

# BREEAM NC 2018

Assessment engagement, timeline and cost implications

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## Engagement

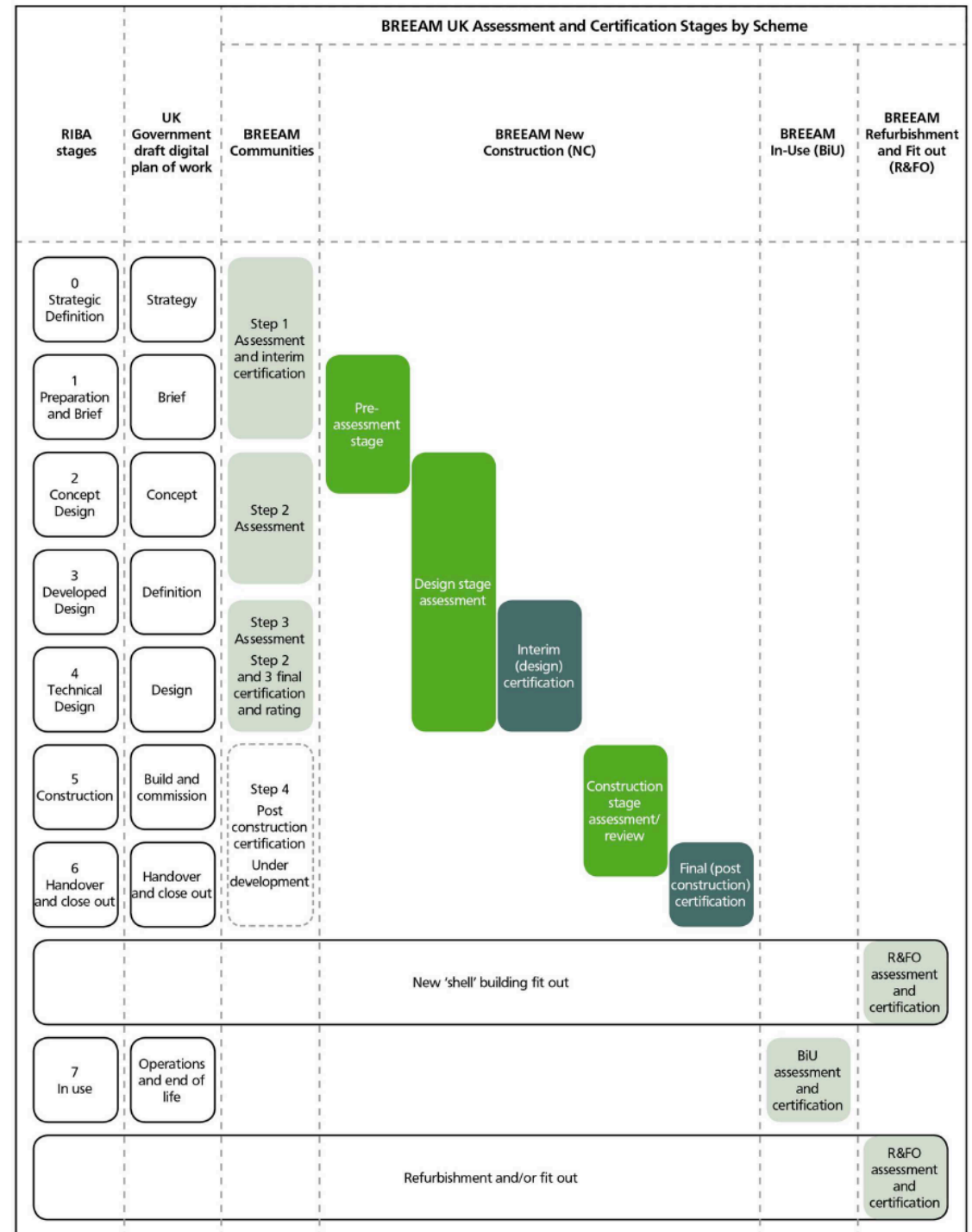
Early engagement with the BREEAM UK New Construction (NC) scheme and appointment of a licensed Assessor is important to achieve optimal integration of the methodology into the new-build procurement process. At this early stage, the performance of the building and the desired BREEAM rating can be achieved while there is greater flexibility and choice in design solutions and spending decisions.

The table in this page (extracted from the technical manual) shows the link between the BREEAM UK NC assessment and certification stages and the RIBA Outline Plan of Work 2013.

Clients can use this to understand when they should ideally engage with BREEAM and appoint a BREEAM Advisory Professional (AP) and BREEAM Assessor.

Orientating the brief towards BREEAM needs to come first and foremost from the client. BRE recommends engagement with a licensed BREEAM Assessor and BREEAM AP no later than the Preparation and Brief stage (RIBA Stage 1 or equivalent) and ideally sooner.

This will ensure that realistic targets are set and can be met, appropriate responsibilities can be defined and understood and low or no cost solutions to environmental impacts can be sought and applied wherever possible.



## Performance

Category weightings are fundamental to any building environmental assessment method providing a means of defining and ranking the relative impact of environmental issues. BREEAM uses an explicit weighting system to determine the overall BREEAM score.

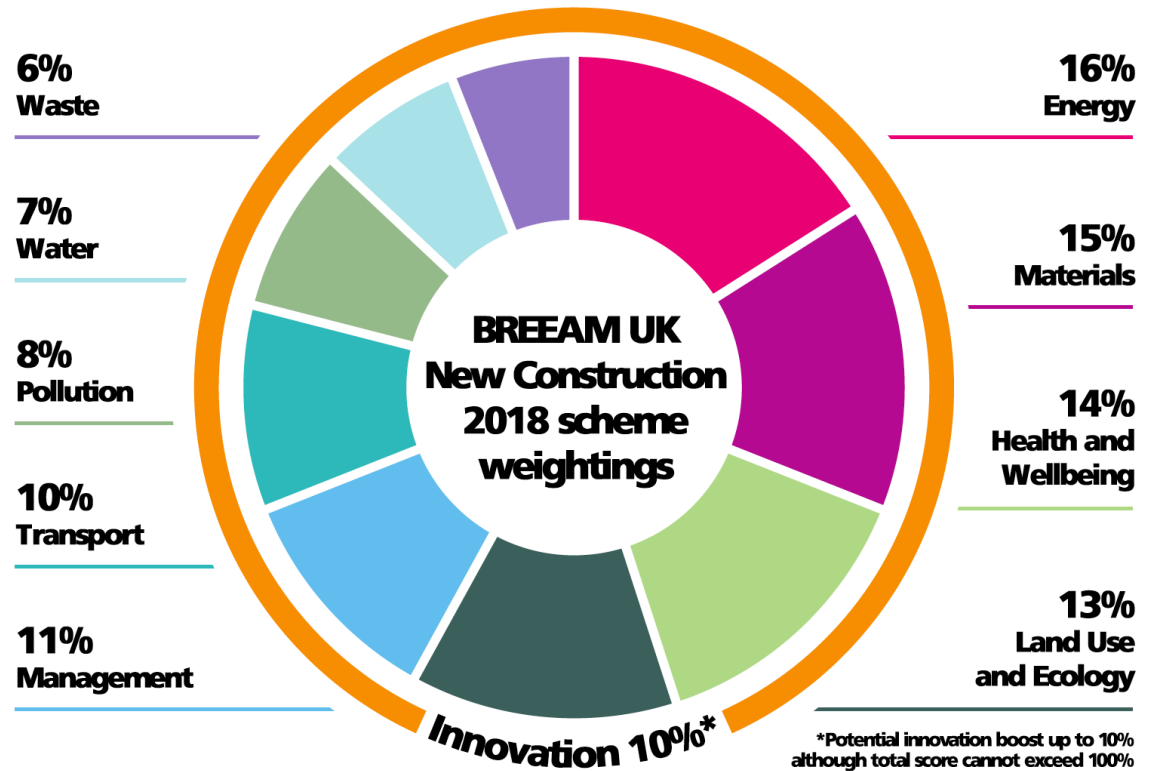
There are a number of elements that determine the overall performance of a new construction project assessed using BREEAM. They are:

1. The BREEAM rating level benchmarks
2. The minimum BREEAM standards
3. The environmental section weightings
4. The BREEAM assessment issues and credits

BREEAM rating broadly represents performance equivalent to:

1. **Outstanding:** Less than the top 1% of UK new non-domestic buildings (innovator)
2. **Excellent:** Top 10% of UK new non-domestic buildings (best practice)
3. **Very Good:** Top 25% of UK new non-domestic buildings (advanced good practice)
4. **Good:** Top 50% of UK new non-domestic buildings (intermediate good practice)
5. **Pass:** Top 75% of UK new non-domestic buildings (standard good practice)

The table BREEAM rating presents the score needed to achieve the desired performance. The figure in this page shows the category weightings for each issue.



BREEAM Rating	% Score
Outstanding	≥ 85
Excellent	≥ 70
Very good	≥ 55
Good	≥ 45
Pass	≥ 30
Unclassified	< 30

## Timeline and Cost Implications

The BREEAM UK New Construction Scheme can be used to assess and rate the environmental impacts arising from a newly constructed building development (including external site areas), at the following life cycle stages:

1. New Build **Design Stage** (DS) (optional) – leading to an Interim BREEAM rating and certificate of assessment
2. New Build **Post-Construction Stage** (PCS) – leading to a Final BREEAM rating and certificate of assessment
3. New Build Post-occupancy stage (POS) (optional) - leading to a certification relating to robust best practice, to meet design aspirations, in the following areas:
  - a. post occupancy handover and commissioning processes
  - b. performance monitoring
  - c. actions undertaken post occupancy to understand and manage the actual performance of the building.

To assist with optimising project sustainability performance, the assessment timeline on the next pages outlines the stage at which credits should be addressed. Ideally these should be considered by the design team, planner, contractors, owners, occupiers and other members of the project team to achieve the highest possible BREEAM rating at the minimum cost.

If BREEAM advice is taken on too late within the design and construction phases a number of BREEAM credits may not be achieved or only at additional cost or disruption.

### Table Legend

	Design or management influence
	Design or client decision
	Design or management changes at high costs
	No further changes can be made

The table below has been adapted from BREEAM UK New Construction, Non-domestic Buildings (United Kingdom), Technical Manual, SD5078 - BREEAM UK New Construction 2018 3.

Riba Stages			0	1	2	3	4	5	6
UK Government draft digital plan of work			Strategic Definition	Preparation and Brief	Concept Design	Developed Design	Technical Design	Construction	Handover and Close Out
Section	Issue	Sub credits	Strategy	Brief	Concept	Definition	Design	Build and Commission	Handover and Close Out
Management									
Man 01	Project brief and design	Project delivery planning							
		Stakeholder consultation							
		BREEAM Advisory Professional			Maximise project performance	Maximise project performance			
Man 02	Life cycle cost and service life planning	Life cycle cost			Elemental LCC		Component level LCC options		
		Capital cost reporting							
Man 03	Responsible construction practices	Environmental management							
		BREEAM Advisory Professional							
		Responsible construction management							
		Monitoring of construction site impacts							
Man 04	Commissioning and handover	Commissioning-testing schedule and responsibilities							
		Handover						Building user guides and training schedules prepared	Building user guides and training schedules prepared
Man 05	After Care								
Health and Wellbeing									
Hea 01	Visual confort								
Hea 02	Indoor air quality								
Hea 03	N/A								
Hea 04	Thermal confort								
Hea 05	Acoustic performance				Acoustician appointment				
Hea 06	Security				Security consultant appointment				
Hea 07	Safe and healthy surrounds								
Energy									
Ene 01	Reduction of energy use and carbon								
Ene 02	Energy monitoring								
Ene 03	Enxternal lighting								
Ene 04	Low carbon design	Passive design			Passive design analysis				
		Low and Zero Carbon technologies feasibility				Feasibility study			
Ene 05	Energy efficient cold storage	Refrigeration energy consumption							
Ene 06	Energy efficient transportation systems								
Ene 07	Energy efficient laboratory systems	Design specification		Client engagement					
Ene 08	Energy efficient equipment								
Transport									
Tra 01	Transport assessment and travel plan				Travel Plan				
Tra 02	Sustainable transport measures			Consultation with local authority (option 6 only)					

Riba Stages		0	1	2	3	4	5	6
		Strategic Definition	Preparation and Brief	Concept Design	Developed Design	Technical Design	Construction	Handover and Close Out
Water consumption								
Wat 01	Water consumption							
Wat 02	Water monitoring							
Wat 03	Water leak detection							
Wat 04	Water efficient equipment							
Materials								
Mat 01	Environmental Impacts from construction products - Building life cycle assessment			Building LCA submission		Building LCA submission		
Mat 02	Environmental impacts from construction products						Installation of certified products	
Mat 03	Responsible sourcing of materials	Sustainable procurement plan	Sustainable procurement plan	Review sustainable procurement plan	Review sustainable procurement plan			
Mat 04	N/A							
Mat 05	Designing for durability and resilience							
Mat 06	Material efficiency		Stage actions	Stage actions	Stage actions	Stage actions	Stage actions	
Waste								
Wst 01	Construction waste management			Pre-demolition audit				
Wst 02	Use of recycled and sustainably sourced aggregates							
Wst 03	Operational waste							
Wst 04	Speculative finishes							
Wst 05	Adaptation to climate change			Climate adaptation strategy appraisal		Update on climate adaptation strategy appraisal		
Wst 06	Designing for disassembly and adaptability	Design for disassembly and functional adaptability		Disassembly and functional adaptation study				
		Adaptability: Potential for natural ventilation						
Land Use and Ecology								
LE 01	Site selection	Previously occupied land						
		Contaminated land						
LE 02	Identifying and understanding the risks and opportunities for the site	Survey and evaluation						
		Determining the site wide outcomes						
LE 03	Managing negative impacts on ecology							
LE 04	Enhancing site ecology							
LE 05	Long term ecology management and maintenance							
Pollution								
Pol 01	Impact of refrigerants							
Pol 02	Local air quality							
Pol 03	Flood and surface water management							
Pol 04	Reduction of night time light pollution							
Pol 05	Reduction of noise pollution							



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