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BREEAM IN USE: DRIVING SUSTAINABILITY IN EXISTING BUILDINGS

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He now leads the delivery of internal sustainability strategy and a growth business focused on the delivery of innovative solutions to blue-chip clients. Graeme obtained a first class B.Sc in Environmental Management in 2002 and continues to support the School of Built Environment through guest lecturing, student support and focus groups.

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BREEAM IN-USE: DRIVING SUSTAINABILITY IN EXISTING BUILDINGS

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INTRODUCTION

First of all in this paper we intend to set the scene and demonstrate some of the reasons Serco is in the process of developing a partnership with the Building Research Establishment Ltd (BRE). Over the last few months Serco, as an FM/Property Services provider, has explored opportunities to deploy some of the fantastic products and services that BRE offer to help tackle the heavy challenges around sustainability and particularly carbon management that face owners and users of all existing properties. Over the next few months Serco intends to trial these products within some of its local government, hospital and corporate based contacts and hopefully there may be a future opportunity to feed back some of the learning from that. Also we will provide some detailed information about BRE's new tool, the BRE Environmental Assessment Method "BREEAM In-Use."

20/20 Vision

You are aware of the economic, efficiency, organisational and sustainability challenges facing public service property managers. The one single question that troubles me as a champion of the sustainable development agenda and as a part of a business feeding into the corporate and local government sectors is how to balance the current economic challenges against what I believe to be the greater challenge that is looming large over the horizon; climate change. I know we are all facing immediate challenges, and must deal with them today, but we must be preparing ourselves for 2020 and beyond too.

Putting these future challenges in context, buildings account for 40% of the world's energy use, that is more than transport, so the impact is significant and we, as FM providers, as property managers and surveyors have to address that. New inefficient buildings are still being built and opened every day. Millions of buildings that are inefficient today will still be around in 2020 and beyond and, over time, the world's stock of buildings will

consume more and more energy. The challenge is to reduce total energy consumption but the key question is how? We could chose to

- Sleepwalk and do absolutely nothing, or
- Adopt a "too little too late approach" that may give us some short term gain, but not address the real challenges, or
- Transform and start to reduce total energy consumption over time.

For me there is only one answer.

Transform

Why would we look to transform? First tackling climate change through existing buildings is, or should be, at the top of everyone's' agenda today. In doing so there are some benefits to be had today, as well as in the future. In the short term the choice is rising operational costs versus financial savings. Without a doubt the rise in operational costs is set to continue. The key issue is how to introduce efficiencies into the existing building stock that will generate financial savings to both help us in the short term and the future. And addressing sustainability within buildings is good for tomorrow. Carbon reductions bring financial savings. Sustainability performance is becoming a huge factor and, in any event, there is an additional pressure as a huge amount of new and impending legislation is about to significantly change our lives. If we do intend to transform and get through this immediately difficult time with this sustainability agenda, we have to do it responsibly.

We have to be responsible. The money is not there to pour hundreds of thousands in pounds into a range of technology based projects. We need to understand what our impacts are within our buildings. Then it is possible to effectively prioritise what should be done now and what could be done later. We could also discover what could be done that will not cost a great deal of money. And let us examine our own organisations and ask those difficult questions. Why we are where we are? Where do we want to go?

We must act now; it cannot be put off due to current difficult times, it will be more difficult in the future.

Fortunately we have an answer, the BRE Environmental Assessment Method, "BREEAM In-Use."

BREEAM Family

Bespoke



Courts



Code for Sustainable Homes



Ecohomes



EcohomesXB



Healthcare



Industrial



International



Multi-residential



Prisons



Offices



Retail



Education



Communities



The BREEAM Family

BREEAM is the most long established and biggest certification scheme for environmental certification for buildings. More than 116,000 buildings have been certified. About 750,000 buildings are registered or going through the process of being certified.

These are the whole range of different versions of BREEAM. There are about 2,500 BREEAM Assessors. Since its inception and launch in 1990 BREEAM has saved in the order of 4.5 million tonnes of carbon through driving the BREEAM standards. What has been lacking is a scheme that addresses existing buildings.

BREEAM In-Use

Hence we have been working on this new scheme BREEAM In-Use (BIU) for the last year or so. Matt's role at BRE is to package a lot of the knowledge available at BRE to help corporate and public sector clients set their policies and their environmental strategies for new buildings but a lot of our clients were saying that what we really need is something for existing buildings.

BREEAM In-Use, as the name suggests, is a new scheme to help building owners and occupiers improve environmental performance and reduce running costs of existing buildings. It consists of three parts

- A standard; like with any other BREEAM scheme,
- An easy to use methodology; it is easy to use and I will explain, but this is fundamental if BIU is going to take off.
- And a 3rd party independent certification process; again very similar to other BREEAM schemes. Importantly, if you want to use this, you do not have to get your building certified but that is an option if you do want independent certification.

In summary it provides a clear credible route map to improving sustainability, not just for individual buildings as it can be applied quickly and easily across building portfolios.

BREEAM In-Use Functionality

In the early days, when we were talking to a number of our clients about developing this scheme for existing buildings they said that if it is going to work for us these are the sorts of functionality that we want.

- Quick and simple; we were told by clients that they did not want an expensive time-consuming system as, arguably, some new build BREEAM schemes are. They do take up a lot of time and effort in collecting and verifying data. They emphasised the BIU had to be different, and it is different.
- Detailed information can be added over time; managers cannot always access immediately information on older buildings but that will not stop you making a start and then adding in more information on the building to BIU later.
- Separate physical characteristics of the building from

management and organisational characteristics; we thought it was important to allow clients such as owners of building portfolios or investors to look at the physical asset itself and so assess whether it is going to perform well as a physical asset. But for occupiers and corporate organisations trying to meet KPIs on energy, water waste, reduced costs, carbon reduction commitment, and so on, it is important for them to see how the management of the building is performing.

- International portfolios; we are talking to a number of different organisations in Europe and further afield about adapting BIU so it can be readily used on international portfolios.
- Self-assessment; it is possible to get on line and put your information in for your buildings yourselves, it is not necessary to use consultants.
- Independent certification is available as well.

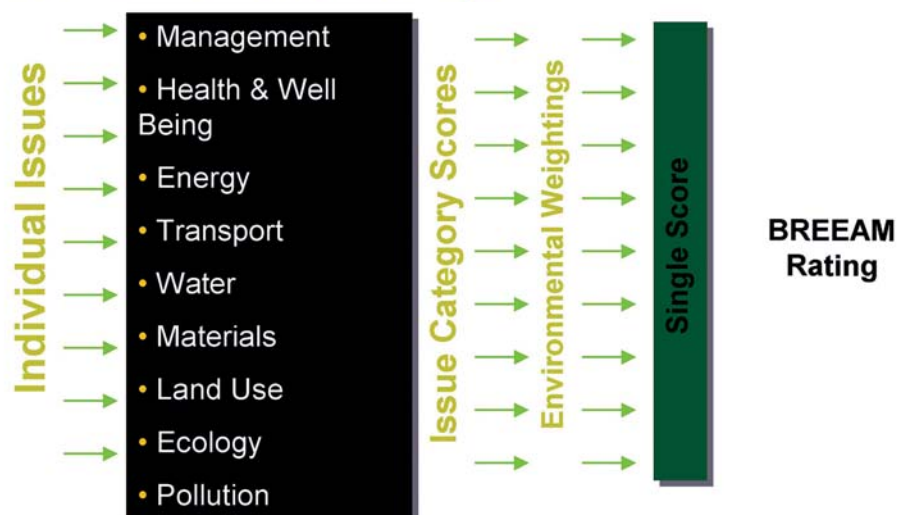
BREEAM In-Use Benefits

The benefits are listed below, reducing operational costs is always at the top of clients' lists and it is here.

- Reduce operational costs
- Enhance the value and marketability of property assets
- Give a transparent platform for negotiating building improvements with landlords and owners
- Route to compliance with environmental legislation
- Greater engagement with staff in implementing sustainability
- Provide opportunities to improve staff satisfaction with the working environment
- Demonstrate commitment to CSR
- Improve organisational awareness
- Provide a genuine badge of proven sustainability

This deals with the obvious issues such as energy and the carbon reduction commitment and the like and also the softer issues like health and well being, land use, biodiversity and a whole range of other issues. When completed your ratings will enable you to benchmark your own portfolios with other similar ones.

BREEAM In-Use - ratings



BREEAM In-Use Three Part Standard

What is different here, as I have suggested earlier, is that there are three parts to BREEAM In-Use, asset performance, the physical side; building management; and organisational effectiveness.

- *Asset performance*; the inherent performance characteristics of the building based on its built form, construction and services
- *Building management performance*; the management policies, procedures and practices related to the operation of the building, the consumption of key resources such as energy, water and other consumables and environmental impacts such as carbon and waste generation
- *Organisational effectiveness*; the understanding and implementation of management policies, procedures and practices; staff engagement; and delivery of key outputs

BIU has to be quick and easy to use. There are about 150 questions to answer but many call for a yes/no response and it is quick and easy, in our view, to input lots of buildings quickly and the organisational information particularly where a lot of the policies will be common across all buildings, for example a corporate policy on travel to work that covers all buildings. Again on energy if you have EPCs or DEC's you can plug those straight in and you are sorted on the energy side. It does become a matter of tying in some of the information that you already have such as water efficiency measures, annual consumption, transport eg close proximity to public transport, cycle racks, showers, staff travel surveys, car sharing, green travel, not using internal flights, and the like.

EDF Energy Involvement

EDF Energy has been a great help to us in the trial of early versions of BREEAM In-Use and now we are grateful to EDF for sponsoring BIU and trying it on their own buildings. EDF wanted to use BIU because they were looking for an independent environmental methodology to drive the performance of their own portfolio comprising about 150 buildings, offices, depots, data centres primarily across the UK. They have adopted challenging targets for reducing carbon in their own portfolio by 30% by 2012. But EDF really wanted a framework to drive their property strategies and saw BIU as providing that breadth. They describe BIU as almost like a car MOT for buildings, a starting point highlighting where their buildings are strong or weak. More importantly, they see the potential to rollout the system to their business energy customers as EDF has also adopted the even more challenging target of reducing customers' carbon by 15% by 2020.

EDF Energy Approach to Trial

The approach to the EDF Energy trial was as follows.

- EDF property team gathered BIU data
- BRE analysed the data and provided ratings of 9 buildings and this was
- Presented in a range of graphical formats

Most importantly this is just the starting point, the measurement system, from which we were able to see where the problems are and then recommend a prioritised range of measures to improve sustainability. We are currently providing more detailed recommendations and planning to rollout across the EDF UK Portfolio. EDF are happy with the way it has gone and their counterparts in France and Germany are looking at it at the moment with us.

Case study - EDF Energy

Question	Answer	Credits
Do you have a waste management plan, and does it cover targets, measurement, reporting in relation to the issues highlighted in the policy?	Don't Know	0
	No	0
	Covers targets and measurement	2
	Covers targets, measurement and reporting	3
	Covers targets, measurement and reporting for all activities covered in the policy where the policy is in line with above	4

Case Study EDF Energy

These are some examples of the sort of question that you will encounter in going through the same assessment and I am sure you agree with me that these are fairly easy to answer.

We are aiming for a few hours rather than days per building to deal with these questions, including the quantitative questions about total quantity of waste and how much of that goes to recycling and the like.

Case study - EDF Energy

Question	Answer	Credits
Has a fire safety risk assessment been undertaken?	Don't Know	0
	No	0
	Yes	2
	Carried out by third party	4

Case study - EDF Energy

Question	Answer	Credits
Is there a sustainable purchasing policy in place?	Don't Know	0
	No	0
	Yes	1
	The occupying organisation actively reduces the usage of hazardous materials	1
	The occupying organisation works with supply chain to help reduce environmental impact	1
	Environmental impacts of materials are taken into account with targets to reduce negative impacts	1
	CO2 emissions arising from transport of materials are taken into account and targets set to reduce CO2	1
	Two of the above initiatives are in place	2
	Three of the above initiatives are in place	3
Four of the above initiatives are in place	4	

Case study - EDF Energy

What is the total quantity of waste sent for disposal? (tonnes)

23.59 tonnes January to August 08 inclusive

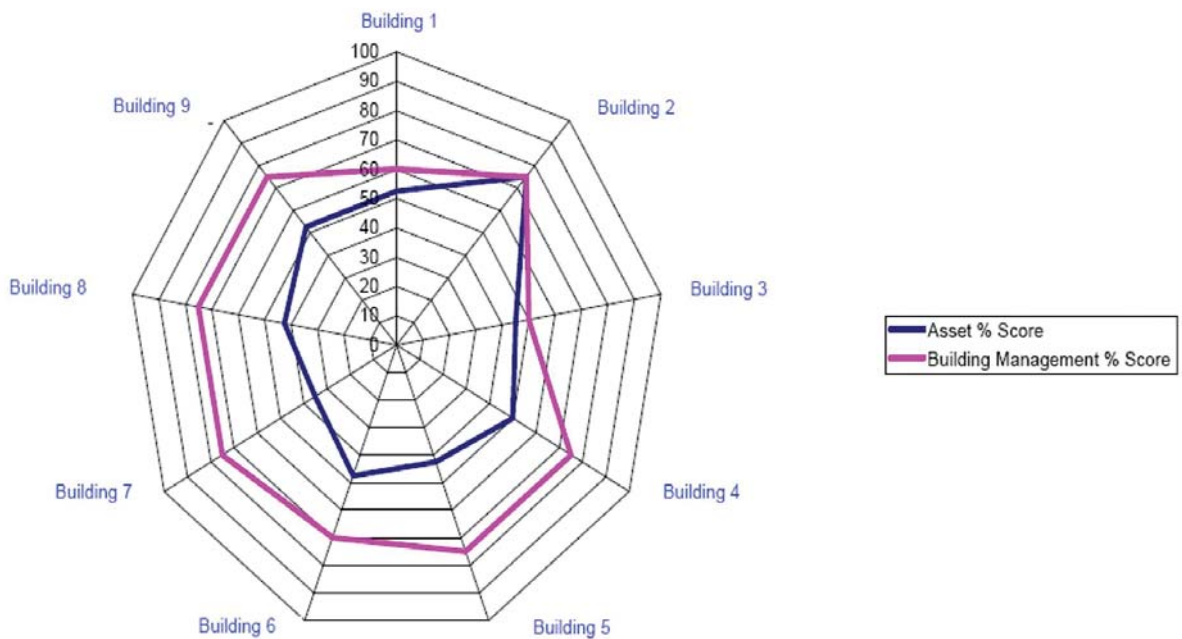
What is the total quantity of waste sent for recycling? (tonnes)

1.67 tonnes January to August 08 inclusive

This is the sort of spider diagram we use that you would have seen in other BREEAM tools. Basically this shows a top level snapshot of those 9 buildings and

remedial measures and deliver quick wins. One building compared badly on transport for example and obviously while neither can affect the proximity of the building to

BREEAM In-Use – Comparing buildings



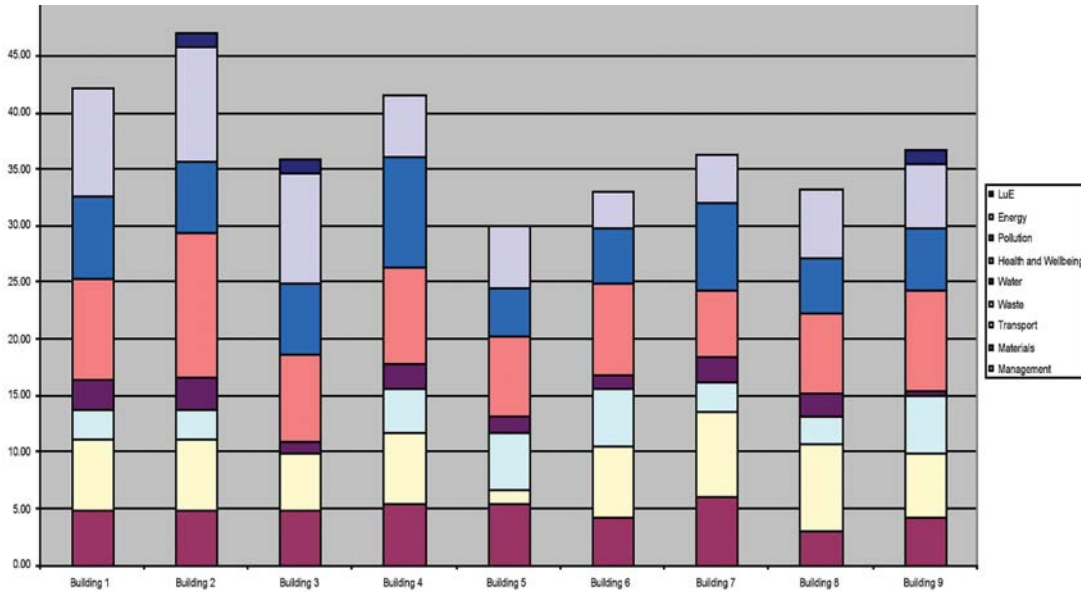
the blue part of the radar diagram is the asset score and the pink is the building management score. In this case EDF was quick to ask why is building 2 much better than building 1 in both asset and building management score? Instantly we are aware of the building we should examine further and ask specific questions about.

This gives more detail about those same 9 buildings by showing the actual scores although I have taken out the total scores as a matter of confidentiality but you can see a range of performance across those 9 buildings. For example it is easy to say that building 5 is worse than building 4, why? Is it pollution, performance, land use or ecology, say? Then we can quickly identify and prioritise

public transport additions such as cycle racks, shower facilities, etc could potentially address the discrepancy. The top dark blue element "land use and ecology" is a difficult one to address but the score could be enhanced by simple things such as bird boxes and bat boxes. Or say green roofs, but that would not be at the top of anyone's list as a cost effective measure.

This is the first certificate issued when we launched BREEAM In-Use recently. It is for Endeavour House in Sunderland. It scored "good" for Building Management. As a matter of fact you could get a certificate for management, asset and organisation on any building, scored on all three levels although you don't have to have all three.

BREEAM In-Use



for setting and tracking property strategies

But you have to have an easy transition into deciding the appropriate corrective measures that need to be applied in those buildings that are not performing well and that is why BRE are working with the likes of Serco, cost consultants and property agents, to provide a comprehensive range of services to improve portfolios.

BREEAM In-Use Summary

It is the first UK certification scheme for existing buildings and covers all aspects of sustainability, not just energy, but also water waste, pollution, transport, materials and others.

It is a flexible and cost effective framework for setting property strategies; offers a quick, easy route for gathering portfolio information, as time goes on more information can be added, and it is a good starting point

This sums that up in a visual way. These are the detailed asset, organisational and management issues we are putting together in order to provide the comprehensive package of measures at the bottom that should actually improve performance.

Graeme Cameron & Matt Dickinson

