

Sustainability in a Changing World

BREEAM USA In-Use Version 6 for Commercial and Residential assets

Summary of Changes from Version 2016

With the impacts of the changing climate on real estate increasing, there has been a shift from “green” as a marketing tool to ESG performance reporting to stakeholders and risk management. A sustainable building is no longer defined only by its past performance; resiliency, the ability to continue delivering performance and therefore asset value, in the future is now crucial.

Following a full technical review of the latest in science and research in the built environment and feedback received from Assessors, Clients and the wider market, we are excited to launch BREEAM USA In-Use Version 6 for use by both commercial and residential assets. This update allows investors, owners and managers to **understand asset and management performance through the lens of sustainability and make sound business decisions in this changing world.**

BREEAM USA In-Use Version 6 is **more accessible and transparent**, continuing our drive to **encourage all existing buildings** – no matter building type, space use, building age or performance – to deliver better performing buildings that **minimize environmental impacts, support occupant health and well-being and create, grow and protect financial value.**

This summary has been developed to help those using or familiar with the previous program version understand the changes that have been made from the 2016 version and familiarize themselves with the new standard. For those who are new to BREEAM, the [Technical Summary](#) may provide a more useful overview of the Version 6 program.

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Operational Updates

Separate Technical Manuals for Residential and Commercial Assets

Residential assets will be assessed within the same BREEAM In-Use framework but each have their own Technical Manual. BREEAM USA In-Use: Commercial (PD133) and BREEAM USA In-Use: Residential (PD132) are both available to access in full and download at no charge from the BREEAM USA website (www.breeam.com/usa).

Simplifying certification maintenance

Certificate validity will be extended from one year to three years, without the requirement to renew annually. This simplifies the process and allows buildings and portfolios to better plan their certification activities and focus their capital on the asset performance and improvement rather than certification maintenance.

Amendment of Version numbering

The first version of BREEAM USA In-Use indicated the year published (making it v2016 as it was published in 2016). All BREEAM programs globally are moving towards simple number structures. As BREEAM USA In-Use is aligned with BREEAM In-Use International, this updated version will adopt the same Version number, making the update Version 6.

Incentivize ongoing performance monitoring and improvement

As with the previous version, the Performance Measurement will be valid for up to 12 months or until certification, whichever is soonest. Under the updated version though, the Performance Measurement will automatically reopen after certification, allowing assets to continue benchmarking and tracking their performance for the duration of the certificate's validity without any additional cost. The online tool will provide notifications when changes made to the performance overall are approaching what BREEAM defines as a Significant Change, encouraging assets to recertify to confirm their current performance. The threshold for a Significant Change will be amended from a change of five or more percentage points of the overall score (e.g. 75% to 80%) to a change of ten or more percentage points (e.g. 75% to 85%).

Further incentivization to recertify during the three-year certificate validity will be provided by only requiring a desktop assessment by an Assessor (no on-site visit) when the change is less than 10 percentage points, with a full on-site verification required where the change exceeds that threshold. When submitted to an Assessor, the online tool will inform them of the percentage change made and which issues had changes from the certification. Recertification will be an option but not required during the three-year certificate validity. On-site audits will be required for recertification when the current certificate expires.

Technical Update

Eligibility criteria revised

Two critical aspects of the program have been revised. Consumption data is no longer required as an eligibility criterion to achieve certification. This flexibility has been balanced through an adjustment to the weighting of the categories and credits available for those issues which require consumption data to be required. For example, should an asset not report energy consumption in Part 2, the number of credits proportional to the performance plus the weighting will severely restrict the ability of an asset to achieve a rating beyond the very basic level even if other categories are addressed more extensively. The criteria has also been revised to address vacant space, bringing further flexibility into the program and allow for buildings with vacant space to include this in the assessed area.

Multiple buildings criteria revised

The criteria now addresses vacant space to bring further flexibility into the program. Statements on the assessment of more than one building within a single BREEAM USA In-Use assessments have also been revised.

Articulation of value and context

BREEAM aims to minimize environmental impacts, support occupant health and well-being all while delivering business value. Summary, context and value statements have been provided for each Category and each Issue within the Category to better communicate why BREEAM addresses these particular issues and how it contributes to business value.

New Resilience Category



BREEAM recognizes that Resilience is becoming a key aspect of how investors, owners and managers view assess ESG risks for their portfolios and assets. BREEAM has introduced the Resilience category to respond to the market's need for clarity on performance in this area.

This category considers an asset's exposure to physical risks (including those related to climate change), social and transitional risks and opportunities related to climate change, local watercourse pollution, excess material damage, and physical security. This encourages the pro-active management of these risks to minimize their impact and ensure rapid recovery. Core to this has been offering exemplary credits for assets that incorporate climate change scenarios into their assessment of natural hazards to the property, mitigation measures and emergency planning to protect life, property and the environment.

The integration of Social Impact and Social Equity

Social value is a term for the economic, environmental and social benefits that built places provide to their local communities. This community includes existing residents, businesses and other stakeholders in the local area and all those who interact with the place – now or in the future. The way places are planned, maintained, built and operated can impact jobs and economic growth, the health and well-being of those who interact with the asset directly or indirectly and the strength of community.

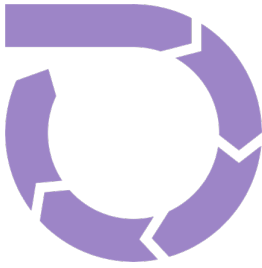


BREEAM established a Social Impact Core Technical Team in 2019 to identify and improve the value and impact of BREEAM programs on social impact and social equity. This has resulted in the incorporation of new aspects of social value and social equity issues in particular to be included in BREEAM In-Use. Highlights include:

- The mapping of each BREEAM category to the United Nations' Sustainable Development Goals and highlighting the specific goal that supports the BREEAM environmental categories (see Context section at the start of each Environmental Category).
- Emphasizing that fighting climate change is integral to addressing social equity in our communities. The negative social impacts of climate change and pollution – through energy production and use, transport choices, wasted water resources and the use of refrigerants - are disproportionately experienced by poorer communities, whether through poorer health outcomes, destruction of property and threat to life from extreme weather events and fuel poverty suffered through poor housing construction.
- Expanding inclusive design substantially to encourage assets to incorporate Universal Design principles to usable by all people, to the greatest extent possible, without the need for adaptation or specialized design (Hea 12)
- The encouragement of assets, through the lens of Resilience, to consider their asset as part of a community and seek to incorporate their Resilience planning to support their community as well as their building users (Rsl 06)
- The encouragement of assets to consider the climate-related social risks and opportunities for the asset including social disruption, public health (such as pandemics), poverty and forced labor (Rsl 08).
- Encouraging assets to consider how their approach to crime prevention and security may result in inequitable and exclusionary outcomes and to adopt policies and procedures that protect building users and the dignity, safety and security of all people and the wider neighborhood (Rsl 10).

A more comprehensive look at BREEAM's approach to social impact and equity and mapping of these principles to BREEAM In-Use will be published later in 2020.

Materials and Waste Category combined into Resources



The growing importance of circular economy has also prompted BREEAM to combine the separate categories for Materials and Waste into an integrated category called Resources. In a circular economy, the materials within a building sustain their value, leading to reduced waste and the use of fewer raw materials. This category encourages the responsible and circular use of physical resources in the asset to increase value and sustainability performance in operation and at the end of life. This is achieved by encouraging the asset owner to better understand the condition and value of the asset and to encourage them to maintain or improve its value and the value of the resources they contain. It also seeks to encourage the reuse or recycling of resources in existing assets, facilitating occupants to maximize the reuse and recycling of their waste, minimizing resource use overall and choosing reused or recycled resources instead of those from raw materials.

Category weightings updated

A review of the weightings was undertaken as the changes to the standard were significant in some respects. Energy continues to be weighted the heaviest for both Parts, followed by Health & Well-being. Resources and Resilience, our two new categories, tied for third and fourth place. For Part 1, the remaining categories in order are Water, Pollution, Transport and Land Use & Ecology. For Part 2, it is Management, Water, Land Use & Ecology and Pollution. The changes are shown here:

Environmental category	Part 1: Asset Performance		Part 2: Management Performance	
	v2016	Version 6	v2016	Version 6
Management	0%	0%	15%	11%
Health & Wellbeing	17%	20%	15%	17%
Energy	26.5%	25%	31.5%	27%
Transport	11.5%	5%	0%	0%
Water	8%	11%	5.5%	9%
Materials	8.5%	--	7.5%	--
Waste	5%	--	0%	--
Resources	--	13%	--	11%
Resilience	--	13%	--	11%
Land use and ecology	9.5%	4%	12.5%	7%
Pollution	14%	9%	13%	7%

Minimum standards introduced

Minimum standards have now been introduced into Part 1 and Part 2 of the BREEAM In-Use program. While BREEAM provides flexibility for clients, there are mechanisms built into the program to ensure that performance against fundamental environmental issues is not over-looked in pursuit of a particular rating. To achieve a particular BREEAM rating, the minimum overall percentage score must be achieved as well as the minimum standards.

The tables below provide the details on issue that include minimum standards. For Asset Performance, the minimum standards must be met only for those assets seeking a Good rating or higher.

BREEAM issue	Minimum standards by BREEAM In-Use rating: Asset Performance					
	Acceptable	Pass	Good	Very Good	Excellent	Outstanding
Wat 01 – Water monitoring	None		Answer option C (Criteria 1 – 3 only)			
Rsc 02- Reuse and recycling facilities	None				Answer options C & D (Criteria 1 – 3)	
Rsl 01- Flood risk assessment	None		Answer option B (Criterion 2)			

For Management Performance, all assets must achieve the minimum standard in Rsc 05 and Rsl 09 to receive any certification level.

BREEAM issue	Minimum standards by BREEAM In-Use rating: Management Performance					
	Acceptable	Pass	Good	Very Good	Excellent	Outstanding
Man 02 - Management engagement and feedback	None				Answer option E (Criteria 3 – 4)	
Man 04 - Environmental policies and procedures	None			Answer option B (Criterion 1)		
Rsc 05- Sustainable procurement	Answer options C, D, E & F (Criterion 4 & 9 only)					
Rsl 09 – Fire risk assessment	Answer options C and G or Answer option D (Criteria 2 – 5)					

Removal of Part 3 Occupant Management from the program

As an organizational sustainability assessment, Part 3 has always had a different audience to the rest of BREEAM In-Use. The assessment was driven by policies and processes rather than the fundamentals for building performance and because of the fluidity of organizations, it required recertification every year. Combining these two factors, BRE opted not to include this Part in the update. However, BRE recognizes that occupants and their performance are a key factor to the overall sustainability performance of buildings. BRE remains committed to supporting the sustainability efforts of occupant organizations even where they may not have control over the buildings they occupy and will seek to review and potentially update the Part 3 section as the next stage of development.

Exemplary level credits

BREEAM USA In-Use has exemplary-level credits to encourage and reward assets that meet go beyond the standard BREEAM assessment criteria. Each exemplary-level credit achieved adds 1% to an asset's overall score. The maximum number of 'exemplary-level credits' that can be awarded for any one asset

is 10 per Part; therefore, the maximum additional score available is 10%. Exemplary-level credits can be awarded at any BREEAM rating level, and no assessment can exceed 100% for the overall score.

The table below summarizes the issues which now offer exemplary level credits.

Part	Issue	Answer Option	Credits
Asset Performance	Hea 01 – Daylighting	Option F	1
Asset Performance	Hea 12 – Inclusive design	Option F	1
Asset Performance	Ene 10 – Demand side management	N/A	4
Asset Performance	Wat 01 – Water monitoring	Option F	1
Asset Performance	Rsc 02 – Reuse and recycling facilities	Option E	1
		Option F	1
Asset Performance	Rsc 04 – Future adaptation	Option D	1
Asset Performance	Rsl 01 – Flood risk assessment	Option G	1
Asset Performance	Lue 02 – Ecological features of planted area	Option E	1
Management Performance	Man 04 – Environmental policies and procedures	Option E	1
Management Performance	Ene 24 – Reduction of carbon emissions	N/A	3
Management Performance	Rsc 05 – Sustainable procurement	Option G	1
		Option H	1
Management Performance	Rsl 06 – Emergency plans and climate-related physical risks	Option D	1
		Option H	1
Management Performance	Rsl 10 – Security risk assessment	Option D	1

Streamlining of issues, changes to number of credits offered

Some issues have been merged, moved, renamed or where necessary deleted. Credits offered per issue have been amended and adjusted accordingly. The next section of this document sets out the issues per Part as they are in the proposed update followed by a mapping of each issue from Version 2016 to the update.

Streamlining of Answer Options

The options to select “Don’t know” or “Other” answer options have been removed from all issues.

BREEAM USA In-Use Version 6

This summarizes all the issues that are incorporated in BREEAM USA In-Use Version 6. Variations between the Commercial and Residential scopes are highlighted in the Variations between Commercial and Residential section. Any new issues for this version and/or category (with the exception of Resources and Resilience) are marked in red.



Part 1 Asset Performance	Part 2 Management Performance
Not assessed	Man 01 – Building user guide Man 02 – Management engagement and feedback Man 03 – Maintenance policies and procedures Man 04 – Environmental policies and procedures Man 05 – Green lease



Part 1 Asset Performance	Part 2 Management Performance
Hea 01 – Daylighting Hea 02 – Control of glare from sunlight Hea 03 – Internal and external lighting Hea 04 – Lighting control Hea 05 – High frequency lighting control gear Hea 06 – View out Hea 07 – User comfort controls Hea 08 – Ventilation system air intakes and exhausts Hea 09 – Carbon dioxide sensors Hea 10 – Carbon monoxide sensors Hea 11 – Provision of rest areas Hea 12 – Inclusive design Hea 13 – Drinking water provision	Hea 14 – Thermal comfort Hea 15 – Smoking policy Hea 16 – Indoor air quality management Hea 17 – Acoustic conditions Hea 18 – Legionella risk management Hea 19 – Drinking water management



Energy (Ene)

Part 1 Asset Performance	Part 2 Management Performance
Ene 01 – Building services Ene 02 – Percentage of mechanical ventilation Ene 03 – Envelope performance Ene 04 – Air permeability of the envelope Ene 05 – Cooling Ene 06 – Heating Ene 07 – Internal lighting Ene 08 – Ventilation Ene 09 – Water heating Ene 10 – Demand Side Management (DSM) for electricity	Ene 11 – Installed controls Ene 12 – Local energy performance asset rating Ene 13 – Solar photovoltaic (PV) panels Ene 14 – Solar thermal panels Ene 15 – Monitoring energy uses Ene 16 – Monitoring tenanted areas Ene 17 – External lighting Ene 18 – Energy efficient transport systems Ene 19 – Energy consumption Ene 20 – Carbon intensity of district heating and cooling Ene 21 – Electricity generated and exported Ene 22 – Non-standard energy consumption Ene 23 – Energy consumption reporting Ene 24 – Reduction of carbon emissions



Transport (Tra)

Part 1 Asset Performance	Part 2 Management Performance
Tra 01 – Alternative modes of transport Tra 02 – Proximity to public transport Tra 03 – Proximity to amenities Tra 04 – Pedestrian and cyclist safety	Not assessed



Water (Wat)

Part 1 Asset Performance		Part 2 Management Performance
Wat 01 – Water monitoring	Wat 07 – Leak detection systems	Wat 11 – Water consumption
Wat 02 – Water efficient equipment: toilets	Wat 08 – Leak prevention	Wat 12 – Water recycling
Wat 03 – Water efficient equipment: urinals	Wat 09 – Isolation valves	Wat 13 – Water consumption reporting
Wat 04 – Water efficient equipment: faucets	Wat 10 – Reducing utility-supplied water consumption	Wat 14 – Water strategy
Wat 05 – Water efficient equipment: showers		
Wat 06 – Water efficient equipment: appliances		



Resources (Rsc)

Part 1 Asset Performance		Part 2 Management Performance
Rsc 01 – Condition survey		Rsc 06 – Sustainable procurement
Rsc 02 – Reuse and recycling facilities		Rsc 06 – Optimizing resource use, reuse and recycling
Rsc 03 – Resources inventory		
Rsc 04 – Future adaptation		



Resilience (Rsl)

Part 1 Asset Performance		Part 2 Management Performance
Rsl 01 – Flood risk assessment		Rsl 06 – Emergency plans and climate-related physical risks
Rsl 02 – Surface water run-off impact mitigation		Rsl 07 – Climate-related transition risks and opportunities
Rsl 03 – Natural hazard risk assessment		Rsl 08 – Social risks and opportunities
Rsl 04 – Durable and resilient features		Rsl 09 – Fire risk assessment
Rsl 05 – Alarm systems		Rsl 10 – Security risk assessment



Land Use & Ecology (Lue)

Part 1 Asset Performance	Part 2 Management Performance
Lue 01 – Planted area Lue 02 – Ecological features of planted area	Lue 03 – Ecology report Lue 04 – Biodiversity management plan



Pollution (Pol)

Part 1 Asset Performance	Part 2 Management Performance
Pol 01 – Minimizing watercourse pollution Pol 02 – Chemical storage Pol 03 – Local air quality Pol 04 – Global warming potential of refrigerants Pol 05 – Refrigerant leak detection systems	Pol 06 – Reduction of night-time pollution Pol 07 – Inspection of watercourse pollution prevention features Pol 08 – Refrigerant replacement Pol 09 – Land contamination mitigation Pol 10 – Response to pollution incidents

Variations between Commercial and Residential

As Commercial and Residential assets are used in fundamentally different ways, the Assessment Criteria and Evidence requirements will vary by issue even when the Aim and Questions may be the same. However, there are some differences to be aware of:

Part	Issue	Commercial Title	Residential Title	Difference
1	Hea 02	Control of glare from sunlight	Minimizing overheating from solar gain	Title only; assessment criteria and evidence requirements are similar.
1	Hea 04	Lighting control	Lighting control	Not applicable in Residential
1	Hea 07	User comfort control	User comfort control, and maintenance	Title only; assessment criteria and evidence requirements are similar.
1	Hea 11	Provision of rest areas	Indoor and/or outdoor space	Assessment criteria differ significantly.
1	Hea 13	Drinking water provision	Radon risk management	Different topics addressed which are appropriate for their asset type.
1	Ene 16	Monitoring tenanted areas	Monitoring in separate units	Title only; assessment criteria and evidence requirements are similar.
1	Ene 18	Energy efficient transport systems	Energy efficient elevators	Assessment criteria and evidence requirements are similar; Residential has narrower focus.
1	Wat 03	Water efficient equipment: urinals	Water efficient equipment: urinals	Not applicable in Residential
1	Wat 05	Water efficient equipment: showers	Water efficient equipment: showers and baths	Assessment criteria and evidence requirements are similar; Residential also includes bathtubs.
1	Rsc 04	Future adaptation	Future adaptation	Not applicable in Residential
2	Man 01	Building user guide	Building/Home user guide	Title only; assessment criteria and evidence requirements are similar.
2	Man 05	Green lease	Green lease	Not applicable in Residential
2	Hea 19	Drinking water management	Drinking water management	Not applicable in Residential
2	Pol 09	Land contamination mitigation	Contamination from invasive plant species	Different topics addressed which are appropriate for their asset type.
2	Pol 10	Response to pollution incidents	Response to pollution incidents	Not applicable in Residential

Summary of Changes By v2016 Issue



Management

Part	Issue	Title	Update
2	Man 01	Building user guide	No change.
2	Man 02	Building user education	<p>Amended title Now titled Man 02 Management engagement and feedback</p> <p>Answer options amended Options amended to reflect incorporated issues.</p> <p>Revised assessment criteria This issue combines a range of issues relating to the communications to and from Building Management including Building user education, Building user information, Occupant satisfaction, Complaints procedure. Feeding back on Occupant satisfaction surveys is now required to achieve the credits. Complaints procedure rewarded with only 1 credit. Minimum standard set for achieving an Excellent rating or better.</p> <p>Revised evidence requirements Amended to reflect incorporated issues.</p>
2	Man 03	Building user information	Incorporated in another issue See new Man 02 – Management engagement and feedback .
2	Man 04	Operation and maintenance manuals	<p>Incorporated in another issue See new Man 03 – Maintenance policies and procedures.</p> <p>Revised assessment criteria Minimum standard set for achieving a Very Good rating or better.</p>
2	Man 05	Maintenance procedures	<p>Amended issue number/title Renumbered and renamed to Man 03 Maintenance policies and procedures</p> <p>Answer options amended Options amended to reflect incorporated issues.</p> <p>Revised assessment criteria This issue combines a range of issues relating to policies and procedures including operation and maintenance manuals, maintenance procedures, maintenance policy, building controls review. All maintenance policies must now be pro-active.</p> <p>Revised evidence requirements Amended to reflect incorporated issues.</p>
2	Man 06	Maintenance policy	Incorporated in another issue See new Man 03 Maintenance policies and procedures
2	Man 07	Environmental policies and responsibilities	<p>Amended issue number/title Renumbered and renamed to Man 04 Environmental policies and procedures</p> <p>Answer options amended Options amended to reflect incorporated issues.</p> <p>Revised assessment criteria Amended to reflect incorporated issues.</p> <p>Revised evidence requirements Amended to reflect incorporated issues.</p>
2	Man 08	Environmental policies	Incorporated in another issue See new Man 04 Environmental policies and procedures
2	Man 09	Operating procedures: Energy reduction	Incorporated in another issue See new Man 03 Maintenance policies and procedures

2	Man 10	Ventilation system leak testing	Issue Removed. There is insufficient value doing leak testing of air handling systems or duct work unless a problem has been identified. There is more value in regular inspection and cleaning of ventilation systems which is now covered in Hea 16 – Indoor air quality management.
2	Man 11	Green lease	Amended issue number Renumbered to Man 05 Green lease. The issue can now be filtered out for single tenant assessments. Revised assessment criteria Issue now provides a more intermediate reward and to encourage gradual improvement or encourage improvement for building managers who are unable to implement Green Leases for >75% of their tenants. There is now encouragement for tenants to share environmental data.
2	Man 12	Building management system review	Incorporated in another issue All building management maintenance policies and procedures issues have been included in the newly created Man 03 Maintenance policies and procedures.
2	Man 13	Functional adaptability	Issue relocated See new Rsc 03 – Resources inventory



Health & Well-being

Part	Issue	Title	Update
1	Hea 01	Glazing	Amended title Renamed to Hea 01 Daylighting. Answer options amended Options amended to reflect more robust assessment of the levels of daylight within a commercial asset. Revised assessment criteria Introduced new content based on industry experts' requirements which are appropriate for non-residential buildings. Amended to reflect more robust assessment of the levels of daylight within a commercial asset. Revised evidence requirements Amended to reflect more robust assessment of the levels of daylight within a commercial asset.
1	Hea 02	Glare control	Amended title Renamed to Hea 02 – Control of glare from sunlight. Answer options amended New lower level for glare control for 80% of occupied space Revised assessment criteria Criteria now more outcome focused rather than solution focused
1	Hea 03	Thermal control	Amended title Renamed to Hea 07 User comfort controls. Merges Thermal Control and Ventilation control Answer options amended Options amended to reflect incorporated issues. Revised assessment criteria Amended to reflect incorporated issues. Revised evidence requirements Amended to reflect incorporated issues.

1	Hea 04	Ventilation controls	Incorporated in another issue See new Hea 07 User comfort controls .
1	Hea 05	Minimizing Legionella contamination risk	Incorporated in another issue See new Hea 18 Legionella risk management in Part 2.
1	Hea 06	Drinking water provisions	Amended issue number/title Renamed to Hea 13 Drinking water provision . Revised assessment criteria Minor changes to improve clarity and ensure availability to visitors to assets.
1	Hea 07	Indoor and/or outdoor space	Amended title Renamed to Hea 11 Provision of rest areas . Answer options amended Options provide more flexibility to ensure rest areas deliver value to the occupants. Revised assessment criteria Amended to clarify the requirements.
1	Hea 08	Illuminance levels (Lux)	Amended issue number/title Renamed to Hea 03 internal and external lighting levels . Answer options amended Introduction of difference performance levels. Revised assessment criteria Requirements to follow a procedure for measure illuminance introduced.
1	Hea 09	Lighting control	Amended issue number/ title Renamed to Hea 04 Lighting control . Answer options amended Introduction of different performance levels. Revised assessment criteria Expanded to address new performance levels. Revised evidence requirements Expanded to address new performance levels.
1	Hea 10	Inclusive design	Revised assessment criteria Issue completely revised to encourage assets to consider user needs beyond legal requirements and physical disability, broaden definition of accessibility through Universal Design. Revised evidence requirements Amended to reflect changes to assessment criteria.
1	Hea 11	Ventilation requirements	Amended issue number/title Renamed to Hea 08 Ventilation system air intakes and exhausts to better reflect the criteria.
2	Hea 12	Fresh air rates	Amended issue number/ title Renamed to Hea 16 Indoor air quality control . Revised assessment criteria Combines elements of the original issue with aspects from Hea 17, Hea 18 Volatile organic compounds, Hea 19 Control of chemicals and Hea 21 Deep cleaning. New requirements for cleaning ventilation system components, regular monitoring of indoor air quality and provision of information to asset users.
2	Hea 13	Operating temperature	Amended issue number/ title Renamed to Hea 14 Thermal comfort . Revised assessment criteria Rewritten to ensure requirements focus on occupant thermal comfort rather than simply on operating temperatures.
2	Hea 14	Internal environment: CO ₂ monitoring	Issue relocated This issue was relocated to Part 1. Amended issue number/title Renamed to Hea 09 Carbon dioxide sensors . Revised assessment criteria Graded levels of performance to encourage more area to have CO ₂ sensors.

2	Hea 15	Internal environment: CO monitoring	Issue relocated This issue was relocated to Part 1 Amended issue number/title Renamed to Hea 10 Carbon monoxide detection . Revised assessment criteria Expanded to confirm when and where detectors are required.
2	Hea 16	Internal environment: NO _x monitoring	Incorporated in another issue See new Pol 04 Local air quality .
2	Hea 17	Internal environment: Refurbishment / renovation / redecoration	Incorporated in another issue See new Hea 16 Indoor air quality management . Revised assessment criteria
2	Hea 18	Volatile organic compounds	Incorporated in another issue See new Hea 16 Indoor air quality management .
2	Hea 19	Control of chemicals	Incorporated in another issue See new Hea 16 Indoor air quality management .
2	Hea 20	Acoustic conditions	Answer options amended Expanded to introduce different performance levels. Revised assessment criteria Expanded to include more guidance as to what measurements need to be taken and the performance standards that would be deemed as compliant, providing clarity on how the aim of the issue can be met.
2	Hea 21	Deep cleaning	Incorporated in another issue See new Hea 16 Indoor air quality management .
2	Hea 22	Legionella management	Amended issue number/title Renamed to Hea 18 Legionella risk management . Revised assessment criteria Incorporated criteria from Hea 05 Minimizing Legionella contamination risk. New and updated requirements to clarify what needs to be assessed and by whom.
2	Hea 23	Occupant satisfaction: Surveying	Incorporated in another issue See new Man 02 Management engagement and feedback .
2	Hea 24	Occupant satisfaction: Feedback	Incorporated in another issue See new Man 02 Management engagement and feedback .

Energy

Part	Issue	Title	Update
1	Ene 01 – 26	Part 1 Energy Model <i>Questions included in these issues were data points for calculating the energy efficiency of the asset's installed equipment and services</i>	Revised assessment criteria The Asset Performance Energy calculator has expanded to recognize more areas that contribute to the envelope performance, and the effect these have on the overall energy performance of the asset. By asking for more information about the building envelope it allows us to improve the energy modelling and therefore provide more accurate results to base the credit allocation on.
1	Ene 27	Automatic lighting controls	Incorporated in another issue See Ene 07 – Internal lighting .
1	Ene 28	Occupancy sensors	Incorporated in another issue See Ene 07 – Internal lighting .
1	Ene 29	Benchmarking	Revised assessment criteria Looking to capture more details in order to differentiate between the scope and performance of different asset ratings with the purpose of move to a performance-based credit rewarding in future updates.

1	Ene 30	On-site renewables	Revised assessment criteria changed from looking at the about of total energy consumption offset by renewable programs, to the generation capacity of the installed Photovoltaic and Solar Thermal systems (see relevant questions in next section below). The number of credits allocated within this question are related to the amount of capacity.
2	Ene 31 - 61	<i>Questions included in these issues were data points for calculating the Operational Energy score.</i>	Incorporated in another issue All these issues now within new Operational Energy Calculator (Ene 19 – 21). Revised assessment criteria eGRID data set updated to the 2016 version released in June 2018 by the EPA.
2	Ene 62	Energy consumption monitoring	Incorporated in another issue See new Part 1, Ene 15 – Monitoring energy uses.
2	Ene 63	Energy consumption data use	Incorporated in another issue See new Part 2, Ene 23 – Energy consumption reporting.
2	Ene 64	Sub-metering: Main energy sources	Incorporated in another issue See new Part 1, Ene 15 – Monitoring energy uses.
2	Ene 65	Sub-metering: Other energy sources	Incorporated in another issue See new Part 1, Ene 15 – Monitoring energy uses.
2	Ene 66	Sub-metering: Tenanted areas	Incorporated in another issue See new Part 1, Ene 16 – Monitoring tenanted areas.



Transport

Part	Issue	Title	Update
1	Tra 01	Cyclist facilities	Amended title Amended from Cyclist facilities to Alternative modes of transport Answer options amended Existing answer options have been split out so they are no longer cumulative; allows for cycle storage and compliant cycle facilities to be awarded credits separately. Additional answers options for provisions such as electric car recharging stations and car sharing spaces. Revised assessment criteria Shower requirements have been added to with clarifications on accommodating gender. Electric car recharging station provisions and thresholds for car sharing capacity have been defined. Definitions of compliance have been expanded for cycle provision criteria to sites with multiple buildings.
1	Tra 02	Proximity to public transport	Revised assessment criteria Amended language for buses from 'chartered' to 'dedicated'. Language included to allow for compliance from multiple stops or services. Definitions added for 'Dedicated service' and 'Peak times'.
1	Tra 03	Proximity to amenities	Answer options amended Shortened to be more concise and clearer. Revised assessment criteria Methodology for measuring distances included and definitions of 'safe pedestrian routes' added.

1	Tra 04	Pedestrian and cyclist safety	<p>Answer options amended Additional answer option added to provide an intermediate credit to rewarded improvements being implemented to assets where full compliance with the issue is not possible.</p> <p>Revised assessment criteria Specific guidance added on 'small scale deliveries' and how the assessment criteria can be met for these conditions. Definitions of 'safe pedestrian routes' added.</p>
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 **Water**

Part	Issue	Title	Update
1	Wat 01	Water metering	<p>Amended issue number/title Renamed Wat 01 – Water monitoring.</p> <p>Revised assessment criteria Minimum standard set for achieving a Good rating or better.</p>
1	Wat 02	Water efficient equipment: Toilets	<p>Answer options amended Slight adjustments made to the performance required to earn credits.</p>
1	Wat 03	Water efficient equipment: Urinals	<p>Answer options amended Change in answer options to remove types of controls and now only concentrates on flush volume. Removal of answer option of no urinals present receiving full credits.</p> <p>Revised assessment criteria Guidance added for urinal troughs. Specific note added for assets with no facilities.</p>
1	Wat 04	Water efficient equipment: Hand washing sinks	<p>Answer options amended Flow rate boundaries for highest credits changed to reflect current best practice.</p> <p>Revised assessment criteria Removal of the need for automation on all taps, only for top credits. Removal of requirement for any automatic control type, now only accepting taps with proximity sensors. Specific note added for assets with no facilities.</p>
1	Wat 05	Water efficient equipment: Showers	<p>Answer options amended Answer option percentage ranges increased.</p> <p>Revised assessment criteria Now linked in assessment criteria to Tra 01 – Alternative modes of transport. Exception for medical reasons added. Specific note added for assets with no facilities.</p>
1	Wat 06	Water efficient equipment: Appliances	<p>Revised assessment criteria Change to baseline levels to reflect best practice. Specific note added for assets with no facilities.</p>
1	Wat 07	Leak detection system	No change.
1	Wat 08	Leak prevention	No change.
1	Wat 09	Isolation valves	<p>Answer options amended Answer option percentage ranges increased.</p> <p>Revised assessment criteria Specific note added for assets with no facilities.</p>
1	Wat 10	Reducing utility-supplied water consumption	<p>Revised assessment criteria Examples of uses of non-utility supplied water added.</p>
2	Wat 11	Annual consumption	<p>Amended issue number/title Renamed Wat 11 – Water consumption.</p> <p>Revised assessment criteria Clarification provided for what water consumption should be recorded.</p>

2	Wat 12	Water consumption: Monitoring and reporting	Answer options amended Changed to a free text box entry. Revised assessment criteria Now linked in assessment criteria to Wat 11 – Water consumption .
2	Wat 13	Drinking water provision	Issue relocated See Health & Well-being category, Part 1 Hea 13 – Drinking water provision .
2	Wat 14	Refurbishment policy: Water efficiency	Incorporated in another issue See Water category, Part 2 Wat 14 Water consumption reporting .
2	Wat 15	Water system maintenance strategy	Incorporated in another issue See Water category, Part 2 Wat 14 Water consumption reporting .
2	Wat 16	Water recycling	Answer options amended Updated to capture the data relating to an asset's water consumption from alternative supplies, rather than just asking for the percentage this value makes up of the asset's overall consumption.
2	Wat 17	Water extraction	Incorporated in another issue See Water category, Part 2 Wat 14 Water consumption reporting .



Materials

Part	Issue	Title	Update
1	Mat 01	Condition survey	Issue relocated See Resources category, Part 1 Rsc 01 – Condition survey .
1	Mat 02	Security advice	Issue relocated See Resilience category, Part 2 Rsl 10 – Security risk assessment . Revised assessment criteria Expanded to require advice from an approved third party.
1	Mat 03	Intruder alarm system	Incorporated in another issue See Resilience category, Part 1 Rsl 05 – Alarm systems .
1	Mat 04	Alarm system monitoring	Incorporated in another issue See Resilience category, Part 1 Rsl 05 – Alarm systems .
1	Mat 05	Natural hazards	Incorporated in another issue See Resilience category, Part 2 Rsl 03 – Natural hazard risk assessment . Emergency plans aspect of the issue now sits with Part 2 Rsl 05 – Emergency plans and climate-related physical risks . Revised assessment criteria Focus changed to conducting the risk assessment and understanding the risks to allow mitigation measures to be implemented.
1	Mat 06	Future adaptation	Issue relocated See Resources category, Part 1 Rsc 04 – Future adaptation .
1	Mat 07	Designing for robustness	Issue relocated See Resilience category, Part 1 Rsl 02 – Durable and resilient features .
2	Mat 08	Condition survey	Incorporated in another issue See Resources category, Part 1 Rsc 01 – Condition survey .
2	Mat 09	Sustainable procurement policy	Issue relocated See Resources category, Part 2 Rsc 05 – Sustainable procurement . Revised assessment criteria Significant expansion of criteria and a Minimum Standard for any certification under Part 2.
2	Mat 10	Sustainable procurement initiatives	Issue relocated See Resources category, Part 2 Rsc 05 – Sustainable procurement .

2	Mat 11	Fire risk assessment	Incorporated in another issue See Resilience category, Part 2 Rsl 09 – Fire risk assessment. Revised assessment criteria Minimum Standard set that requires a fire risk assessment for any certification under Part 2.
2	Mat 12	Fire risk management	Issue relocated See Resilience category, Part 2 Rsl 09 – Fire risk assessment.
2	Mat 13	Emergency plan	Incorporated in another issue See Resilience category, Part 2 Rsl 06 – Emergency plans and climate-related physical risks.
2	Mat 14	Natural hazard management	Issue relocated See Resilience category, Part 2 Rsl 06 – Emergency plans and climate-related physical risks. Revised assessment criteria Minor expansion of requirements and encouragement of incorporation of climate change scenarios for exemplary level credits.



Waste

Part	Issue	Title	Update
1	Wst 01	Storage of operational waste	Issue relocated See Resources category, Part 2 Rsc 06 Optimizing resource use, reuse and recycling. Revised assessment criteria Expanded to include reporting requirements for the diversion of waste from landfill, operational and construction waste and storing of spare materials in order to focus on reducing waste. Minimum standard set for achieving an Outstanding rating or better.



Land Use & Ecology

Part	Issue	Title	Update
1	Lue 01	Planted area	Answer options amended Addition of text box to answer question. Revised assessment criteria Addition of methodology section to explain how to measure the asset footprint and % of planted area.
1	Lue 02	Ecological features of planted area	Revised assessment criteria Increase in the diversity of permitted ecological features and added option of offsite enhancement for assets with no outdoor space to influence.
2	Lue 03	Ecology report	Revised assessment criteria Addition of time scales to the ecology report. Reduction in bought credits, the asset now has to implement some of the actions in the ecology report before it can be considered for any credits. Optional offsetting of ecological enhancement has been included.

2	Lue 04	Biodiversity action plan	Revised assessment criteria A2 route option has been implemented – one for more complex sites. The option for offsetting the ecological enhancement has continued to be used.
2	Lue 05	External landscaping/maintenance	Incorporated in another issue See Part 2, Lue 04 – Biodiversity Management Plan.



Pollution

Part	Issue	Title	Update
1	Pol 01	Pollution prevention	Amended issue number/title Changed to Pol 07 – Inspection of watercourse pollution prevention features.
1	Pol 02	Flood risk assessment	Issue relocated Moved to Resilience, Part 1 Rsl 01 – Flood risk assessment. Revised assessment criteria Minimum standard set for achieving a Very Good rating or better.
1	Pol 03	Surface water runoff impact mitigation	Issue relocated Moved to Resilience, Part 1 Rsl 02 – Surface water runoff impact mitigation.
1	Pol 04	Impact of refrigerants	Amended issue number/title Changed to Pol 04 – Global warming potential of refrigerants.
1	Pol 05	Refrigerant leak detection systems	No change.
1	Pol 06	NO _x emissions	Incorporated in another issue Moved to Part 1 Pol 03 – Local air quality. Revised assessment criteria General principles of air quality monitoring included in a new issue. Specific content relating to onsite combustion of fuels leading to NO _x emissions moved to Health and Wellbeing category.
2	Pol 07	Night-time light pollution	Amended issue number/title Changed to Pol 06 – Reduction of night-time light pollution. Revised assessment criteria Updated to give more information on what level of assessment is required, as well as values for lighting levels and types of lighting zones.
2	Pol 08	Chemical storage	Amended issue number/title Changed to Part 1, Pol 02 – Chemical storage.
2	Pol 09	Secondary containment	Incorporated in another issue Moved to Pol 07 – Inspection of watercourse pollution prevention features.
2	Pol 10	Light-liquid separators	Incorporated in another issue Moved to Pol 07 – Inspection of watercourse pollution prevention features.
2	Pol 11	Refrigerants	Amended issue number/title Changed to Pol 08 – Refrigerant replacement.
2	Pol 12	Land contamination mitigation	Amended issue number/title Changed to Pol 09 – Local contamination mitigation.
2	Pol 13	Emergency preparedness and response	Amended issue number/title Changed to Pol 10 – Response to pollution incidents.
2	Pol 14	Complaints procedure	Incorporated in another issue Moved to Management category, Part 1 Man 02 – Management engagement and feedback.