



Colt Data Centre

BREEAM Pre-Assessment Summary Report

Pre-assessment

Uncontrolled revision

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1.0 Introduction

This report is intended as a summary of the BREEAM pre-assessment review for the following project:

Project Name	Colt Data Centre
BREEAM Version	BREEAM 2010 - Data Centres v1.1
Assessment Stage	Pre-Assessment Stage
Lead Assessor	Scott Wilson
Target Rating	Very Good (55%)
Downloaded By	Scott Wilson
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2.0 Scoring scenarios

It should be noted that the pre-assessment scores have been based on the following scoring scenarios;

- Very Good - Credits required for BREEAM very good.
- Intermediate - Excellent scenario if high risk credits are lost.
- Excellent - Target Scenario.

On this basis, the following scores are considered achievable under each scenario;

Scenario	Score	BREEAM Rating
Very Good	67.86	Very Good
Intermediate	74.69	Excellent
Excellent	80.74	Excellent

2.1 Minimum Standards

In addition performance against the minimum standards (required for the specified target rating) under each scenario is summarised below;

Issue	Very Good	Intermediate	Excellent
Man 1 - Commissioning	✓	✓	✓
Man 2 - Considerate Constructors	✓	✓	✓
Man 4 - Building User Guide	✓	✓	✓
Hea 4 - High Frequency Lighting	✓	✓	✓
Hea 12 - Microbial Contamination	✓	✓	✓
Ene 1 - Reduction of CO ₂ Emissions	✓	✓	✓
Ene 2 - Sub-metering of Substantial Energy Uses	✓	✓	✓
Ene 5 - Low or Zero Carbon Technologies	✓	✓	✓
Wat 1 - Water Consumption	✓	✓	✓
Wat 2 - Water Meter	✓	✓	✓
Wst 3 - Recyclable Waste Storage	✓	✓	✓
LE 4 - Mitigating Ecological Impact	✓	✓	✓

If the required minimum standards are not met then the target rating will not be achieved regardless of overall score.

3.0 - Credits and Comments Table

	Available	Very Good	Intermediate	Excellent	Comments	
Management						
Man 1	Commissioning	2	2	2	2	The first credit is mandatory to achieve BREEAM Excellent. Appointment of Specialist Commissioning Manager.
Man 2	Considerate Constructors	2	2	2	2	Low risk but credit may be missed if the contractor does not achieve the required Considerate Constructors Scheme score.
Man 3	Construction Site Impacts	4	4	4	4	Construction sites are managed in an environmentally sound manner in terms of resource use, energy consumption, and pollution.
Man 4	Building User Guide	1	1	1	1	Credit is mandatory to achieve BREEAM Excellent
Man 8	Security	1	1	1	1	Consultation with the Local police architectural Liaison Officer (ALO) or Crime Prevention Design Officer (CPDA) on designing out the opportunity has been undertaken by RIBA stage 2.
Man 12	Life Cycle Costing	2	2	2	2	A Life-Cycle Cost (LCC) analysis has been carried out.
Management Totals: (+exemplary)		12	12	12	12	
Management score totals:		12.5	12.5	12.5	12.5	
Health & Wellbeing						
Hea 1	Daylighting	1	0	0	1	At least 80% of the net lettable office floor area is adequately daylighted.
Hea 2	View Out	1	1	1	1	The relevant building areas are within 7m distance of a wall with a window or permanent opening providing an adequate view out.
Hea 3	Glare Control	1	1	1	1	An occupant-controlled shading system on all windows, glazed doors, and roof lights in all relevant building areas.
Hea 4	High Frequency Lighting	1	1	1	1	Credit is mandatory to achieve BREEAM Excellent
Hea 5	Internal and External Lighting Levels	1	1	1	1	<p>Illuminance (lux) levels in all internal areas of the building are specified in accordance with the CIBSE Code for Lighting</p> <p>Illuminance levels for lighting in all external areas within the construction zone are specified in accordance with CIBSE Lighting Guide 6, 'The outdoor environment'.</p>
Hea 6	Lighting Zones and Controls	1	0	0	0	Credit not targeted.
Hea 7	Potential for Natural Ventilation	1	0	0	0	Credit not targeted.
Hea 8	Indoor Air Quality	1	0	0	0	Credit not targeted.
Hea 9	Volatile Organic Compounds	1	1	1	1	The products detailed below (where specified) have been tested against and meet the relevant standards for Volatile Organic Compound (VOC) emissions.
Hea 10	Thermal Comfort	1	1	1	1	<p>Thermal modelling has been carried out using software selected and applied in accordance with CIBSE AM11</p> <p>The modelling demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A</p>

Hea 11	Thermal Zoning	1	1	1	1	The heating/cooling system is designed to allow occupant control of zoned areas within all occupied spaces in the building. The zoning allows separate occupant control (within the occupied space) of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls).
Hea 12	Microbial Contamination	1	1	1	1	Credit is mandatory to achieve BREEAM Excellent
Hea 13	Acoustic Performance	1	1	1	1	Suitably Qualified Acoustician appointment required.
Health & Wellbeing Totals: (+exemplary)		13	9	9	10	
Health & Wellbeing score totals:		10.5	7.27	7.27	8.08	
Energy						
Ene 1	Reduction of CO ₂ Emissions	15	8	8	9	6 credits are mandatory to achieve BREEAM Excellent Extra Credits may be possible depending on the EPC performance. Accredited energy assessor appointment.
Ene 2	Sub-metering of Substantial Energy Uses	2	2	2	2	Credit is mandatory to achieve BREEAM Excellent
Ene 4	External Lighting	1	1	1	1	All external light fittings for the building, access ways, and pathways have a luminous efficacy of 60 lamp Lumens/circuit Watt when the lamp has a colour rendering index (Ra) less than 60. All external light fittings to car parking areas, associated roads and floodlighting has a luminous efficacy of at least 70 lamp lumens/circuit Watt when the lamp has a colour rendering index (Ra) greater than or equal to 60.
Ene 5	Low or Zero Carbon Technologies	3	1	2	3	Credit is mandatory to achieve BREEAM Excellent. A feasibility study shall be carried out by an energy specialist to establish the most appropriate LZC energy source and the recommendations of the report are implemented in the design. The study must be carried out by RIBA Stage 2.
Ene 8	Lifts	2	2	2	2	A BREEAM compliant transport demand is required. Typically the lift manufacturer can provide a BREEAM compliant report and specification
Ene 21	Transport CO ₂	3	2	2	2	A Travel Plan is produced for the development in accordance with the criteria of BREEAM issue Tra 5 One credit where 2 of the following are achieved; - Provision of public transport - Proximity to amenities - Cyclist facilities - Pedestrian & cyclist safety - Maximum car parking capacity
Ene 22	Procurement of Sustainable IT Equipment	2	2	2	2	Where IT Equipment integral to the design and operation of the inherent building systems e.g. UPS systems, Generators, Cooling, BMS/EMS, etc), is procured in accordance with the 'EU Code of Conduct on Data Centres' Best practice supplement version 2 Where IT Equipment, for the running and operation of the building (servers, racks, etc) once constructed and in use is procured in accordance with the 'EU Code of Conduct on Data Centres' Best practice supplement version 2

Energy Totals: (+exemplary)		28	18	19	21	
Energy score totals:		39.5	25.39	26.8	29.63	
Transport						
Tra 1	Provision of Public Transport	3	0	0	0	Include accessibility Index if site-specific transport assessment is carried out/travel plan is produced.
Tra 2	Proximity to Amenities	1	0	0	0	Credits challenging to achieve due to site location.
Tra 3	Cyclist Facilities	2	1	2	2	Provide compliant cycle storage spaces and facilities.
Tra 4	Pedestrian and Cyclist Safety	1	0	0	1	Credit challenging to achieve.
Tra 5	Travel Plan	1	1	1	1	Site specif travel plan/transport assessment required.
Tra 6	Maximum Car Parking Capacity	2	0	0	0	No credits can be awarded due to the high number of car parking spaces provided.
Transport Totals: (+exemplary)		10	2	3	4	
Transport score totals:		5.5	1.1	1.65	2.2	
Water						
Wat 1	Water Consumption	3	3	3	3	1 Credit is mandatory to achieve BREEAM Excellent
Wat 2	Water Meter	1	1	1	1	Credit is mandatory to achieve BREEAM Excellent
Wat 3	Major Leak Detection	1	1	1	1	A leak detection system capable of detecting major leaks on the water supply has been installed.
Wat 4	Sanitary Supply Shut Off	1	1	1	1	Solenoid valves are installed on the water supply to each toilet area in the building and the flow of water through that supply is controlled by a link to either: - Infra-red movement detectors within each toilet facility OR - Sensors or switches placed at or on entry doors to each facility.
Wat 5	Water Recycling	1	0	1	1	Water recycling strategies has been implemented.
Wat 6	Irrigation Systems	1	0	1	1	Where the irrigation method is specified for internal or external planting and/or landscaping, provide one of the options listed in the manual.
Water Totals: (+exemplary)		8	6	8	8	
Water score totals:		9	6.75	9	9	
Materials						
Mat 1	Materials Specification	6	4	4	5	A higher proportion of materials shall be specified with a green guide rating of A or A+.
Mat 2	Hard Landscaping and Boundary Protection	1	1	1	1	At least 80% of all external hard landscaping and boundary protection (by area) achieves an A or A+ rating, as defined in the Green Guide to Specification.
Mat 3	Reuse of Building Facade	1	0	0	0	Credit not targeted.
Mat 4	Reuse of Building Structure	1	0	0	0	Credit not targeted.
Mat 5	Responsible Sourcing of Materials	3	2	2	3	Examples of responsibly sourced schemes are : - Forestry Stewardship Council - Environmental Management Systems (EMS) such as ISO 14001 - BES6001

Mat 6	Insulation	2	1	2	2	Specify green guide-rated insulation. Insulation Index for the building insulation is the same as or greater than 2. At least 80% of the thermal insulation used in the building elements must be responsibly sourced
Mat 7	Designing for Robustness	1	1	1	1	Suitable durability and protection measures or design features have been specified to prevent damage to the vulnerable parts of these building areas from such traffic.
Materials Totals: (+exemplary)		15	9	10	12	
Materials score totals:		7.5	4.5	5	6	
Waste						
Wst 1	Construction Site Waste Management	4	3	3	3	A pre-demolition audit is required. The requirements can be onerous and ambition targets are often not achieved. The contractor should reference achieved outcomes from their previous projects to determine if they believe the targets are achievable.
Wst 2	Recycled Aggregates	1	1	1	1	The amount of recycled and secondary aggregate specified is over 25% (by weight or volume) of the total high-grade aggregate uses for the building.
Wst 3	Recyclable Waste Storage	1	1	1	1	Credit is mandatory to achieve BREEAM Excellent
Wst 4	Compactor / Baler	1	0	0	0	Credit not targeted.
Waste Totals: (+exemplary)		7	5	5	5	
Waste score totals:		5	3.57	3.57	3.57	
Land Use & Ecology						
LE 1	Reuse of Land	1	1	1	1	At least 75% of the proposed development's footprint is on an area of land which has previously been developed for use by industrial, commercial, or domestic purposes in the last 50 years.
LE 2	Contaminated Land	1	0	1	1	A contaminated land specialist's site investigation, risk assessment, and an appraisal are required. Remediation of the site shall be carried out.
LE 3	Ecological Value of Site and Protection of Ecological Features	1	1	1	1	A suitably qualified ecologist shall be appointed to carry out surveys, produce site-specific ecological reports, ecology calculator, etc.
LE 4	Mitigating Ecological Impact	2	1	1	2	1 Credit is mandatory to achieve BREEAM Excellent
LE 5	Enhancing Site Ecology	3	1	1	2	A suitably qualified ecologist (SQE) has been appointed to report on enhancing and protecting the ecology of the site. The recommendations of the Ecology Report for enhancement and protection of site ecology have been implemented, and the suitably qualified ecologist confirms that this will result in an increase in the ecological value of the site of 6 plant species or greater.

LE 6	Long Term Impact on Biodiversity	2	1	1	1	The contractor nominates a 'Biodiversity Champion' with the authority to influence site activities and ensure that detrimental impacts on on-site biodiversity are minimised in line with the recommendations of a suitably qualified ecologist. The contractor trains the site workforce on how to protect site ecology during the project. The contractor records actions taken to protect biodiversity and monitor their effectiveness throughout key stages of construction. A new ecologically valuable habitat, appropriate to the local area, is created. Where flora and/or fauna habitats exist on site, the contractor programmes site works to minimise disturbance to wildlife.
Land Use & Ecology Totals: (+exemplary)		10	5	6	8	
Land Use & Ecology score totals:		0	0	0	0	
Pollution						
Pol 1	Refrigerant GWP Building Services	1	0	0	0	Credit not targeted - potential credit for more points.
Pol 2	Preventing Refrigerant Leaks	2	0	2	2	Provide BREEAM compliant refrigerant leak detection system.
Pol 4	NOx Emissions from Heating Source	2	2	2	2	Heating and hot water are provided by all-electric systems.
Pol 5	Flood Risk	3	2	2	2	A site-specific Flood Risk Assessment (FRA) is required.
Pol 6	Minimising Watercourse Pollution	1	1	1	1	Where flora and/or fauna habitats exist on-site, the contractor programmes site works to minimise disturbance to wildlife. Specification of oil/petrol separators (or equivalent system) in surface water drainage systems. All water pollution prevention systems have been designed and detailed in accordance with the recommendations of Pollution Prevention Guideline 3 and where applicable the SUDS manual. A comprehensive and up-to-date drainage plan of the site will be made available for the building/site occupiers.
Pol 7	Reduction of Night Time Light Pollution	1	1	1	1	The external lighting strategy has been designed in compliance with Table 1 (and its accompanying notes) of the ILE Guidance notes for the reduction of obtrusive light. All external lighting (except for safety and security lighting) can be automatically switched off between 2300hrs and 0700hrs. If safety or security lighting is provided and will be used between 2300hrs and 0700hrs, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 1 of the ILE's Guidance notes. Illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 - The Brightness of Illuminated Advertisements.
Pol 8	Noise Attenuation	1	1	1	1	The noise impact assessment must be carried out by a suitably qualified acoustic consultant - if noise-sensitive areas or buildings in the locality of the assessed development.
Pollution Totals: (+exemplary)		11	7	9	9	
Pollution score totals:		10.5	6.68	8.59	8.59	
Innovation						
Bap 1	BREEAM AP	2	0	0	0	
Man 2	Considerate Constructors	1	0	0	0	

Hea 1	Daylighting	1	0	0	0	
Hea 14	Office Space (BREEAM Retail & Industrial Schemes)	1	0	0	0	
Ene 1	Reduction of CO2 Emissions	2	0	0	0	
Ene 5	Low or Zero Carbon Technologies	1	0	0	0	
Wat 2	Water Meter	1	1	1	1	
Mat 1	Materials Specification	1	0	0	0	
Mat 5	Responsible Sourcing of Materials	1	0	0	0	
Wst 1	Construction Site Waste Management	1	0	0	0	
Wat1	Water Consumption	1	0	0	0	
AI	Approved Innovation	2	0	0	0	
Innovation Totals: (+exemplary)		15	1	1	1	
Innovation score totals:		15	1	1	1	
OVERALL SCORE TOTALS:		115	68.77	75.39	80.56	