



## BREEAM 2009 VS. BREEAM 2013 VS. BREEAM 2016 COMPARATIVE TABLE OF CRITERIA

MANAGEMENT						
BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credit Summary
<span style="color: red;">M</span> Commissioning	2 credits 1 minimum standard for excellent and 2 for outstanding	<span style="color: red;">M</span> Sustainable procurement	8 credits residential; 9 credits commercial +1 additional for innovation; 1 minimum standard for excellent and 2 for outstanding	Project Brief and Design	4 credits	Stakeholder consultation covering project delivery and relevant third parties. Sustainability champion appointed to facilitate the setting, monitoring and achievement of BREEAM performance targets for the project.
<span style="color: red;">M</span> Constructor's Environmental & Social Code of Conduct	2 credits	<span style="color: red;">M</span> Responsible construction practices	2 credits + additional for innovation; 1 minimum standard for excellent and 2 for outstanding	<span style="color: red;">P</span> <span style="color: red;">M</span> Responsible construction practices	6 credits	Environmental management practices and consideration for neighbours across their activities on site. Site related energy, water and transport impacts are monitored.
<span style="color: red;">M</span> Construction Site Impacts	4 credits +1 additional for innovation; 1 minimum standard for excellent and 2 for outstanding	Construction Site impacts	5 credits	<span style="color: red;">M</span> Commissioning and handover	4 credits	Appropriate testing and commissioning of all building services systems and building fabric in line with best practice. Non-technical building user guide and user training or operator training timed appropriately around handover and proposed occupation.
<span style="color: red;">M</span> Building User Guide	1 credit; 1 minimum standard for good and above	<span style="color: red;">M</span> Stakeholder participation	4 credits commercial; 5 credits residential; 1 minimum standard (Building user Guide for good and above)	<span style="color: red;">M</span> Aftercare	3 credits	Provision of aftercare support to the building occupiers. Seasonal commissioning activities . Carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings
Life Cycle Cost Analysis	2 credits	Life cycle cost and service life planning	3 credits	Life cycle cost and service life planning	4 credits	Encouraging the use of life cycle costing and service life planning and the sharing of data to raise awareness and understanding.

  

HEALTH AND WELLBEING						
BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credit Summary
Access to daylight	1 credit + 1 additional for innovation	<span style="color: red;">P</span> <span style="color: red;">M</span> Visual comfort  Pre-requisite (all fluorescent and compact fluorescent lamps are fitted with high frequency ballasts or the building is exclusively fitted with LED lighting):  4 credits commercial;  6 residential;		<span style="color: red;">P</span> <span style="color: red;">M</span> Visual comfort	Up to 6 credits	View out
Glare control	1 credit					The potential for disabling glare has been designed out of all relevant building areas.
<span style="color: red;">M</span> High frequency lighting	1 credit					Good practice daylighting levels adequate view out to reduce eye strain and provide a link to the outside.
Internal and external lighting levels	1 credit					Internal and external lighting systems provide appropriate illuminance (lux) levels.
Lighting zones and controls	1 credit					Internal lighting is zoned
Potential for Natural Ventilation	1 credit	<span style="color: red;">P</span> <span style="color: red;">M</span> Indoor Air Quality  Pre-requisite (materials containing asbestos are prohibited); 4 credits;		<span style="color: red;">P</span> Indoor Air Quality	5 credits	Indoor Air Quality
Indoor Air Quality	1 credit					Minimising sources of air pollution Building ventilation strategy is designed to be flexible
Volatile Organic Compounds	1 credit					

Thermal Comfort	1-2 credits	Thermal comfort	2 credits;	Thermal comfort	3 credits;	Thermal modelling carried out Projected climate change scenarios The thermal modelling analysis has informed the temperature
Thermal Zoning	1 credit					
Microbial Contamination	1 credit	<b>M</b> Water quality	1 credit; 1 minimum standard (about Legionellosis) for all certification levels;	<b>P</b> Water quality	1 credit;	Reduction of water contamination risk provision of clean fresh sources of water.
Acoustic Performance	1 credit	Acoustic performance	Pre-requisite (a suitably qualified acoustician is appointed); 2 credits commercial; 4 credits residential;	Acoustic performance	Up to 4 credits	acoustic performance standards and testing requirements in terms of: Sound insulation, Indoor ambient noise levels & Reverberation times.
		Safe access	1 credit	Accessibility	2 credits	effective measures which support safe access to and from the building. Security needs are understood and taken into account
		Hazards	1 credit	Hazards	1 credit	Risk assessment for natural hazards that may affect the building
		Private space	1 credit, residential only	Private space	1 credit, residential only	Provision of outdoor space which gives privacy
<b>Office space</b>	2 credits, retail and industrial only	<b>Issue removed</b>		<b>Issue removed</b>		
				<b>Safe containment in laboratories - new issue</b>	2 credits	risk assessment of the proposed laboratory facilities.

## ENERGY

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 <small>NEW!</small>		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary
<b>M</b> Energy efficiency	15 credits;  6 minimum standards for excellent and 10 for outstanding	<b>M</b> Energy efficiency	15 credits + 5 additional for innovation  6 minimum standards for excellent and 10 for outstanding	<b>M</b> Reduction of energy use and carbon emissions	15 credits	Energy performance of the building above national building regulations Reduce energy demand through building design and systems specification.
<b>M</b> Sub-metering of Substantial Energy Uses	1 credit;  1 minimum standard for good and up	<b>M</b> Energy monitoring	2 credits;  1 minimum standard for very good and up	<b>M</b> Energy monitoring	4 credits	Energy metering systems are installed to enable energy consumption to be assigned to end uses.  Specification of energy display devices.
Sub-metering of High energy Load and Tenancy Areas	1 credit					
External Lighting	1 credit	External lighting	1 credit	External lighting	1 credit	Energy efficient light fittings for external areas
<b>M</b> Low or Zero Carbon Technologies	3 credits +1 additional for innovation; 1 minimum standard for excellent and up	<b>M</b> Low and zero carbon technologies	2 credits;  1 minimum standard for very good and up	Lowcarbon design	3 credits	Identify opportunities for and encourage the adoption of passive design solutions, including free cooling. Feasibility study for low or zero carbon (LZC) energy sources
Building fabric performance and avoidance of air infiltration	1 credit	In BREEAM 2013 part of this issue is included in Man01- Sustainable procurement				
Cold Storage	3 credits, retail and industrial only	Energy efficient cold storage	3 credits	Energy efficient cold storage	2 credits	The refrigeration system have been designed in accordance with appropriate best practice standards

Lifts	2 credits	Energy efficient transportation system	2 credits	Energy efficient transportation system	3 credits	Analysis of the transport demand to determine the optimum number and size of lifts, escalators or moving walks. Energy efficient installations are specified.
Escalators and travel walkways	1 credit					
		Energy efficient equipment	2 credits	Energy efficient equipment	2 credits	Identification of the building's unregulated energy-consuming loads Demonstrate a reduction in the total unregulated energy demand of the building.
		Drying space	1 credit, residential only	Drying space	1 credit, residential only	adequate internal or external space and equipment.
				Energy efficient laboratory systems- new issue	5 credits	determine occupant requirements and define laboratory performance criteria to optimise energy demand of the laboratory facilities. best practice energy efficient equipment and measures as appropriate.

### TRANSPORT

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits	Credits summary
Provision of Public Transport	2 credits- office and industrial; 4 credits- retail	Public transport accessibility   new measure: Accessibility Index (AI)	2 credits- buildings in rural location; 3 credits- office and industrial; 4 credits- residential; 5 credits- retail;	Public transport accessibility	Up to 5 credits	Recognition of developments in close proximity to good public transport networks
Proximity to amenities	1 credit	Proximity to amenities	1 credit commercial; 2 credits residential	Proximity to amenities	Up to 2 credits	Recognition of developments in close proximity of, and accessible to, local amenities
Alternative modes of transport	2 credits + 1 additional for innovation	Alternative modes of transport	2 credits + 1 additional for innovation	Alternative modes of transport	Up to 2 credits	facilities to encourage travel using low carbon modes of transport
Pedestrian and Cyclist Safety	1 credit- office and industrial; 2 credits- retail	In BREEAM 2013 part of this issue is included in Hea06- Safe access		In BREEAM 2016 part of this issue is included in Hea06- Safe access		
Maximum Car Parking Capacity	2 credits, doesn't include retail	Maximum Car Parking Capacity	2 credits, residential and retail are not included	Maximum Car Parking Capacity	Up to 2 credits	Recognition of developments that limit car parking capacity.
Travel Plan	1 credit	Travel Plan	1 credit	Travel Plan	1 credit	Site specific travel assessment or statement and developing a travel plan based on the needs of the particular site.
Deliveries and manoeuvring	1 credit, retail and industrial only	In BREEAM 2013 part of this issue is included in Hea06- Safe access		In BREEAM 2016 part of this issue is included in Hea06- Safe access		
Travel Information Points	1 credit- retail only	Issue removed		Issue removed		
				Home Office	1 credit	To provide space and services to work from home and reduce the need to commute to work.

### WATER

BREEAM Europe Commercial 2009	BREEAM International 2013	BREEAM International 2016 -NEW!
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Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary
<b>M</b> Water consumption	3 credits; 1 minimum for very good and excellent; 2 for outstanding;	<b>M</b> Water consumption	5 credits + 1 additional for innovation; 1 minimum standard for very good and excellent; 2 for outstanding;	<b>M</b> Water consumption	5 credits	Reducing the demand for potable water
<b>M</b> Water Meter	1 credit +1 additional for innovation; 1 minimum standard for excellent and above	<b>M</b> Water monitoring	1 credit; 1 minimum standard for good and above;	<b>M</b> Water monitoring	1 credit;	water meters on the mains water supply to encourage water consumption management
Major Leak Detection	1 credit	Water leak detection and prevention	2 credits	Water leak detection and prevention	3 credits	leak detection systems capable of detecting water leak
Sanitary Supply Shut off	1 credit					
Irrigation system	1 credit	Water efficient equipment	1 credit	Water efficient equipment	1 credit	reduction of building's water demand from uses other than domestic-scale drinking and sanitary
Vehicle Wash	1 credit, retail only					
Sustainable on-site water treatment	2 credits	Issue removed		Issue removed		

### MATERIALS

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW!		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary
Material Specification (Major Building Elements)	4 credits-retail and office; 2 credits- industrial; +1 additional for innovation;	Life cycle impacts	2 credits- industrial; 6 credits other buildings +1 additional for innovation	Life cycle impacts	Up to 6 credits	building's environmental life cycle impacts through assessment of the main building elements.
Hard Landscaping and Boundary Protection	1 credit					
Re-Use of Façade	1 credit	Issue removed		Issue removed		
Re-Use of structure	1 credit	Issue removed		Issue removed		
Responsible Sourcing of Materials	3 credits + 1 additional for innovation	<b>P</b> <b>M</b> Responsible sourcing of materials	Pre-requisite (Evidence that all timber used on the project is "Legally harvested and Legally traded timber" which is also a minimum standard for outstanding); 3 credits + 1 additional for innovation	<b>P</b> <b>M</b> Responsible sourcing of construction products	4 credits	Key building materials are responsibly sourced
Insulation	2 credits	Insulation	1 credit	Issue removed		
Designing for Robustness	1 credit	Designing for Robustness	1 credit	Designing for Durability and Resilience	1 credit	measures to reduce impacts associated with damage and wear and tear. Appropriate design to limit material degradation due to environmental factors.
				Material Efficiency	1 credit	Measures taken to optimise the use of materials.

### WASTE

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW!		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary

Construction Site Waste Management	3 credits + 1 additional for innovation	Construction waste management	3 credits + 1 additional for innovation; 1 minimum standard for outstanding	Construction waste management	4 credits	Site Waste Management Plan Reduction of construction waste to landfill
Recycled Aggregates	1 credit	Recycled Aggregates	1 credit + 1 additional for innovation	Recycled Aggregates	1 credit	recycled or secondary aggregate specified
Recyclable Waste Storage	1 credit; 1 minimum standard for excellent and above	Operational waste	1 credit- commercial; 2 credits- residential; 1 minimum standard for excellent and above;	Operational waste	1 credit	suitable space and facilities for segregation storage of operational recyclable waste
Compactor/ Baler	1 credit- retail and industrial only					
Composting	1 credit					
Floor Finishes	1 credit	Speculative floor and ceiling finishes	1 credit- office only	Speculative finishes	1 credit	Specification of floor and ceiling finishes only where agreed with the occupant
				Adaptation to Climate Change	1 credit	Implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the lifespan of the building.
				Functional Adaptability	1 credit	Encourage consideration and implementation of measures to accommodate future changes to the use of the building

### LAND USE AND ECOLOGY

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW!		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary
Reuse of Land	1 credit	Site selection	3 credits	Site selection	3 credits	encourage the use of previously occupied or contaminated land
Contaminated Land	1 credit					
Ecological Value of Site and protection of Ecological Features	1 credit	Ecological Value of Site and protection of Ecological Features	2 credits	Ecological Value of Site and protection of Ecological Features	2 credits	encourage development on land that already has limited value to wildlife
Mitigating Ecological impact	5 credits; 2 minimum standards for excellent and above	Enhancing site ecology	3 credits	Enhancing site ecology	3 credits	encourage actions taken to enhance the ecological value of the site
Long Term impact of Biodiversity	2 credits	Long term impact on biodiversity	2 credits	Long term impact on biodiversity	2 credits	minimise the impact of the development on biodiversity.
		Building footprint	2 credits- residential only	Issue removed		
				Minimizing impact on existing site ecology	N/A	

### POLLUTION

BREEAM Europe Commercial 2009		BREEAM International 2013		BREEAM International 2016 - NEW!		
Issue	Number of credits available	Issue	Number of credits available	Issue	Number of credits available	Credits Summary
Refrigerant GWP- Building Services	1 credit	Impact of refrigerants	3-4 credits- building location dependent (in Romania 3 credits)			

Preventing Refrigerant Leaks	2 credits- retail and office; 1 credit- industrial			Impact of refrigerants	4 credits	reduction the impact of refrigerants
Refrigerant GWP- Cold Storage	1 credit- retail and industrial					
NOx emissions from heating source	3 credits- retail and office; 2 credits- industrial; +1 additional for innovation	NOx emissions	3 credits	NOx emissions	2 credits	Reduction in emissions of Nox
Flood Risk	3 credits	Surface water run-off	5 credits	Surface water run-off	5 credits	Surface water run-off is managed Watercourse pollution prevention systems are in place.
Minimising Watercourse Pollution	1 credit					
Reduction of Night Time Light Pollution	1 credit	Reduction of Night Time Light Pollution	1 credit	Reduction of Night Time Light Pollution	1 credit	External light pollution is eliminated through effective design
Noise Attenuation	1 credit	Noise Attenuation	1 credit	Reduction of Noise Pollution	1 credit	reduce noise from fixed installations on the development.

Ⓟ pre-requisites    
Ⓜ minimum standards (critical requirements)    
issue removed    
new issue