

**BREEAM®** Protecting People, Property and the Planet

**Climate change mitigation and adaptation: the role of sustainable design and construction**

**20 March 2013**

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Part of the BRE Trust

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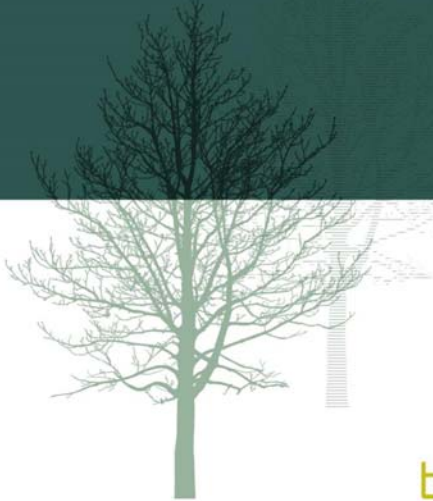
**Overview**

- Introduction to BRE
- Context, especially
  - Importance of sustainable construction
  - National Planning Policy Framework
- BREEAM and Code for Sustainable Homes
- Policy Development
- BREEAM and Code developments in practice

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**Introduction to BRE**



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**Who we are**



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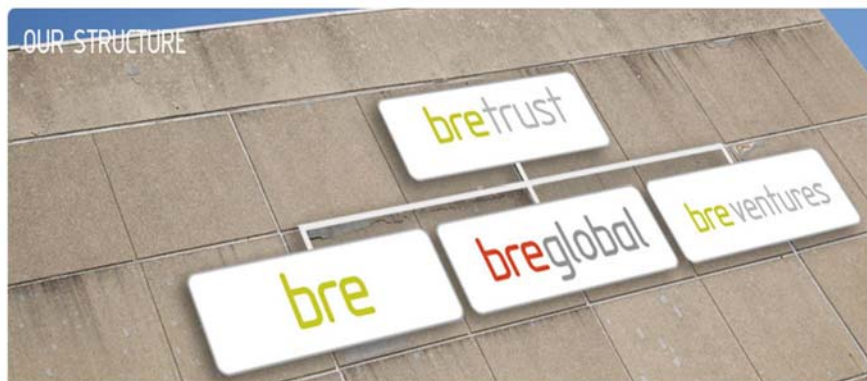


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### The BRE Trust Group

OUR STRUCTURE



#### The BRE Trust

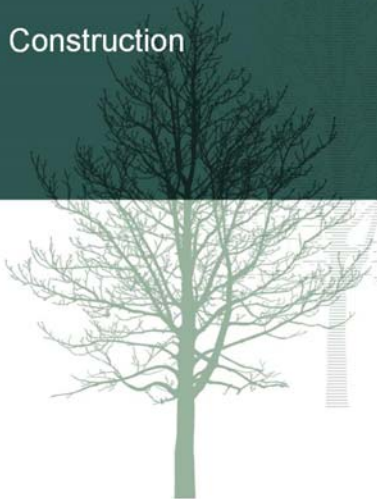
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BRE, along with BRE Global Ltd and BRE Ventures are wholly owned subsidiary companies of the Trust. This ownership structure enables BRE to be held as a national asset on behalf of the construction industry and its clients, independent of specific commercial interests and protects BRE's impartiality and objectivity in research and advice. BRE Global has ownership of BREEAM.

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**Context**

Importance of Sustainable Construction



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**Low carbon goods and services in UK**

- Over 51,000 companies
- Exports £11.3 billion – up 3.9% in 2010/11
- 4,500 new jobs – up 4.3% in 2010/11
- Green Deal alone predicted to trigger £14 billion of investment to 2022, and support at least 65,000 insulation and construction jobs by 2015

Source: 2011 Annual Energy Statement, DECC 23 November 2011

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News | Sport | Comment | Culture | Business | Money | Life & style

Environment > Green economy

## Green economy is on the rise – but remains to be fully exploited

Despite the sector now accounting for 8% of UK GDP, many are surprised that more is not being done to capitalise on its success

 **Fiona Harvey**, environment correspondent  
The Guardian, Monday 5 November 2012 19.34 GMT



The green economy now employs nearly 1 million people – from biofuels and electric car manufacturing to wind turbine installation. Photograph: Murdo Macleod

Green jobs and the growing ranks of green businesses are one of the few bright spots of the UK's recession hit economy – environmental and low-

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## Sustainable Construction

- UK low carbon goods and services market is 6<sup>th</sup> largest in world
- Worth over £112 billion
- Employs over 900,000 people

Sources: BIS press release, 4 August 2011; UKTI

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### Construction industry and buildings

- Construction and demolition waste alone represented **35% of total UK waste in 2008** (DEFRA)
- the energy used in constructing, occupying and operating buildings represents approximately **50% of greenhouse gas emissions in the UK.** (Environment Agency 2007)

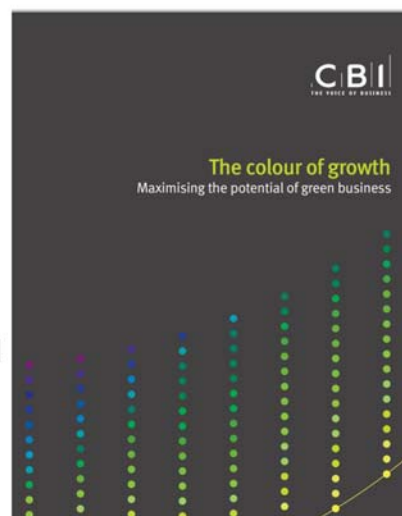


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### CBI view

- ‘Green’ and growth must be compatible. In finding a new growth path for the British economy I am convinced ‘green’ is a central part of it. Everybody needs to look at de-carbonising their products and services and in that way I think there is great growth potential for Britain.

– John Cridland, Director-General of CBI July 2012



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### Political commitment?

- “When I became Prime Minister I said I wanted Britain to have the greenest government ever and I am as committed to that today as I was then. But I want to go further.”
- “...my argument today is not just about doing what is right for our planet, but doing what is right for our economy too.”



David Cameron, 4 February 2013

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### Export markets for sustainable design and construction

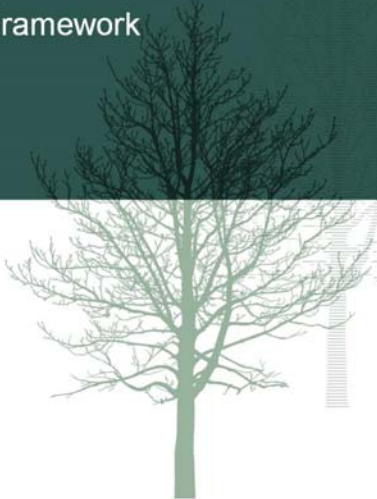
- Chinese vice premier and delegation visit BRE Innovation Park, January 2011
- Signing of agreement for the development of innovation park in Beijing
- Contracts worth £100million to UK firms



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**Context**

National Planning Policy Framework



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**National Planning Policy Framework**

- “The purpose of the planning system is to contribute to the achievement of sustainable development.” (NPPF para. 6)
  
- Sustainable development surely *requires* sustainable design and construction...



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### Achieving sustainable development

“...to achieve sustainable development, economic, social and environmental gains should be sought jointly and simultaneously through the planning system”

National Planning Policy Framework, March 2012, paragraph 8

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### Costs are falling

In the last three years the average extra costs of building to level 3 of the Code for Sustainable Homes has fallen by almost three quarters

“...what these figures show us is that as the construction industry continues to build more sustainable homes, there is further potential for the costs associated with building greener homes to continue falling”

Cost of building to the Code for Sustainable Homes – updated cost review, CLG, August 2011

Andrew Stunell, Communities Minister, August 2011



### Local Plan is key

- Statutory duties
  - Must contribute to
    - achievement of sustainable development *[S39 2004 Planning and Compulsory Purchase Act]*
    - mitigation of and adaptation to climate change *[S19 of P&CP Act, as amended by S182 of 2008 Planning Act]*
    - achieving good design *[S39 of P&CP Act, as amended by S183 of 2008 Planning Act]*

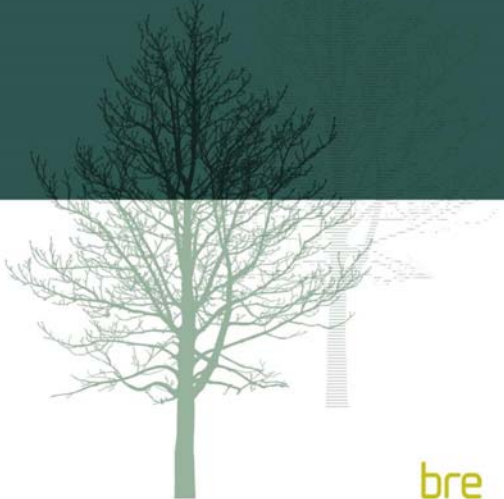


### Take account of the wider context



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## BREEAM and the Code for Sustainable Homes



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### BREEAM/CSH Aims

- Design sustainability into the building
- Lower social/environmental/economic impact
- Solutions that last
- Improved energy efficiency, water use health and wellbeing, materials, longevity, management
- Recognise quality design, procurement and management of the built environment



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### BREEAM & Code for Sustainable Homes

- Two stage certification process
  - Design stage
  - Post construction
- Minimum standards

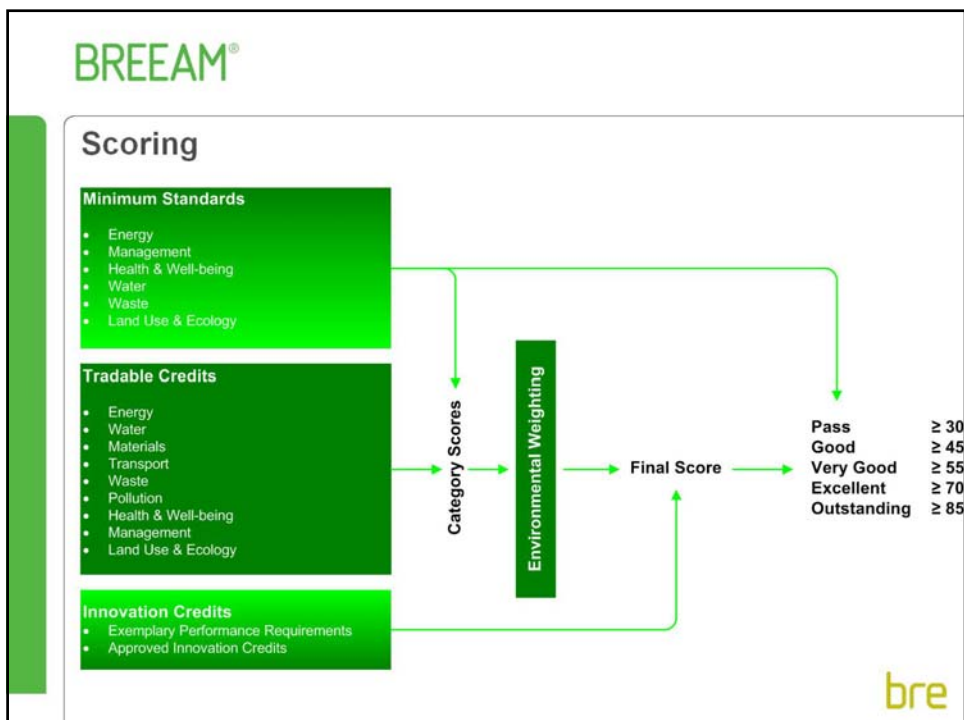


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### BREEAM Principles

- Voluntary, independent assessment and certification scheme
- Deliver sustainable solutions
- Balanced framework
- Based on sound science
- Deliver value to the occupant





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### Code for Sustainable Homes

- CLG-owned scheme for assessing domestic buildings
- BRE Global act as technical advisors and main service provider (2 other providers in addition)
- Works in same way as BREEAM
  - Categories broadly the same
  - Levels 1-6



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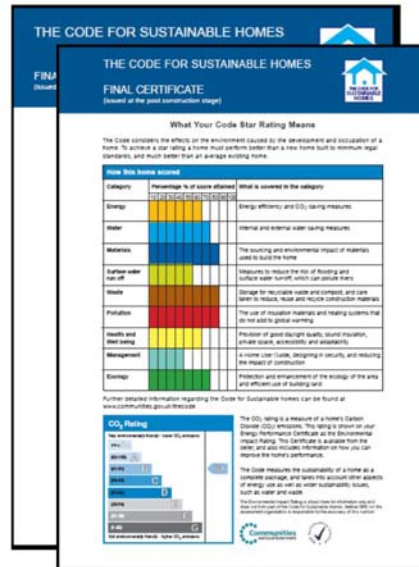
### Example of standard: Code for Sustainable Homes: Wat 1 – Indoor water use

Water consumption (litres / person / day)	Credits	Mandatory Levels
≤120 l/p/day	1	Level 1 and 2
≤110 l/p/day	2	
≤105 l/p/day	3	Level 3 and 4
≤90 l/p/day	4	
≤80 l/p/day	5	Level 5 and 6

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## Certificate

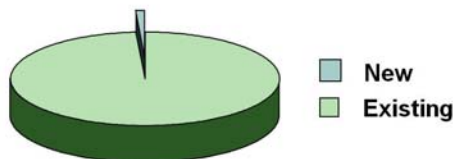
- Certificate presents:
  - Details of the development
  - Overall rating and score
  - Breakdown of score by category
  - EPC CO<sub>2</sub> rating

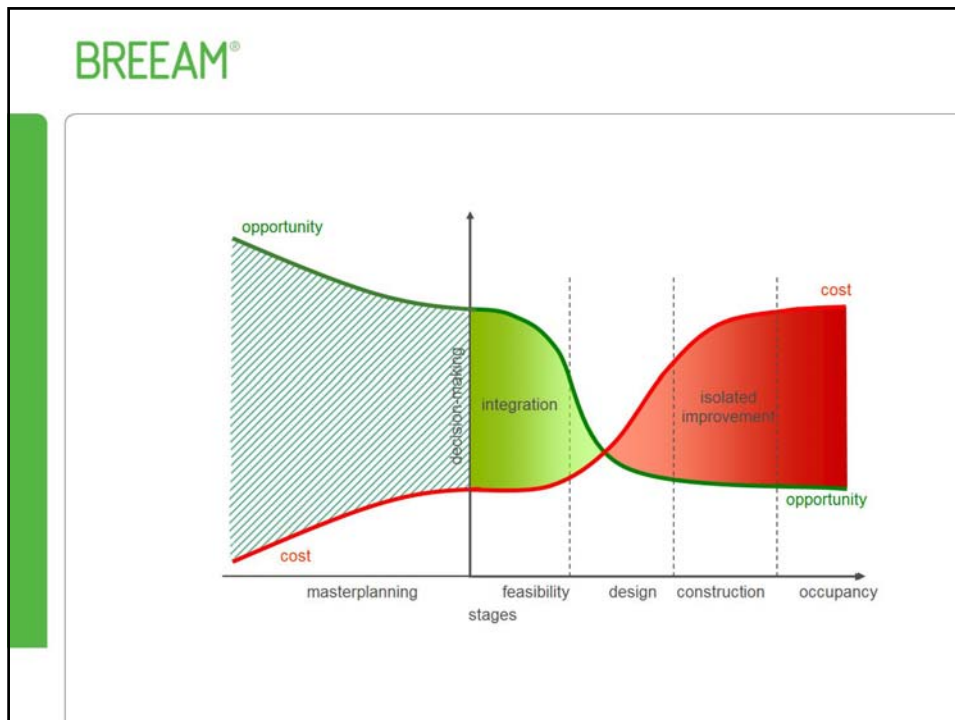


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## Other BREEAM schemes

- BREEAM Communities
  - Neighbourhood planning
  - Master planning
- Existing Buildings
  - BREEAM Domestic Refurbishment
  - BREEAM-In-Use





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**Links to the 'core planning principles' in the NPPF**

Core planning principles	BREEAM Communities 2012
Empower local people to shape their surroundings	Governance category
Drive sustainable economic development	SE 01 – Economic impact SE 17 – Labour and skills
Meet housing, business and development needs	SE 05 – Housing provision SE 06 – Delivery of services, facilities and amenities
High quality design	GO 03 – Design review
Mitigate against and adapt to climate change	Resources and energy category SE 10 – Adapting to climate change



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### Links to the 'core planning principles' in the NPPF (cont.)

Core planning principles	BREEAM Communities 2012
Conserve and enhance environment	Land use and ecology category
Re use land	LE 02 – Land use
Promote mixed use developments	Transport and movement category
Conserve heritage assets	GO 01 – Consultation plan SE 14 – Local vernacular
Make fullest possible use of sustainable transport	Transport and movement category
Support local strategies to improve health, social and cultural wellbeing	Social and economic wellbeing category

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### BREEAM Communities Assessor:

*“For us, BREEAM Communities is the optimal tool for collaboration between authorities and developer. At the same time it provides the ability to assess a wide range of sustainability issues within the same project. I would recommend all developments undergo such a process.”*

Anders Nilsson, White Architects, on using BREEAM Communities for Masthusen, Sweden

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### Stuart Rimmer, Construction Manager with the Peel Group on BREEAM Communities...

- “It gives us confidence that we are designing and constructing sustainably
  
- It gives our clients and tenants confidence that the green credentials claimed for our developments are accurate.”




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### Local planning authority benefits

- DM officers don't need to be experts in specialist areas
- Could fill policy gaps left by the NPPF
- Reassurance that the development has undergone a credible and transparent process to assess sustainability
- Tool to focus negotiations or pre-application discussions

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## Policy Development




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## National Framework

- “To support the move to a low carbon future, local planning authorities should...
  - when setting any local requirement for a building’s sustainability, do so in a way consistent with the Government’s zero carbon buildings policy and adopt nationally described standards.”



NPPF Paragraph 95



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### Inspector's report on West Berkshire Core Strategy 3 July 2012

- NPPF *requires* local authorities to adopt proactive strategies to mitigate and adapt to climate change.
- Additional cost burden unlikely to be substantial.
- On balance, in light of the changed national guidance, policy is sound.

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### West Berkshire Core Strategy, adopted 6 July 2012

- Policy CS 15 (Sustainable Construction and Energy Efficiency)
- Residential Development
- New residential development will meet the following minimum standards of construction:
  - Minor development - Code for Sustainable Homes Level 3
  - Major development (over 10 dwellings or 0.5 ha.) - Code for Sustainable Homes Level 4
  - From 2013: All development - Code for Sustainable Homes Level 4
  - From 2016: All development - Code for Sustainable Homes Level 6

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### West Berkshire Core Strategy (continued)

- **Non-Residential Development**
- New non-residential development will meet the following minimum standards of construction:
  - Minor development - BREEAM Very Good
  - Major development - BREEAM Excellent
  - From 2013: All development - BREEAM Excellent

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### Case Study - North Northamptonshire

- *“Residential units to be delivered 2008-2012 will meet the Code for Sustainable Homes (CSH) Level 3 as a minimum; those delivered 2013-2015 will meet the CSH Code Level 4 as a minimum; and those delivered from 2016 onwards will meet the CSH Code Level 6 as a minimum.”*

North Northamptonshire Joint Planning Unit,  
Adopted Core Strategy Policy 14

North Northamptonshire  
Joint Planning Unit

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### Case Study – Stockton on Tees

- *All new non-residential developments will be completed to a Building Research Establishment Environmental Assessment Method (BREEAM) of 'very good' up to 2013 and thereafter a minimum rating of 'excellent'.*

Stockton on Tees Borough Council  
Core Strategy Policy 3  
Adopted March 2010



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### Case Study – London Borough of Sutton development management DPD (adopted March 2012)

- all new residential developments to achieve Code level 4 from 2011
- all residential conversions and changes of use, where appropriate, to achieve BREEAM Eco-Homes (or equivalent) 'very good' from 2011 and 'excellent' from 2014
- all major nonresidential developments to achieve BREEAM (or equivalent) rating of 'excellent' from 2011 and 'outstanding' from 2017
- *"The measures are comprehensive and focused. The targets set out in the policies are in line with the CS's objectives to secure the highest standards of sustainable design and carbon reduction. The policies as proposed for change are sound."*
- *Inspector's report 3 November 2011*

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### Local plan example – Bristol City Council

“In the case of a super-major development, a BREEAM for Communities assessment will be required.”

Adopted Core Strategy (June 2011), Policy BCS15 (extract)



Image: Cathedral City Guide

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### Bristol's experience with BREEAM Communities

‘We moved from using our own sustainability checklist to requiring BREEAM...because we wanted to make use of nationally recognised standards in line with the National Planning Policy Framework.’

‘Our own checklist made it difficult for DM officers to be clear on what the development was actually going to do. The national standards ensure that the development has undergone a credible and transparent process to assess sustainability.’

Celia Beeson of Bristol City Council



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### Eastleigh Borough Draft Local Plan, August 2012

- All developments over 100 dwellings or 10,000 sq. m. - BREEAM Communities 'excellent' required



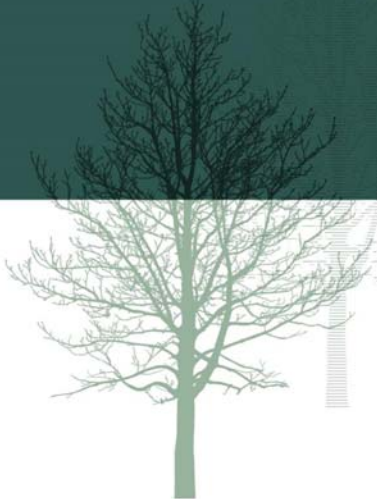
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### Further information

- Brief presentation on BREEAM and the Code for Sustainable Homes and their use in the planning system at <http://www.breeam.org/page.jsp?id=312>
- For more on BREEAM Communities including a 5 minute introductory video <http://www.breeam.org/page.jsp?id=372>
- BREEAM and local planning <http://www.breeam.org/page.jsp?id=268>
  - Examples of local plan policies, conditions and appeal decisions
    - – contributions welcome
- Contact: [cousin@bre.co.uk](mailto:cousin@bre.co.uk)

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**BREEAM and Code developments in practice**



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**BRE Innovation Park**



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Newport High School – BREEAM Excellent



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Five Pancras Square, London – BREEAM Outstanding



BREEAM®

10-12 Downing Street, London



**BREEAM®**

**Ceredigion County Council Offices – BREEAM Excellent**



**BREEAM®**

**White River Place, St Austell – BREEAM Excellent**



# BREEAM® Rethinking refurbishment



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External v Internal Insulation



BREEAM®

Victorian Terrace



BREEAM®

Victorian Terrace

