activities including making sales space available for local businesses and providing community rooms that can be used by local groups (see Example 4).

### Example 4 Supporting local businesses and communities

Several Waitrose supermarkets and John Lewis department stores now provide community rooms that local groups can book and use for meetings and other activities at no cost. These rooms provide a valuable community resource that is used by a wide range of groups from local hospice or cancer support charities to the Welsh National Opera. Waitrose also actively source products from within 30 miles of their stores, supporting over 450 local suppliers across the UK.

Marks and Spencer also provides community rooms for local businesses and groups to use free of charge in line with M&S Plan A objectives of being in touch with communities. M&S's Community Room in Wolstanton has been used widely by organisations ranging from Staffordshire Council's Children's Department to Coeliac UK's North Staffordshire Local Voluntary Support Group.

Once onsite, achieving BREEAM credits can also help to minimise impacts of construction on local residents whilst also helping to build a positive impression of the development. For example, developers have found that achieving high standards against the Considerate Constructors scheme and other aspects of BREEAM assessment issue Man03: Responsible construction practices can meaningfully help in building links with local communities and developing positive impressions of a new retail development before it is open. Hammerson, John Lewis Partnership, and Marks and Spencer set specific requirements for achievement of high scores under the Considerate Constructors scheme as part of their approach to sustainable development.

The application of BREEAM performance standards should also help to maintain community support after opening. Meeting requirements for BREEAM assessment issues Pol04: Reduction of night time light pollution and Pol05: Reduction of noise pollution will help ensure that the operational building does not create undue disturbance, whilst the development of high quality ecological areas could provide a valuable local amenity or educational resource (BREEAM assessment issues LE02 Ecological value of site and protection of ecological features, LE03 Minimising impact on existing site ecology, LE04 Enhancing site ecology, and LE05 Long term impact on biodiversity).

It is difficult to quantify the effect of building strong community relations and avoiding complaints. However, the management time taken to understand and respond to any issues arising once a site is operating is significant in its own right, potentially requiring inputs from retailers, site managers, owners and advisors. Given that only a quarter of unhappy individuals actually raise a formal complaint then the direct costs associated with managing complaints are only a fraction of the business costs associated from developments that disturb their neighbours<sup>26</sup>.

## Reputation

The steps taken to establish and maintain community support will also help enhance reputation, at least locally. Beyond this, many BREEAM performance standards will help manage reputational risk, while also providing examples of environmental benefit that will attract some customers.

While there is little direct evidence that strong sustainability credentials for a retail building is a major influence on shopper decisions, they do form part of a mix of branding activities that reinforce a business' status as a sustainable retailer. Research by EY in 2013 identified competitive differentiation through CSR as the third most important opportunity area in the retail sector with three in four retailers seeing this as a 'must' requirement for their business<sup>27</sup>. Moreover, failure to effectively manage the impacts of premises construction and operation could significantly undermine a business's credentials and reduce the value of investment in other parts of their corporate responsibility programme, e.g. supply chain, sourcing and other topics.

Demonstrating that the approach to key issues such as materials sourcing or carbon emissions are in line with certified and externally recognised standards adds credibility beyond those resulting solely from the assertions of the organisation in question.

## Differentiation

Review of BREEAM performance standards may help to identify points of differentiation for an organisation or development. While BREEAM certification may not, in isolation, resonate strongly with shoppers, the various measures involved in securing a higher rating can help to create a high quality and distinctive retail environment (see 'Customer experience' above). It can also help to create an interesting narrative about a development, for example, its use of renewable energy or materials or the creation of new habitat and green space (Example 5).

## Example 5 Site ecology as a distinctive feature

The development of the Elliot's Field retail park in Rugby has revitalised an existing site with a wider range and quality of retail offers. As part of the development, Hammerson, the developer, invested in extensive soft landscaping to both increase the attractiveness of the location and enhance its ecological value, whilst also helping to achieve credits as part of securing a BREEAM Very Good rating. Specific measures included: creation of wildflower meadows, use of native tree and shrub species, and planting of wetland species around the river running through the site. Long term management of the site ecology will maintain an attractive and biodiverse resource as an integral part of the development.

## Effective operations

As well as providing a great customer environment, retail buildings need to be able to help staff to operate productively, while providing a safe and healthy working environment. Beyond the direct impacts on the working environment, BREEAM also affects a business's operations in other ways, for example by helping standardise information flows and supporting effective relationships within the business and with its supply chain.

### Staff experience

On average staff costs are around 16% of a retailer's turnover, however for 'higher service' organisations such as department stores or high street shops, staff costs can total around 22% of sales<sup>28</sup>. Getting the most from these individuals and avoiding the high direct and service costs of unwanted turnover is particularly important for businesses looking to differentiate themselves on the basis of the quality of the retail experience they offer.

Recent research has assessed the cost of turnover for more senior retail staff, i.e. the ~50% of employees earning more than £25,000 per annum, to be over £20,000 per individual with total costs to the sector of more than £600 million per year<sup>29</sup>.

Not surprisingly, the BREEAM Health and Wellbeing assessment area contains a number of performance standards that will help to ensure that staff are able to work productively and provide the customer service that will contribute to the retailer's success. Key considerations are light and air quality, noise exposure, the ability to maintain comfortable temperatures, and safety and security<sup>30</sup>.

BREEAM assessment issue Hea01: Visual comfort sets requirements for exposure to natural daylight, control of glare and achievement of suitable internal lighting levels. These standards will help staff to perform well by reducing the risk of discomfort associated with glare and poor lighting, while also helping to maintain correct circadian rhythms and associated functions (e.g. ease of getting to sleep at night). Research in office environments has shown a correlation between exposure to daylight, sleep quality and overall wellbeing<sup>31</sup>.

BREEAM assessment issue Hea02: Indoor air quality sets standards for reducing exposure to internal air pollution through the control of exposure to Volatile Organic Compounds (VOCs) and to sources of external pollution (e.g. from vehicle exhausts). Many studies have shown that improved air quality either by reducing pollutant sources or increasing provision of clean air is correlated to improved performance, reduced dissatisfaction with working environment and incidents of symptoms such as headache and poor concentration<sup>32</sup>. Importantly these benefits are seen even when the air quality change is not perceived by the individuals involved.

Whilst the direct sales or performance benefits associated with staff productivity are complex, it is clear that service levels will be compromised where staff are uncomfortable, unwell or unhappy in their workplace.

Addressing other BREEAM performance standards can also help improve staff experience, for example accessibility via public transport or cycling or the presence of key local amenities.

### Assurance and reporting

BREEAM performance standards can be used either directly or as enablers of important corporate reporting and compliance activities. These opportunities include standardising the collection of performance data within the supply chain so that it can be effectively aggregated for reporting at corporate level, e.g. BREEAM assessment issue Wst01 Construction waste management provides a standardised approach for collating waste quantities and waste management data in a format that both contractors and waste industry are comfortable. By requiring compliance with this assessment issue, and also Man03 Responsible construction practices, the client's environmental team can be confident that they will be able to access data on the impacts of their sites for reporting purposes and also for tracking their organisation's carbon footprint.

Standards around the installation of sub-metering (e.g. BREEAM assessment issue Ene02 Energy monitoring) also provide a means for the client to ensure they are able to monitor the future performance of their buildings, although to gain maximum benefits from this investment it is important that care is taken in commissioning and connection to suitable monitoring software.

BREEAM standards are above those required for statutory compliance, e.g. with Building Regulations or product legislation, and as a result by targeting a higher BREEAM rating it is possible to be confident that the building specification is well above regulatory minima helping to reduce the risks of non-compliance during any controls review.

28 Retail Week Prospect, 2016. Top 10 Retailers by Staff Productivity. [www.retail-week.com](http://www.retail-week.com)

29 Oxford Economics, 2014. The Cost of Brain Drain: Understanding the financial impact of staff turnover. <http://www.oxfordeconomics.com/my-oxford/projects/264283>

30 Feedback from retail developers

31 M. Boubekri et al, 2014. Impact of Windows and Daylight Exposure on Overall Health and Sleep Quality of Office Workers: A Case-Control Pilot Study. *Journal of Clinical Sleep Medicine*, Volume 10(6). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4031400/>

32 D.P. Wyon, 2004. The effects of indoor air quality on performance and productivity. *Indoor Air*, Volume 14 (7). <http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0668.2004.00278.x/abstract>

## Innovation

Beyond the dedicated innovation credits that recognise and reward innovative practices, there are several further BREEAM performance standards that can help to prompt innovation in the development process. For example, targeting higher performance standards for energy, water, waste, land use and ecology or other assessment areas will often require the project team to develop solutions that go beyond standard practice and which actively address technical or commercial constraints associated with the project. In many instances targets specified in BREEAM have driven the initial use of, for example, renewable energy technology, materials with low life-cycle environmental impacts and refrigerants with low global warming potential. Whilst these solutions are now becoming more standard practice, BREEAM has continued to evolve, incorporating new assessment issues such as Wst05 Adaptation to climate change and Wst06 Functional adaptability which will challenge project teams to look differently at their designs.

## Relationships

BREEAM certification to higher ratings cannot be easily achieved without effective communications within and between all members of a development team, their supply chain and wider stakeholders. Some performance standards in particular help to foster improved communications and relationships where applied effectively. For example, Man01 Project brief and design provides tools for engaging effectively with both internal and external stakeholders in the project. Effective engagement with stakeholders is particularly important for retail developments that are providing essential community infrastructure. Listening to local residents can result in a better scheme and also help create a more positive perception of the development amongst future customers.

Within Man05 Aftercare a credit is available for undertaking post occupancy evaluation, a valuable process for strengthening relationships with building users and helping to improve in the future<sup>33,34</sup>.

Meeting other BREEAM performance standards has the potential to help strengthen relationships in less direct ways, for example, providing ecological habitat can provide a basis for engaging with other organisations, e.g. third sector organisations or local schools, resulting in new relationships and opportunities to make a contribution to the local area.

Similarly, the development of local sourcing policies as part of a Sustainable Procurement Plan (a requirement for a credit in BREEAM assessment issue Mat03 Responsible sourcing of materials), can help to demonstrate local economic benefits and community support in addition to helping to reduce the environmental and social impacts of materials use.

## Cost and income

Whilst the most significant business benefits from BREEAM may be in its role in helping to improve the retail environment for customers and staff, some of the reductions in operating cost and maintaining revenue are perhaps more tangible and easily quantified.

### Lifetime cost

The lifetime cost of a retail building is influenced by a range of capital, operating, maintenance, utility and other costs. In addition, for the majority of projects that are funded with at least some debt finance, the interest paid on borrowings are relevant in assessing the overall lifetime costs and returns from development.

Compliance with individual BREEAM performance standards typically has little impact on capital costs with most of the standards achievable at no additional cost from standard practice, provided they are factored into decision making at an early stage. For example, specification of materials with low life-cycle environmental impacts should not impact initial or ongoing costs, as it merely requires appropriate consideration of the environmental rating of construction materials during the specification process.

Numerous previous studies<sup>35,36,37,38</sup> show that the majority of BREEAM standards have no additional cost over typical practice and that total additional costs for Very Good or Excellent ratings are less than 2%. These studies also show that direct energy and water savings can typically be expected to pay for the additional costs involved within a few years of operation.

The specific costs and savings for any individual project may vary considerably particularly given the diverse range of retail buildings constructed in the UK (including large warehouses, small catering outlets, shopping centres and individual shop units). Therefore, rather than assessing overall costs and savings for a case study building, Table 2 illustrates the costs and savings associated with specific technologies or processes that might be used in combination to meet BREEAM requirements for different projects.

33 B. Bordass and A. Leaman (2005). Making feedback and post-occupancy evaluation routine 1: A portfolio of feedback techniques. *Building Research & Information*, Volume 33 (4). <http://www.tandfonline.com/doi/abs/10.1080/09613210500162016>

34 Further information on post occupancy evaluation and its role in building performance is available at [www.designingbuildings.co.uk](http://www.designingbuildings.co.uk)

35 Building Magazine, 2016. Sustainability: BREEAM. <http://www.building.co.uk/sustainability-breem/5082264.article>

36 BRE, 2014. Delivering Sustainable Buildings: Savings and Payback. <https://www.brebookshop.com/details.jsp?id=327411>

37 British Constructional Steelwork Association, 2011. Target Zero: Guidance on the design and construction of sustainable, low carbon supermarket buildings. [www.steelconstruction.info](http://www.steelconstruction.info) (one of series of five reports in different building types).

38 BRE, 2008. Putting a price on sustainable schools. <https://www.brebookshop.com/details.jsp?id=287598>

**Table 2 Costs and savings of technologies and processes commonly used to help meet BREEAM performance standards**

BREEAM Standard	Technology / process	Standard specification	Enhanced specification	Additional Cost	Additional Savings	Payback
Ene01: Reduction of energy use and carbon emissions	High efficiency chillers	Energy Efficient Ratio of ~3.5	Energy Efficient Ratio of >5.5	+20-25%	+25%	Under 3 years*
	Air handling units	Specific fan power of ~2.2 W/l/s	Specific fan power of ~1.8 W/l/s	+20%	+20%	Around 2 years**
	Lighting	~60 Luminaire lumens per W (e.g. T5)	>100 Luminaire lumens per W (e.g. LED)	+25%	+50%	~5 years depending on specification and usage***
Man04: Commissioning and handover	Commissioning and testing process	Testing and adjusting of systems	Specialist commissioner involved through design and handover	Analysis of commissioning data from 643 buildings <sup>39</sup> indicates that typical commissioning costs are around 0.4% of the overall construction cost but that on average these achieve energy savings of 13% in new construction (with some as high as 30%); paybacks averaged ~4 years with return on investment of over 20%.		
Man05: Aftercare	Undertaking seasonal commissioning	Not carried out	Commissioning of the building under different load conditions and in response to user feedback	Research has shown <sup>39</sup> that commissioning during the first year of operations can deliver significant additional benefits above those achieved through initial commissioning alone; e.g. it improves worker comfort, mitigates indoor air quality problems, increases the competence of in-house staff, etc.		

Notes:  
 \* Assuming 1,500 hours operating hours per year (~4 hours per day) and typical electricity costs of ~12p per kWh. Payback will be shorter as run time increases<sup>40</sup>.  
 \*\* Assuming ventilation rates of around 8 l/s/m<sup>2</sup> and run time of ~4,000 hours per year.  
 \*\*\* Assuming run time of ~4,000 hours per year. No account taken of potential benefits of reduced cooling load or maintenance requirement.

Where the installer of the technology is also the occupier of the space (e.g. for owner occupiers, for landlord controlled areas or where the systems form part of space fit out) then benefits accrue directly to those bearing the cost. However, a retail developer may also have opportunities to invest in efficiency measures that would benefit future tenants, but where they will not directly receive the benefits of lower energy use. As landlords and tenants become more aware of the opportunities to collaborate to achieve energy savings, new models are emerging to value the longer term benefits of energy efficient

spaces. Also landlords are now taking steps to help tenants adopt energy efficiency measures in the fit out of their spaces through the use of tenant’s handbooks or green leases. By working with tenants to implement low energy fit outs, landlords are able to demonstrate improvements in the performance and rating of their developments whilst also helping tenants to reduce their costs of occupation. Example 6 shows how a landlord and tenant worked together effectively to enable investment in more energy efficient buildings in a way that benefits both parties.

### Example 6 Landlords and tenants working together

A standalone unit on the Wrekin Retail Park in Telford<sup>41</sup> has achieved carbon neutral status (EPC of A+), through a collaborative initiative between the developer (Hammerson) and tenant (Costa Coffee). Costa Coffee had good data on energy use of similar existing coffee shops and was able to identify the value of occupying a very energy efficient building that incorporated renewable energy technology. Working collaboratively, Hammerson and Costa were able to agree an enhanced building specification that would deliver reduced running costs to Costa. On the basis of these savings in energy use, Costa agreed to increase their rent payments to compensate Hammerson for the additional costs of construction. Efficient measures included: careful orientation and design, use of low embodied carbon materials, super insulated structure, photovoltaic panels, underfloor heating and passive ventilation.

Detailed knowledge about the space’s likely energy use and effective communications enabled the completed space to achieve carbon neutrality. The tenants running costs are reduced and the developer will recoup their investment with reputational benefits for both parties.

39 Lawrence Berkeley National Laboratory, 2009. Building commissioning - A golden opportunity for reducing energy costs and greenhouse gas emissions. <http://cx.lbl.gov/documents/2009-assessment/lbnl-cx-cost-benefit.pdf>  
 40 Daikin, 2016. [www.daikin-europe.com](http://www.daikin-europe.com)  
 41 Hammerson, 2015. Costa’s Energy Neutral Eco-Pod opens in Wrekin Park, Telford. <http://sustainability.hammerson.com/costa-s-carbon-neutral-eco-pod-opens-in-wrekin-park-telford.html>

In addition to direct savings in utility costs, meeting BREEAM performance standards can deliver further cost savings through, for example:

- Reducing lifetime costs by undertaking life-cycle cost analysis during the design to identify key influences on overall costs and options for their reduction (*Man02: Life cycle cost and service life planning*)
- Helping to reduce losses and ensure ongoing resilience associated with extreme weather events as a result of completing thorough climate change adaptation risk assessments (*Wst05: Adaptation to climate change*)
- Reducing unnecessary materials use by developing a robust materials efficiency strategy that reduces construction requirements and costs during the design development period (*Mat06: Material efficiency*)
- Minimising damage during use and associated maintenance costs (*Mat05: Designing for durability and resilience*)
- Reducing the risk of water damage to buildings and stock by installing leak detection and alert equipment (*Wat03: Leak detection*).

For each of the above examples, developers or retailers may be able to identify and secure potentially substantial costs savings. However, these benefits will only be realised if the project team fully engage in the review process and, where they have the time and resources, to develop the right solutions. A 'check box' approach where the consultant team complete the necessary analysis, but do not challenge the scheme sufficiently, could result in costs being incurred for far less benefit.

### Speed to completion

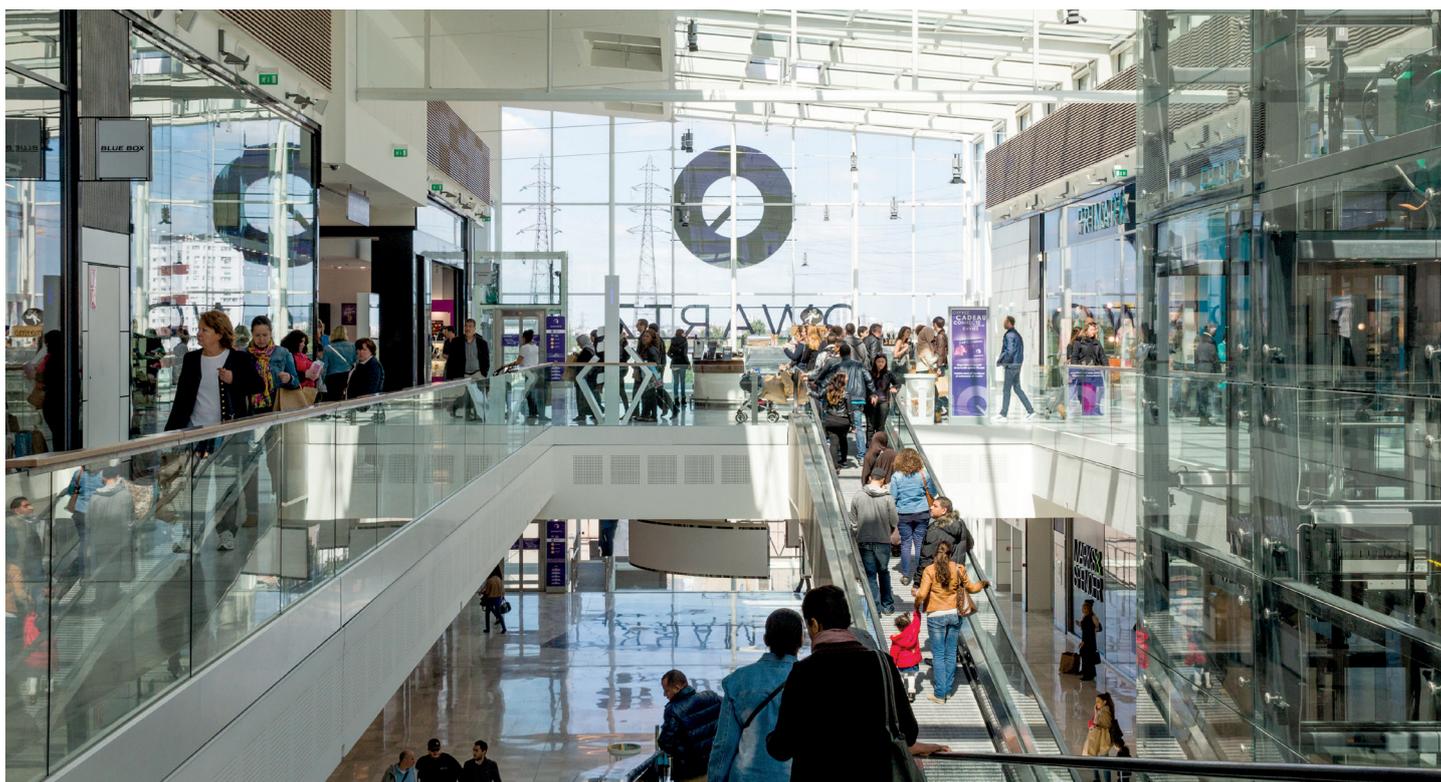
The benefits of BREEAM ratings in securing planning consents and enabling are described above in 'Value of certification'.

There is no need for compliance with BREEAM standards to delay the opening of a new store, but it is important that the BREEAM process is carefully managed so as to avoid impacts on the development / fit out programme. For example, ensuring that sufficient time is allocated for commissioning (*Man04: Commissioning and handover*) or for the testing and approval of recycled aggregates if used (*Wst02: Recycled aggregates*).

### Availability

Much maintenance and replacement activity can be undertaken out of hours, but plant failure, weather damage or major refurbishment typically results in partial or full closure. With daily sales ranging between £600-700 per m<sup>2</sup> for clothes stores and with some supermarkets selling over £1,000 per m<sup>2</sup> per day, the impact of lost sales from part or full store closures can be far more significant than the associated repair or refurbishment works<sup>42</sup>. Measures that minimise the risk of damage, for example leak detection systems (*Wat03: Leak detection*) and use of resilient materials (*Mat05: Designing for durability and resilience*) can help to reduce lost sales time.

As the impacts of climate change become felt then risks associated with hotter or more extreme weather patterns are an increasingly important consideration. Be it the ability of food fridges systems to cope in very hot weather<sup>43</sup> or the impact of increased flood risk on a store or its supply routes. An effective climate change adaptation strategy (*Wst05: Adaptation to climate change*) can help to identify these issues and minimise the business and other risks associated with changing weather patterns.



42 Retail Week, 2016. Top 30 bricks-and-mortar retailers by sales densities. <https://www.retail-week.com/analysis/data/data-top-30-bricks-and-mortar-retailers-by-sales-densities/7004609.article>

43 Bristol Post, 2016. Hot weather causes havoc with Bristol supermarket fridge and freezers. <http://www.bristolpost.co.uk/8203-hot-weather-causes-havoc-with-bristol-supermarket-fridge-and-freezers/story-29534502-detail/story.html>

# Getting a return on investment in BREEAM

BREEAM provides a framework of performance standards and processes that should help reduce the environmental impacts of a building. However, the results achieved for many assessment areas are proportionate to the effort expended in properly evaluating options at the right time and in building these into the developing design process. For example, the value of undertaking life-cycle analysis, thermal modelling, materials efficiency, climate adaptation strategies or other studies will only be realised if they are used to improve the building. Similarly, much of the investment in high performance and low energy building services will be wasted if the buildings are not commissioned correctly and good aftercare is absent.

For some buildings, e.g. fit out of small units, it is important to consider how the costs of meeting a requirement relate to the level of associated benefits. For some assessment areas the benefits are highly proportionate to the costs, e.g. energy efficiency measures, while for others, e.g. installation of leak detection systems or preparation of travel plans, the cost may be relatively fixed despite the smaller scale of the associated benefits.

## Making BREEAM work for you

'How BREEAM can enhance value' above has identified a wide range of benefits associated with designing, building and certifying a project to BREEAM performance standards. However, to get the most from the investment in an assessment and certification it is important that it complements and forms part of approach to project delivery with decisions focusing on helping to enhance the quality and performance of the resulting project.

Priorities and effective strategies will vary according to circumstances and the approach for occupiers of smaller retail units will be very different to developers of large shopping centres or retail parks. Some general principles are described below followed by more specific recommendations for specific circumstances.

Leaders in the delivery of sustainable retail buildings demonstrate the following characteristics:

### General principles

- A strong understanding of how sustainable buildings provide benefits to their organisation. This includes, but typically goes beyond, direct return on investment in the form of reduced running costs.
- A clear corporate policy and delivery method that clearly sets out their business objectives, minimum requirements and aspirations, together with clear guidance on activities and performance to be achieved from the outset and throughout the development process.
- Wherever possible external references (e.g. BREEAM and its constituent assessment areas) are used to define requirements, thereby benefiting from the awareness and wider knowledge base for these standards.
- Requirements are embedded in the appropriate locations within specifications and appointments ensuring that there is ownership of key tasks and that suppliers have clarity on what is expected of them.
- Evidence is actively sought about what works and what doesn't

to help learn and improve performance. This includes undertaking post occupancy evaluation to assess both performance and user satisfaction.

- The use of their advisors and wider project supply chain to bring new innovative solutions to projects and asking specialist providers to keep them informed about advances in performance and cost.
- Explicit recognition that it is necessary to work constructively with partners to get the right outcomes.

### Developers (including retailers developing their own stores)

- A flexible delivery process ensures minimum standards are achieved and that the approach to any specific development maximises the opportunities presented.
- Designs are tested at an early stage for key performance criteria including life-cycle cost, energy and carbon analysis. New software tools enable design options to be assessed quickly making it easier to use quantitative information to help develop and refine an effective concept.
- Specialist and proactive BREEAM advice is available at an early stage in the development process to help shape the solution and to identify any problems at a stage when they can be more easily solved.
- Selection of design teams and constructors for their ability to deliver on BREEAM and other sustainability requirements together with evidence.
- Engagement with tenants to secure high standards of fit out within retail spaces, setting minimum performance standards for key specifications. This will help to improve overall performance, reduce their running costs and make it easier to meet BREEAM requirements for energy.
- Use of the data generated by following BREEAM processes (e.g. construction impacts and metering of spaces and loads) to support corporate reporting and performance improvement.
- Recognition that some retailers, particularly smaller businesses, may need help in understanding and meeting project requirements. Guidance on how they can benefit from a sustainable fit out together with advice on specifications or standards they could be seeking will help them adopt these approaches successfully.

### Retailers occupying shell and core space

- Having a reference specification for key elements of the fit out in place that is regularly reviewed to ensure that it incorporates the best available proven technologies.
- Identification of landlord sustainability requirements and ensuring these are factored into letting discussions, recognising any impact on capital and running costs and performance.
- Consideration of all aspects of the fit out including unregulated sources of energy use (e.g. small power and appliances).
- Awareness of the impact of material choices and management on the overall environmental impact of the fit out, with targets set to reduce waste, unnecessary materials use and with priority given to low impact materials.
- Clear guidelines for responsible procurement of products and

services.

- Selection of design teams and constructors for their ability to deliver on BREEAM and other sustainability requirements together with evidence.
- Use of effective commissioning and other handover procedures together with systems for gathering feedback from staff and customers and for monitoring performance.

### **Smaller developments**

BREEAM and other certification methods can be challenging to apply to smaller developments particularly those where the retailer has little experience of working to specific performance standards.

Experience shows that it is important that sufficient advice is available, particularly where a fit out contractor has not worked to BREEAM performance standards previously. Regular attendance from a BREEAM advisor is valuable in ensuring the correct approach is followed and that evidence to demonstrate this is available. A nominated environmental co-ordinator within the fit out contract can also help the process by providing a consistent point of contact and information.

Landlords can help make things easier for smaller retailers by providing clear information on BREEAM requirements that apply to a project, including simple information on compliant specifications and processes.

### **Managing operational performance with BREEAM**

While the focus of this paper has been on the implementation of BREEAM performance standards during new construction and refurbishment and fit-out projects, the benefits from such actions will only be realised if the performance of the asset is continuously monitored and managed during its operation once it is occupied. This can be facilitated through the BREEAM In-Use International scheme. BREEAM In-Use has been produced to enable the assessment of an existing building, the operations of the building, how clients are managing their activities within the building; or a combination of the three. The rating and certification options are as follows:

- Part 1: Asset - the inherent performance characteristics of the building based on its built form, construction and services.
- Part 2: Building Management - the management quality and practices related to the operation of the building.
- Part 3: Occupier Management - the understanding and implementation of management policies; staff engagement and measuring performance against Corporate Social Responsibility (CSR) targets.

Further details of the BREEAM In-Use International scheme can be found on the BREEAM website (<http://www.breeam.com/in-use>).

Further details on the BREEAM criteria can be found in the relevant scheme manuals. Copies of the manuals can be downloaded free of charge from [www.breeam.com/technical-standards](http://www.breeam.com/technical-standards)

### Acknowledgements

The project team would like to recognise the valuable contributions made by the following individuals and organisations in providing insights and examples to inform this report:

Lydia Dutton	Formerly of Argent
Richard Quartermaine	Hammerson
Zoe Young	Marks and Spencer
Jane Wakiwaka	The Crown Estate
Phil Birch	John Lewis Partnership

Cover Image: Hammerson's WestQuay Watermark retail development in Southampton



Follow us on Twitter

[@BRE\\_BREEAM](https://twitter.com/BRE_BREEAM) [#BREEAM](https://twitter.com/BRE_BREEAM)

### BRE Global

Bucknalls Lane  
Watford  
United Kingdom  
WD25 9XX

T +44 (0)333 321 8811  
E [breeam@bre.co.uk](mailto:breeam@bre.co.uk)  
[www.breeam.com](http://www.breeam.com)

© BRE Global Ltd 2017

Permission is granted for this report to be distributed only in its entirety, without amendment, and with copyright attribution to BRE Global Ltd.

Every effort has been taken to ensure the accuracy of this report but no warranty is made in respect of any conclusions or opinions expressed herein.

BRE Global Ltd's liability in respect of this report and any reliance thereupon is disclaimed and BRE Global shall have no liability to third parties to the extent permitted in law.

BREEAM is a registered trade mark owned by BRE (the Building Research Establishment Ltd. Community Trade Mark E5778551). The BREEAM marks, logos and symbols are the Copyright of BRE and are reproduced by permission.

### BRE Trust

The BRE Trust uses profits made by BRE Group to fund new research and education programmes, that will help it meet its goal of 'building a better world together'.

The BRE Trust is a registered charity in England & Wales: No. 1092193, and Scotland: No. SC039320.