



# BREEAM and CEEQUAL

for infrastructure

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CONSTRUCTION  
CLIMATE  
CHALLENGE™

**VOLVO**

# Meeting challenges in a changing world



- Reduced whole life cost
- Reduced resource use
- Improved health and safety
- Improved project certainty
- Adaptation to climate
- Resilient and durable assets
- Best practice delivery and world class projects



# BREEAM and CEEQUAL infrastructure

- BREEAM has recently developed an environmental and sustainability rating scheme for infrastructure
- Currently piloting this with HS2, Thames Tideway and others
- CEEQUAL is well known as an environmental awards scheme for civil engineering project teams
- Strong industry preference for one rather than two schemes
- Develop the shared ambition to bring together two successful sustainability rating schemes – BREEAM and CEEQUAL
- In 2018 this will be the next version of the current CEEQUAL v5.2 and BREEAM Infrastructure pilot
- Support of the ICE and industry
- Secure CEEQUAL's continued success and ongoing legacy



# BREEAM and CEEQUAL

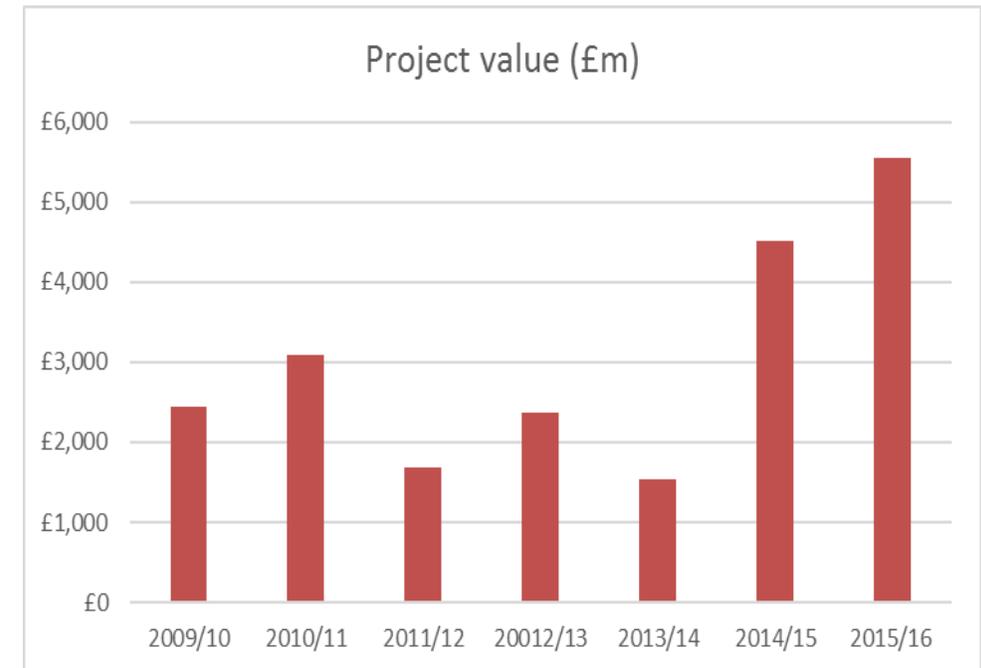


- Strongly promote CEEQUAL
- Support existing and new customers
- Continue the BREEAM Infrastructure pilot
- Develop a new version (best of both)
- CEEQUAL legacy



# CEEQUAL, growing with BRE

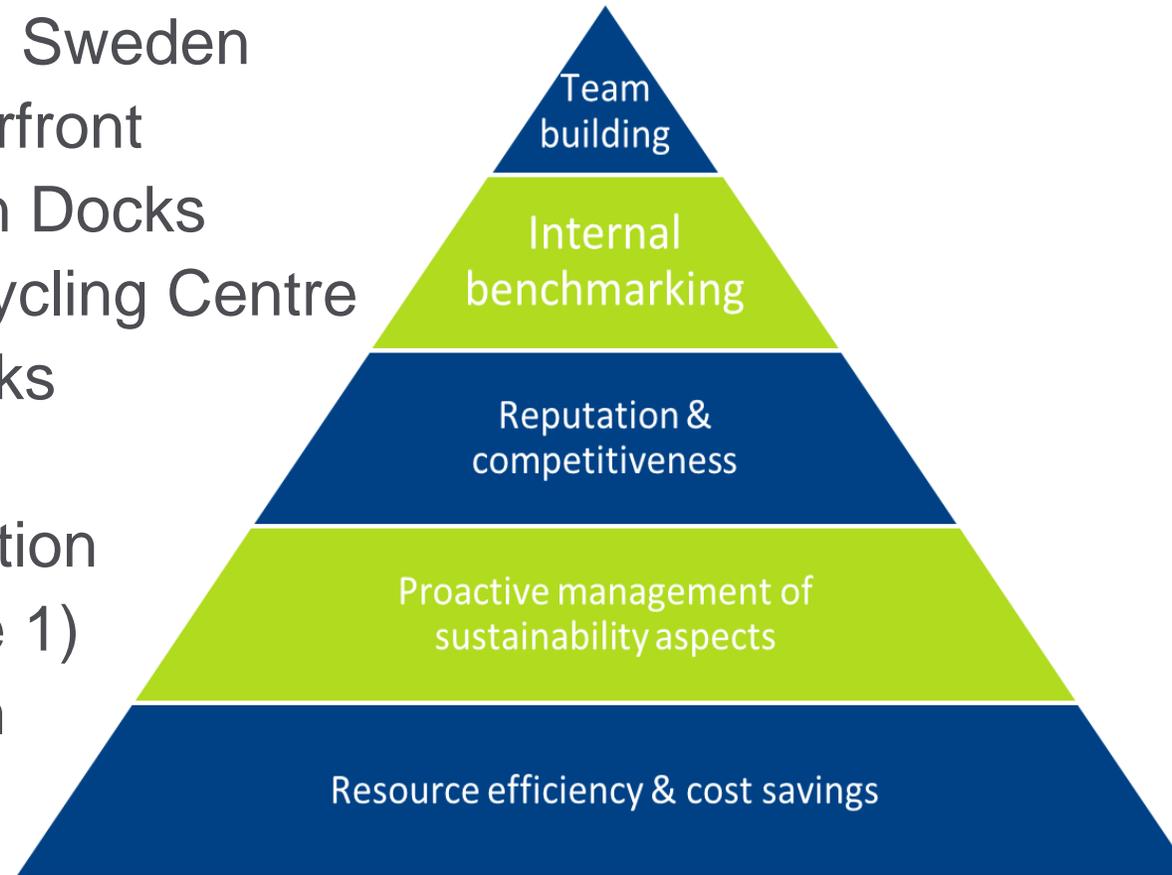
- Established UK scheme for civil engineering, infrastructure, landscaping and public realm
- Launched in 2004, used on more than 644 projects
- UK and international (Sweden, Norway, Hong Kong and Qatar)
- Discussions in China, Korea, Malaysia, Finland
- New projects include:
  - West Midlands Metro
  - Belfast Transport Hub
  - Manchester Metrolink
  - Maintenance area: Arlanda airport, Stockholm
  - Storås river power station (Norway)
  - Northern line extension
  - Boston Barrier tidal project
  - Mälarpjektet (Sweden)



# Celebrating the difference made to projects...



- Highway E4, Rotebro, Sweden
- Dundee Central Waterfront
- Port of Dover Western Docks
- Old Swan Waste Recycling Centre
- Crossrail Surface works
- Merevale AD plant
- Hitchin Grade Separation
- Grey to Green (Phase 1)
- Oasis Project, Omagh



# Encouraging carbon saving...



## BREEAM Infrastructure:

- Early whole life screening of carbon (or LCA) impacts
- Set strategic objectives (targets)
- Detailed carbon footprint (or LCA) - rewarding implementing recommendations
- Detailed review of carbon on site and monitoring
- Detailed review of operational carbon
- Reporting of energy and carbon impacts by asset capacity
- *All involving qualified carbon practitioner*
- *Future alignment with PAS2080*

## CEEQUAL:

- Set strategic policies and targets for carbon
- Full LCA or carbon footprint for project
- Implementing the reductions identified in the LCA – rewarded
- Focus on design and construction process and operation
- Carbon in the context of whole life of the project



Type of Asset	Carbon Footprint		Energy		Other		Overall Score
	Cradle to Gate	Cradle to Grave	Cradle to Gate	Cradle to Grave	Cradle to Gate	Cradle to Grave	
Cradle to Gate	M	M	M	M	M	M	0
Cradle to Grave	M	M	M	M	M	M	0
Overall	M	M	M	M	M	M	0

Upgrading information is mandatory  
Or providing information is optional

**ID06**  
Whole life environmental impacts



# Blackfriars Bridge & Station Refurbishment

Winner of a CEEQUAL Outstanding Achievement Award 2013 for Energy & Carbon



## Whole Project with Interim Award

### Project Team

**Client:** Network Rail

**Design:** Jacobs Engineering, Tony Gee & Partners

**Construction:** Balfour Beatty Civil Engineering Ltd



CEEQUAL helped the project to **both measure and drive performance** ... all three organisations were **challenged** in the areas of carbon and material use as a key aspect of the projects nine sustainability objectives. This was delivered by:

- PV roof canopy, saving 550 tonnes CO<sub>2</sub> per year
- 14,000 tonnes of materials were bought to site and 8,000 tonnes removed via barge

As a result, for the next and final phase of the Thameslink programme, **new targets and objectives** have been established to build on these achievements.



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# Olympic Park North Park Structures, Bridges and Highways (SBH Lot 1)

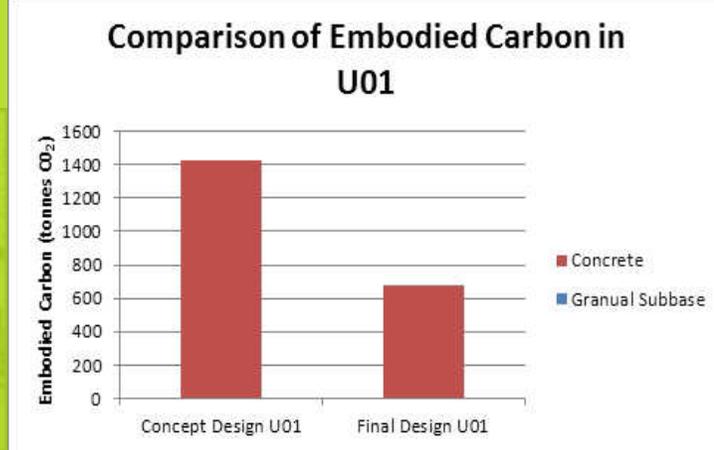
Highly Commended CEEQUAL Outstanding Achievement Award 2013 for Energy & Carbon



## Whole Project Award

Project Team  
Client: [Olympic Delivery Authority](#)  
Designer: [Atkins](#)  
Construction: [Skanska](#)  
Artist: [Martin Richman](#)  
Lighting: [Atkins](#)  
Bridge architect: [Allies and Morrison](#)

- 50% carbon reduction from concept to final design of the underpass U01
  - 9% carbon reduction in the loop road redesign
  - 26% carbon reduction as a result of the bridge optimisation through material selection and a reduction in the number of bridges
  - 90% carbon reduction of the kerb selection
  - Direct carbon dioxide (CO<sub>2</sub>) emissions reduced by 50% and cost savings of 12% achieved
- The Project Team demonstrated very clearly how consideration of the embodied energy and carbon management of materials should be incorporated into project decision making. They provided an approach that all can follow in the future.



# Why use a rating scheme?

- Third party validation of sustainable credentials
- Framework to drive and influence sustainability throughout the project's design and construction
- Focus on the sustainable performance of an asset
- Create value and help manage risk and reduce obsolescence
- Benchmark against other international projects through consistency of approach



**Improve the  
environmental quality  
of civil  
engineering**



# Thank you...

