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TECHINCAL MANUAL V6.1.1

BREEAM-NL In-Use Residential

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Code for a Sustainable Built Environment
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TECHNICAL MANUAL

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Dutch Green Building Council
Benoordenhoutseweg 46
2596 BC The Hague

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V6.1	January 13, 2025	First publication
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Dutch Green Building Council Foundation

The Dutch Green Building Council (DGBC) is an independent foundation that has developed the BREEAM-NL sustainability label for Dutch buildings and areas. It issues certificates to projects whose degree of sustainability has been assessed according to pre-defined criteria laid down in an assessment guideline (BRL). The BREEAM-NL family of quality marks largely follows the international BREEAM, developed by BRE in Great Britain (see further under BREEAM).

In the present assessment guideline, called BREEAM-NL In-Use Residential, you will find all information about the Dutch version of the quality mark for existing homes and residential buildings. There is also a quality mark specifically for the existing commercial buildings called BREEAM-NL In-Use Commercial v6.1.1. The quality mark for new buildings is called BREEAM-NL New Construction and is available in a version for homes and a version for non-residential buildings. There is also a quality mark for areas, BREEAM-NL Area Development.

This document only deals with BREEAM-NL In-Use Residential v6.1.1. It is very important to choose the schedule that suits your project; if in doubt, contact DGBC.

For more information about BREEAM-NL and the quality marks, please visit www.breem.nl.

BRE Global Ltd. BREEAM

BREEAM stands for 'Building Research Establishment Environmental Assessment Method' and is a measuring instrument for assessing the sustainability of projects. With its development in 1991, BREEAM was the first sustainability label for the built environment. BREEAM was developed by the Centre for Sustainable Construction, part of the British Building Research Establishment Global (BRE Global England).

Schedule management

DGBC manages BREEAM-NL under license from BRE Global Ltd. DGBC is formally recognized by the BRE as a 'National Scheme Operator'. DGBC is the only party in the Netherlands entitled to manage this quality mark. As a Scheme Manager, DGBC is responsible for the content and proper functioning of the BREEAM-NL system, of which the assessment guidelines are a part. The internal organisation is divided into a project office, a board, Advisory Groups and an independent Board of Experts (CvD). The primary task of the CvD is to monitor the quality and functioning of the BREEAM-NL quality marks. The CvD is independent of both the project office and the advisory group and the board. Both the CvD, the Advisory Groups and the Board are composed on the basis of the 'all parties concerned' principle and therefore represent the relevant stakeholders.

To guarantee the independence of testing, a three-party certification system is used for the BREEAM-NL quality marks. The project (building or area) builds up the file and substantiates the intended score with evidence; an independent BREEAM-NL Assessor checks the accuracy and completeness of the file and determines the qualification of the project; DGBC randomly tests the work of the BREEAM-NL Assessor.

DGBC is supported in its activities by a large number of organizations that all have a sustainability ambition and endorse DGBC's objectives. These partners are actively involved in the development and continuous improvement of the seals. More information about DGBC and about partner opportunities can be found on our website: www.dgbc.nl.

Certainty by BREEAM-NL and certification

Increasingly higher demands are being placed on the sustainability of the built environment. The BREEAM system provides a good assessment framework, with which you can determine the sustainability performance of buildings and areas in an unambiguous manner. BREEAM-NL is based on the globally tested and applied BREEAM International quality mark. BREEAM-NL is in line with the international Code for a Sustainable Built Environment (CSBE) developed by BRE Global. CSBE also forms the basis for the other national variants for BREEAM quality marks, such as BREEAM-NOR, BREEAM-DE, BREEAM-ES, BREEAM-SE and of course BREEAM-NL.

The international Code for a Sustainable Built Environment (CSBE) provides a framework for assessing sustainability in the built environment. The strategic principles and requirements in the CSBE define an integrated approach to the design, management, evaluation and certification of the environmental, social and economic impacts of the built environment. At the highest level of this code, a vision is formed for a sustainable built environment. CSBE is then interpreted in a Core Technical Standard and a Core Process Standard, both supported by the Core Science base.

The BREEAM Core Standard consists of two separate, but related documents: the technical requirements in the Core Technical Standard (CTS) and the process requirements in the Core Process Standards (CPS). These documents contain lists of requirements that a Scheme Operator (such as DGBC is for the Netherlands) must meet in order to be allowed to use the name BREEAM. DGBC operates BREEAM-NL under license from BRE Global Ltd, BRE is accredited by UKAS. You can find more information about the license in the user manual.

To create certainty, an independent assessment of the sustainability performance of buildings and areas is needed. In the BREEAM-NL methodology, the assessment of sustainability performance is carried out by BREEAM-NL Assessors. DGBC trains BREEAM-NL Assessors. Persons working at DGBC can never fulfil an Assessor role. BREEAM-NL Assessors must also always be independent of the project they are assessing, demonstrably qualified and in possession of a license from DGBC. The quality of every assessment carried out by a BREEAM-NL Assessor is checked by DGBC. These processes are laid down in the user manual. Only when the quality of all steps is guaranteed, DGBC makes the certificate available to the BREEAM-NL Assessor. The BREEAM-NL certificate provides

formal verification that the BREEAM-NL Assessor has completed an assessment of a building, in accordance with the requirements of the scheme and the quality standards and procedures.

A BREEAM-NL certificate gives developers, investors, clients, owners and all other parties associated with the built environment the assurance that the building or area they own, rent out or develop is demonstrably sustainable. And it works! BREEAM is the most widely used sustainability label in Europe and in the Netherlands, BREEAM-NL is frequently used for assessing areas, existing buildings, new construction and large-scale renovations. Visit the website www.breeam.nl for certified projects, more insight into the number of BREEAM-NL certificates obtained per year or the average certificate scores per year.

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Colophon

DGBC owes a debt of gratitude to BRE Global and all those who have provided feedback and recommendations through advisory or working groups, market consultations, and in other ways. Also thanks to the partners who make the development and updating of BREEAM-NL financially possible. Much of the feedback is incorporated into the credit texts and you can always continue to provide input via helpdesk@dgbc.nl. This assessment guideline has largely been established through an 'open source' approach, in which knowledge and expertise from the market have played an important role.

Many expert and experienced people have been involved in finalising this version of the assessment guideline. The Board of Experts and the In-Use Advisory Group in particular deserve special mention, because they guarantee the quality of the quality mark and give direction to the development process.

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The content of this assessment guideline has been reviewed and approved by the In-Use Advisory Group, the Board of Experts and BRE Global. There are also several consultancy firms that have provided substantive support in the development.

The following persons and organisations were involved in providing feedback during the market consultation, writing, checking and correcting the credit texts:

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1. Introduction

1.1 What is BREEAM-NL

BREEAM-NL has been the certification method for a sustainably built environment since 2009. With this method, projects can be assessed for integral sustainability. BREEAM-NL has four quality marks. For new construction and renovation projects, there is BREEAM-NL New Construction (and Renovation). Existing buildings are assessed with BREEAM-NL In-Use and complete areas with BREEAM-NL Area. On [breeam.nl](https://www.breeam.nl) you will find more information about the method, the link with, for example, the Sustainable Development Goals (SDGs) or the EU Taxonomy. You will also find useful documents, such as the BREEAM-NL fact sheets.

Goals of BREEAM-NL

- BREEAM-NL assesses, stimulates and values ecological, social and economic sustainability in the built environment. The BREEAM-NL quality marks:
- Challenge the market to come up with innovative solutions that optimise the sustainability performance of buildings.
- Raise awareness among building owners, occupiers, developers and managers about the benefits of buildings with limited environmental impact.
- Develop trust and value by providing independent certification that demonstrates the added value for individuals, businesses, society and the environment.

Objectives of BREEAM-NL

- Providing market recognition for buildings with low environmental impact.
- Ensuring that sustainable best practices are integrated into buildings.
- Challenging the market to provide innovative, cost-effective solutions that reduce the environmental impact of buildings.
- Enabling organizations to showcase their environmental goals and improvements in a unified way.

Core principle/values BREEAM-NL

- Determining environmental quality through an accessible, holistic and balanced methodology.
- BREEAM-NL is based on objective criteria that value good sustainable performance.
- Using a flexible approach that focuses on positive outputs without prescribing measures.
- Performance is based on scientific evidence whenever possible.
- Certification in an independent way, which increases reliability.
- Where possible, adopt existing tools and standards in the market, to promote the development of policy and technology and reduce costs.
- Drafting technical and operational issues with relevant international and national standards, including the standards of the European Commission's CEN/TC 350.
- Collaboration with a representative range of stakeholders to stay informed of developments that endorse these principles.

The sustainability objectives exceed the legal minimum as laid down in the Living Environment Buildings Decree or other laws and regulations. BREEAM-NL certification is therefore 'non-statutory'. BREEAM-NL is always a voluntary choice of the client. The BREEAM-NL objectives are based on current practice guidelines (best practices). There is freedom of choice in most subjects (credits). For example, development and construction teams can choose for themselves which credits they want to obtain the points for in order to build up the intended total score. For a number of criteria, there is a minimum standard that you must achieve. This means that you have to meet certain criteria to arrive at a certain total score. These criteria are called minimum requirements and mandatory credits.

1.2 BREEAM-NL Quality Marks

The Dutch Green Building Council Foundation is the scheme manager for BREEAM in the Netherlands. DGBC manages several BREEAM-NL quality marks, developed to assess the sustainability performance of buildings and areas over the different stages of their lives.

The Dutch credit lists focus on Dutch laws and regulations, practice guidelines and construction practice. In doing so, consistency with the international BREEAM version is monitored by BRE Global. This allows the user, through the BREEAM-NL Assessor and the certification process, to measure, evaluate and reflect on the performance of the project in an independent and robust way based on current best practices.

The credit lists are bundled into assessment guidelines. The operational assessment guidelines are:

- BREEAM-NL Area for (re)developments at area level
- BREEAM-NL New Construction and Renovation for new and large-scale renovated commercial buildings
- BREEAM-NL New Construction and Renovation for new and large-scale renovated homes and residential buildings
- BREEAM-NL In-Use for existing commercial buildings in use
- BREEAM-NL In-Use for existing homes
- BREEAM-NL In-Use for Sustainable Housing and Business Operations

Sustainability performance can be quantified with a number of individual measures and associated criteria, which extend across different sustainability categories. You will eventually find this expressed as a single certified BREEAM-NL qualification on the certificate. The points to be awarded may differ per type of building or use. In his file, the applicant indicates which use function applies to each part of the building. The current version of this assessment guideline can be consulted and downloaded at www.breeam.nl. The recently published assessment guidelines explain the context and value of each category.

1.3 BREEAM-NL In-Use

BREEAM-NL In-Use Homes is the assessment guideline for the sustainability performance of existing homes in the Netherlands. The main goal of BREEAM-NL In-Use is to reduce the negative impact on the environment of buildings in the use phase.

BREEAM-NL In-Use consists of two parts that can be certified jointly or separately from each other.

Asset: Sustainability aspects related to the structural and installation components of the building and the location where the building is located. For example, the energy performance of the building.

Management: Assessment of the way in which the management of the building is organized and carried out. For example, the maintenance of the building.

For each component (Asset or Management), a score is determined that is displayed on the certificate.

1.4 When to start with BREEAM-NL?

BREEAM-NL In-Use offers a structured approach to improving the sustainability of existing buildings and ensuring them. This certification system focuses on the continuous improvement of buildings through a three-year cycle, in which the building's performance in terms of the environment, health, energy consumption and other sustainability aspects is made transparent and assessed. At the end of this three-year cycle, a building must be recertified to provide insight into the current sustainability performance and to guarantee that the building continues to achieve the sustainability goals or achieves a higher qualification by implementing measures.

When existing projects start working with BREEAM-NL In-Use, it is essential that insight is first gained into the sustainability potential of the building. This forms the basis for setting realistic and achievable ambitions. Before concrete goals are formulated, an analysis must take place to understand what improvements are possible within the specific context of the building. It is important that projects do not immediately strive for the highest achievable qualification of 'Outstanding', this is a high level of ambition that is only achieved by a select number of buildings and must be tackled step by step. It is recommended to set realistic goals that fit the current state of the building and the possibilities for improvement.

In order to integrate the BREEAM-NL methodology efficiently and effectively into the development to be carried out, it is advisable to engage a BREEAM-NL Expert or Assessor as early as possible in the process. They have experience in integrating and implementing the BREEAM-NL methodology. Involving a BREEAM-NL Expert and Assessor at an early stage helps to achieve the desired qualification and contributes to the smooth completion of the BREEAM-NL certification process.

1.5 How to use this review scheme

With this BREEAM-NL assessment guideline:

- Qualified and licensed BREEAM-NL Assessors can complete a BREEAM-NL assessment and obtain a final qualification.
- Can DGBC have a Quality Assurance (QA) assessment carried out on the assessment report of a BREEAM-NL Assessor, in line with the procedures that have been drawn up.
- BREEAM-NL Experts receive help in supporting project teams in defining, monitoring and successfully achieving the desired final qualification.
- Do clients and project teams have a reference on how the intended building is tested with BREEAM-NL?

The assessment guideline is divided into seven parts:

- Introduction to BREEAM-NL
- Application of this assessment guideline
- Score and qualification
- Evidence
- Demarcation of the project
- How to read a credit
- Categories, issues and Criteria

Introduction to BREEAM-NL

Chapter 1 shows which version of BREEAM-NL can be applied for different project types. It also explains how the assessment guideline works for existing buildings and when it should be used.

Application of this assessment guideline

The section "Application of BREEAM-NL In-Use Homes" (chapter 2) describes the types of buildings and uses for which this BREEAM-NL quality mark is applicable. Clients and BREEAM-NL Assessors can use this information to check whether the correct BREEAM-NL quality mark has been applied to the project.

Score and qualification

The section 'Score and qualification' in chapter 3 explains how the performance of a building is measured and assessed. It describes the weighting percentages per category, the minimum scores per final qualification, the mandatory credits, filter credits, Exemplary Performances. The performances are calculated and expressed in the BREEAM-NL qualification.

If all issues within a category have been graded, a category score can be calculated. Then the category weighting is applied. The weighted scores are summed up to form a total score, which can be supplemented by additional scores for innovation credits and example performance. This total score eventually leads to a qualification, for example Good, Excellent or Outstanding.

Evidence

An important aspect of BREEAM-NL is that the sustainability performance of a building must be demonstrable. The performance must be traceable and demonstrable. Chapter 4, 'Evidence', describes the types of evidence available, and how the suitability and robustness of this evidence for certification are assessed.

Certification process

This section describes the rules regarding registration and (re)certification periods.

Reading guide

Each BREEAM-NL credit is structured according to the same model. The issue describes the criteria and goals that a project must meet in order to earn credits. For a more detailed explanation of the accrual of a issue, see chapter 6, 'Reading guide'.

Categories, Issues and Criteria

The assessment of a building is carried out during the use phase of the building, based on nine different categories that were previously mentioned in the introduction of the technical manual.

Each category and subject (also known as 'issue') is further elaborated in this guideline. For each issue, sustainability goals and criteria are defined that must be met. When the criteria are met and this is demonstrable, an Assessor can award credits.

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2. Application BREEAM-NL In-Use

The BREEAM-NL In-Use Homes technical manual can be used to assess the sustainability performance of homes. This always involves an assessment of an existing building.

2.1 Preconditions for project assessment

In order to certify a building or part of a building with BREEAM-NL In-Use Homes, at least the following preconditions must be met.

1. The asset is a complete and completed building or part of the building

Asset: If it concerns a new construction or large-scale renovation project*, the asset was delivered in its entirety at least one year ago according to the definition UAV 2012. If the asset is certified according to the appropriate BREEAM-NL scheme for new construction or large-scale renovation, a certification can be carried out against Part 1 Asset immediately after completion. If the asset has a valid BREEAM-NL In-Use certificate for Part 1 Asset at the start of the large-scale renovation, a recertification can be carried out against Part 1 Asset of BREEAM NL In-Use immediately after completion of this renovation.

AND

At the time of the assessment, at least 80% of the GFA must be in use.

Management: The asset must have been commissioned at least 12 months prior to the assessment and have at least 12 months of consumption data. At the time of the assessment, at least 80% of the GFA must be in use.

- 2.** The asset must contain occupied space(s). A occupied space is a space where building users stay for at least 30 minutes a day.
- 3.** The object must be intended as a main residence for the residents.
- 4.** The relevant facilities and technical areas used by the building and the building users must be included in the assessment. This applies to the assessment of an entire building or a part of the building.
- 5.** The asset must comply with the relevant laws and regulations.
- 6.** The asset can contain multiple houses or apartments. A maximum of 500 houses or apartments can be stored in one asset, if all minimum requirements are met. If a project wants to certify more than 500 houses or apartments under one asset, DGBC should be contacted.

Multiple homes or apartment complexes under one Asset

- 7.** If the Asset meets the following preconditions, it can be assessed as a single asset for BREEAM-NL:
- All homes are in the same location. The front doors are at a maximum of 250 meters apart (measured in a straight line), for apartment complexes the distance is measured from the main entrance of the building. Please contact the DGBC if this is deviated from.
 - All buildings have similar performance and have a similar design and year of construction.
 - The management, maintenance policy, procedures and approach of buildings is the same for all buildings that are part of the asset.
 - Evidence must be collected from each property included in the asset. Where the performance of the homes varies, the final score is determined by the home with the lowest performance level.
 - In apartment complexes, the common areas must also be part of the assessment.

* Large-scale renovation: This refers to large-scale renovation in which the thermal building envelope and the installations (lighting, heating, cooling, ventilation) are changed, with the aim of extending the life of the building.

2.2 Certifying a building or part of a building

For a complete and representative representation of the sustainability performance, it is recommended to assess the entire building with BREEAM-NL In-Use. If this is not possible, BREEAM-NL In-Use can choose to certify a building component, if this building component meets the requirements of paragraph 2.1.

The demarcation of a building part must be clearly displayed in the project data and must be determined on the basis of a physical separation (such as a floor or walls). This demarcation must be adhered to throughout the certification and systems and installations that are necessary to make this part of the building functional or that building users use are part of the certification. In addition, the same demarcation must be maintained for the Asset and Management component.

If a building is certified with both a utility function (such as shops) and residential function (such as apartments), this building will be treated as a building part, and the user functions must be assessed with the guideline that applies to it.

2.3 Assessable usage features

The overview below indicates which functions are part of the scope of this assessment guideline and which functions require customization.

Table 1: Assessable Usage Functions

FUNCTION OF USE	ASSET TYPE	ASSET SUB-TYPE
Residential	Apartment buildings	<ul style="list-style-type: none">• Medium and high apartment buildings• Low or garden style apartment buildings
	Ground-level homes	<ul style="list-style-type: none">• Detached or semi-detached houses• Townhouses or townhouses

2.4 Other building types and customization

The surface of a parking garage

The functions present in a project in accordance with paragraph 2.4 of the introduction to the assessment guideline must be entered into the assessment tool with the correct GFA. The GFA of an existing parking garage is entered under 'Other uses' in the project data.

The 'Other uses' function and the associated surfaces must be entered for administrative reasons in order to obtain a complete picture of the space distribution of the object. All functions, including 'Other functions', add up to the total GFA in the project data.

3. Score and qualification

In this chapter you can read how to calculate a BREEAM-NL qualification for a building. A number of factors determine the final BREEAM-NL qualification:

- The scope of the assessment
- Thresholds per qualification
- Minimum requirements
- Weighting of categories
- The BREEAM-NL issues and associated points

The calculation to arrive at a score is explained in the following paragraphs.

3.1 Threshold per qualification

The final score achieved is converted into a BREEAM-NL qualification. The table below shows the minimum score for each qualification.

Table 2: BREEAM-NL qualifications

BREEAM-NL QUALIFICATION	SCORE %	STARS
Outstanding	≥ 85	5 stars
Excellent	≥70 to <85	4 stars
Very Good	≥55 to <70	3 stars
Good	≥40 to <55	2 stars
Pass	≥15 to <40	1 star
Unclassified	<15	0 stars

Additional requirements are mandatory for various qualifications. More information about mandatory credits will follow later in this chapter.

The BREEAM-NL qualifications allow you, as a client or stakeholder, to compare the performance of a building with other buildings of the same type, and with the sustainability performance of a building stock. BREEAM-NL In-Use is a non-statutory standard that goes beyond the legal requirements for existing buildings. Not all qualification levels are achievable for every building, as the score depends on factors such as its current condition, management, and opportunities for improvement. The highest level, 'Outstanding', is rarely achieved and is intended for the most sustainable and well-managed buildings.

If a project receives an 'Unclassified BREEAM-NL qualification', this means that the building performance does not comply with BREEAM-NL. The minimum and mandatory requirements of the main sustainability criteria have not been met, or the general threshold score required for a 'Pass score' has not been achieved.

BREEAM Assessment – issues and credits

This technical manual consists of 78 individual issues divided into nine environmental categories, plus an 'Innovation' category. Chapter 3.2 provides more information on innovation issues and Exemplary Performance. Each credit assesses a specific construction-related environmental impact or issue. Think of topics such as internal air quality or criteria about safe access to the building for all building users. A certain number of credits is available for each credit. See table 3 for the number of credits to be obtained per category.

Table 3: Available credits

CATEGORIES	AVAILABLE CREDITS	
	Asset	Management
Management	0	29
Health	39	22
Energy	63	58
Transport	23	0
Water	30	17
Resources	17	14
Resilience	16	18
Land Use and Ecology	6	12
Pollution	16	8
Total	210	178

A building receives BREEAM-NL points if you demonstrate that it meets the 'best practices performance levels', associated with a specific issue. This means that an environmental impact has been reduced. Or, in the case of the Health category, that a specific building-related problem has been addressed. Think, for example, of good thermal comfort, sufficient daylight or pleasant acoustics.

The number of credits available for an individual assessment criterion varies. In general, the more credits a building can earn for a given credit, the more important that issue is for reducing that building's environmental impact. If you can achieve multiple credits for an issue, the number of credits awarded is usually based on an ascending scale or benchmark. The BREEAM-NL methodology rewards a higher building performance in the field of sustainability with more credits.

In addition to the BREEAM-NL total score and qualification achieved, the building performance achieved also provides insight into a series of important sustainability indicators. Examples are the environmental effects during construction and in the use phase. It means that you can use BREEAM-NL to set general goals, but also to define performance levels of a building. These can then be used to support specific organisational policy objectives for individual environmental criteria.

3.2 Conditions and exceptions

In order to maintain a flexible system, BREEAM-NL uses a 'balanced scorecard' approach to assessing a project. It means that in order to reach a certain level of performance, you can trade the most BREEAM-NL credits. This means that you can compensate building performance in one area with performance in another area, in order to achieve the intended BREEAM-NL score.

BREEAM-NL sets minimum performance standards for the BREEAM-NL qualifications in important areas such as energy, water, waste and so on. For example, the assessment scheme ensures that the BREEAM-NL Assessor, who pursues a particular assessment, does not overlook performance against fundamental environmental issues. Table 4 shows all the conditions and exceptions that apply to credits in this technical manual.

Mandatory issues

The mandatory issues give a minimum standard per issue, with which you can obtain a certain BREEAM-NL qualification. This means that a minimum number of points has been achieved for a number of issues per qualification level.

Table 4: Mandatory issues by qualification level

ISSUES PART ASSET	MINIMUM STANDARD LEVEL				
	Pass	Good	Very Good	Excellent	Outstanding
ENE 01 – Energy performance of the building				Minimum 33 credits	
WAT 01 – Metering monitoring	Minimum 1 credit				
RSC 02 – Reuse and recycling facilities					Minimum 3 credits
RSL 01 - Climate Risk Assessment	Minimum 2 credits				
ISSUES PART MANAGEMENT					
MAN 02 – Management engagement and feedback	At least 2 credits for answer option G or H				
MAN 04 – Environmental Policy and Procedures	At least 2 credits for answer option B				
RSC 05 – Sustainable procurement	At least 1 credit for answer option B				
RSL 09 – Fire risk assessment	At least 2 credits for answer option B				

Filter issues

The list of credits on which the BREEAM-NL Assessor assesses a building depends on the building type to be assessed and certain building components and components used. Think of elevators, escalators or cold and freezer storage for refrigeration of goods. If you enter the building data into the assessment tool, the relevant credit list is automatically generated. The BREEAM-NL Assessor can approve these components in the relevant credits. He or she thus gives a correct justification of the fact that certain credits do not apply, i.e. are 'filtered'.

Innovation issues and exemplary performance

With innovation credits, you can additionally value innovations that increase the sustainability performance of a building. These are innovations, on top of the achievements that are already appreciated in BREEAM-NL. Innovation points encourage clients and construction and design teams to make their building extra sustainable. Moreover, they increase knowledge, techniques and applications in the market. You can obtain an innovation credit if a technique, method or other application has been assessed as innovative. Innovation credits can be applied for using Instruction 101 (see BREEAM-NL website).

For each innovation point awarded, the BREEAM-NL Assessor can add 1% to the total score, with a maximum of 10%. Innovation points are independent of the BREEAM-NL qualification. A BREEAM-NL Assessor can therefore award them for each qualification (from PASS).

A building can also earn extra points if it meets Exemplary Performance. It is an 'exemplary performance criteria' in a BREEAM-NL credit. These Exemplary Performances also have a value of 1% on top of the total score. An Assessor can award a maximum of 10 'EP points' per component (Asset and Management). This means that the maximum additional score is 10%. The BREEAM-NL qualification is capped at 100%. Innovation credit and Exemplary Performance are awarded only as whole percentage credit.

Table 5: Available Exemplary Performance credits

ISSUE CODE	ISSUE TITLE	AVAILABLE EXEMPLARY PERFORMANCE
ASSET		
HEA 12	Inclusive design	1
ENE 10	Demand side management (DSM)	4
RSC 03	Resources inventory	2
RSL 01	Climate risk assessment	1
LUE 02	Ecological features	1
MANAGEMENT		
MAN 04	Environmental Policy and Procedures	1
ENE 19	Energy consumption	5
RSC 05	Sustainable procurement	1
RSL 10	Security risk assessment	1
POL 06	Reduction of nighttime light pollution	1

3.3 Weighting

The number of credits approved by a BREEAM-NL Assessor determines the final total score. In order to arrive at a total score, a number of settlement factors must be taken into account. The BREEAM-NL Assessor does not have to do this himself. The assessment tool makes this calculation automatically.

There is a maximum number of credits to be earned per category. The number of credits obtained in relation to the maximum number of credits to be achieved yields a percentage. This percentage is multiplied by the weighting percentage of each category. By adding up the nine category scores, you get a total score. That is the score on the certificate.

The weighting factors are based on a consensus from the survey among various stakeholders and organizations. Think of government, suppliers, manufacturers and knowledge institutions. This peer reviewed study was conducted by BRE to determine the relative importance (weight) of each sustainability category. In the Netherlands, no research or stakeholder analysis has yet been carried out. That is why we use the same weighting as for BREEAM International. This is therefore a consensus based on qualitative research and not a scientific weighting. The weighting percentages may change over time if social developments give cause to do so.

Table 6: Weighting by category

CATEGORIES	WEIGHTING	
	Part: Asset	Part: Management
Management	0%	10%
Health	18,5%	16%
Energy	27%	30%
Transport	6%	0%
Water	9,5%	8,5%
Resources	11%	12%
Resilience	14,5%	11%
Land Use and Ecology	4,5%	8,5%
Pollution	9%	4%
Total	100%	100%
Exemplary Performance	Maximum 10%	Maximum 10%

3.4 How is a BREEAM-NL qualification established?

The final BREEAM-NL qualification (from 'Pass' to 'Outstanding') is calculated by the assessment tool. The BREEAM-NL Expert has justified the criteria the project meets in the assessment tool. The BREEAM-NL Expert ticks off the points that the project is aiming for. The BREEAM-NL Assessor checks the accountability and burden of proof and approves the points. It does not alter the fact that the BREEAM-NL Assessor and Expert must also be able to calculate the qualification themselves.

To arrive at the correct qualification, they proceed as follows (see also the calculation example below):

1. Within each category of BREEAM-NL In-Use Homes, the number of points that can be awarded per issue is determined by the Assessor, in accordance with the criteria that apply to each issue.
2. The percentage of credits that have been achieved is calculated per category.
3. The percentage of credits obtained per category is multiplied by the weighting percentage of the relevant category. This shows the share of the score per category on the total score.
4. Next, the category scores must be added up to determine the total BREEAM-NL In-Use score (%) for the part that is assessed.
5. Add up the category scores, including innovation issues and Exemplary Performance credits that apply. This results in a draft final score.
6. The Assessor compares the total score with the BREEAM-NL qualifications. If the asset meets all the requirements, the relevant BREEAM-NL score is achieved.

Table 7: Calculation example of scoring

CATEGORIES	AVAILABLE CREDITS	CREDITS EARNED	PERCENTAGE OF CREDITS OBTAINED	CATEGORY WEIGHTING	SCORE BY CATEGORY
	Asset				
Management	0	0	0	0%	-
Health	46	30	65,22%	17,5%	11,41%
Energy	70	24	34,28%	24%	8,22%
Transport	23	6	26,09%	8%	2,10%
Water	40	20	50%	9,5%	4,75%
Resources	21	14	66,66%	13%	8,66%
Resilience	17	15	88,23%	12%	10,59%
Land Use and Ecology	6	4	66,66%	9%	6%
Pollution	18	7	38,88%	7%	2,72%
Exemplary Performance	14	2	-	1%	2%
Total	241	120	Total score Asset		56,45%

NOTE: Available credits in the calculation example are fictitious and do not correspond to the actual achievable points for BREEAM-NL In-Use Homes v6.1.1

3.5 Building data in the issues

To ensure that the building data is better recorded in the Assessment Tool, some credits ask you to fill in and validate additional fields. This should be done in addition to checking the criteria or answer options that apply. In this way, it can be checked whether everything has been filled in consistently, changes can be tracked and the improvement of the sustainability performance of the building can be monitored. If an answer option (or criterion) applies to the building and there is an input field associated with it, the points can only be obtained if that field is also filled in. See Table 8 of the mandatory input fields.

Table 8: Building data credits

ISSUE	DATA POINT	UNITY
ENE 01	Energy performance of the building	Label
ENE 01	Energy performance of the building	Expiration date
ENE 19	Energy consumption	kWh/m ² GO per year
ENE 19	Energy consumption	kgCO ₂ /m ² GO per year
WAT 11	Water consumption	M ³
WAT 12	Water recycling	M ³
RSL 01	Climate risk assessment (heat)	ZL/M/H/ZH
RSL 01	Climate risk assessment (drought)	ZL/M/H/ZH
RSL 01	Climate risk assessment (flooding)	ZL/M/H/ZH
RSL 01	Climate risk assessment (flooding)	ZL/M/H/ZH
LUE 01	Planted area	%

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4. Evidence

To ensure consistency and reliability, all BREEAM-NL certifications must be based on reliable and verifiable information, which is in line with the project in question. This is guaranteed with the BREEAM-NL certification with the burden of proof. Burden of proof should be used to support the accountability of the number of points to be awarded in the case of a credit. The burden of proof required for this may differ per assessment guideline and per credit.

4.1 Types of evidence

The evidence for the credits is preferably not specially drawn up for a BREEAM-NL certification. In many cases, the requirements of the assessment guideline can be demonstrated with available building information and an on-site inspection.

In the credits, it may happen that specific burden of proof is requested for a criteria. The burden of proof that must be provided is described in the relevant credit under the 'evidence' section. If a specific burden of proof is not required for a credit, the project can use table 9 to determine what burden of proof is needed to demonstrate that the criteria are met.

Table 9: Type of evidence

REFERENCE	EVIDENCE TYPE	DESCRIPTION
E1	Bills/invoices	Evidence in the form of invoices/invoices that supports the requested requirements in the criteria. Billing information must come from the organization that provides the billed services to the item.
E2	Meter readings/ BMS output	Proof based on meter readings of the consumption of gas, electricity and water, among other things. This data is evident from individual meter readings or from data collected from the building management system (BMS), installed in the asset.
E3	Building information model (BIM) data	BIM (Building information model) or BIM files used for the project, which contain relevant information/evidence and are readable by the reviewing party.
E4	Communication with DGBC	For example, the reference for a DGBC response to the technical question of a BREEAM-NL In-Use Assessor.
E5	Report of site visit Assessor	Reporting based on the site visit to the asset carried out by the BREEAM-NL In-Use Assessor himself, to determine that the BREEAM-NL In-Use criteria are met. The report serves as separate evidence and may include photos taken by the Assessor during the site visit.
E6	Recognized certificates	Examples such as ISO14001, FSC (Forrest Stewardship Council), EPD (Environmental Product Declaration) etc.
E7	Communicative expressions	Formal documents of communication with stakeholders and/or third parties showing an agreement, outcome or action. This can be in the form of a letter, minutes, e-mail correspondence, a publication or any other form of media.
E8	Computer-aided modelling results and conclusions	Examples are thermal modelling, flood assessments/modelling, life cycle assessment, life cycle cost analysis, ventilation modelling, etc.
E9	Contract documents	Documents/contracts that demonstrate how maintenance/monitoring/testing or other services are performed by a (third) party.
E10	Other third-party information	For example, floor plans, timetables, product specifications, laws and regulations, product labels.
E11	Photographic evidence	Photos that support or confirm that installations and building elements or other relevant systems or products are present or installed at the asset.
E12	Professional Services Contract	Agreement for the provision of professional (advisory) services, such as maintenance, testing or legal or technical advice.

REFERENCE	EVIDENCE TYPE	DESCRIPTION
E13	Risk assessment	Risk assessments include various operational risks and other risks to a project. This includes how each risk is managed and who is responsible for managing each risk.
E14	Expert reports	Professional reports based on research, testing or studies by an expert, including (but not limited to): <ul style="list-style-type: none"> • Environmental management system • Flood risk assessment • Acoustic research • Indoor air quality • Transport analysis • Performance assurance and maintenance reports and strategies • Ecological research • Legionella management plan
E15	Overview of services to be provided	An overview of specific services and tasks, to be performed by a party involved in the asset, that are included in the contract with this party.
E16	Interviews with employees	Interviews with employees who confirm that specified (management) practices/reviews are carried out in the asset. Staff interviews are an important part of verifying that formal processes/procedures/documents are made available to staff/building users.

4.2 Reliability and quality of evidence

Evidence used for a BREEAM-NL certification must be reliable and of good quality when it comes to the source and traceability of the evidence. Below is an overview of quality requirements that a BREEAM-NL Assessor can ask for if evidence is provided.

- **Communicative communications:** Newsletters, conversation reports, email conversations, or any other form of media used as evidence must clearly display the name of the asset and/or location, author/organization, and date.
- **Formal letters of correspondence:** letters must be addressed, dated and signed (electronic signature is sufficient).
- **Construction drawings/floor plans/installation technical drawings:** all these documents are provided with the name of the asset and/or location, title of the drawing, date, (if possible revision number and scale).
- **Specification/building manuals:** A specification/building manual must be clearly related to the project being assessed, and must be dated. If parts of a specification or a building manual have been made available, the table of contents and the cover page of the specification or manual must in any case be attached. It should include the name of the project and the date.
- **Photographic evidence:** This must be dated and have a title/description that clearly links the photographic evidence to the asset and the related credit.

4.3 Principles to be used for evidence

In determining the appropriateness and robustness of the evidence for each credit, the BREEAM-NL Assessor should apply the principles set out in Table 10. If the evidence complies with these principles, it is admissible for the assessment. The principles below are not in a hierarchical order, they are all equally important in approving the evidence.

Table 10: Principles of evidence

	PRINCIPLE	PURPOSE	QUESTION TO ASK
1	Evidence provided for all criteria for all points to be obtained		
	Evidence must show that ALL relevant criteria for the point obtained are met.	Completeness.	Are all criteria covered? Have all relevant definitions been addressed?
2	Unambiguous assessment		
	The assessment must demonstrate that compliance is made in an unambiguous manner. Evidence (and explanations) must make it clear to the reviewing party that the requirements are met.	Comparability of independent assessment.	If a third party reviews my report with the attached evidence, will they be able to confirm that the requirements are met, and award the same points as me?
3	Robust		
	Always ensure that the evidence is robust and relevant to the assessment. The evidence contains all relevant basic information.	The evidence is demonstrably robust and from a reliable source.	Is this the most robust form of evidence available to show compliance with the requirements? Does the evidence contain all the relevant basic information? Can it be fully controlled?
4	Make use of existing and available evidence		
	Use available and existing information to demonstrate compliance. In most cases, evidence will not need to be 'created'.	By using existing and available evidence, I minimize time and costs.	Is evidence that meets the previous principles already present and usable? If I have to ask for more evidence, does the project look for points that they cannot sufficiently demonstrate that they meet?

4.4 Representative sample of evidence

It may happen in a credit that under 'required evidence' it is indicated that a representative sample is sufficient. A representative sample means that homes are chosen that reflect the characteristics of all homes within the assessment. Instead of providing evidence for each dwelling or specific element (such as taps) separately, a sample can be used that reflects the dwellings within the assessment.

By taking a sample that is representative of the whole, the findings and results of the sample can be generalized to all homes within the assessment. This enables the Expert/project team to demonstrate that the set criteria are met with a limited amount of data, without having to assess each property individually. The sample must be composed in such a way that it adequately reflects the variation in the housing supply. In addition, the BREEAM-NL In-Use Homes assessment must always be based on the poorly performing home on a specific subject, unless the credit prescribes otherwise.

5. Certification process

The formal certification process is described in detail in the User Guide. This describes the certification process, including the various certification conditions for each step. This includes registration deadlines, conditions for releasing a certificate and the site visits carried out by an Assessor.

For each assessment guideline, there are scheme-specific conditions that apply at the Assessment Guideline and project level. These conditions are described in this chapter.

5.1 Register

A new BREEAM-NL In-Use project must be registered against the current version. A registration is valid for one year. If a certificate is not obtained within one year of registration, a new registration must be made against the then current version.

5.2 (Re)certification

Certificate validity

In the BREEAM-NL In-Use V6.1.1, the certificate is valid for a maximum of three years by default, unless the assessment is part of a portfolio approach with a different validity period. The certificate states the certification date (e.g. 01-02-2020) and the date valid until (e.g. 01-02-2023).

Intermediate/flexible certification cycle

To implement and verify interim improvements, the 'interim certification cycle' can be used. This gives the Client and the team members involved the opportunity to see interim improvements in the score of the certificate after 1 and/or 2 years.

This is possible if:

- A Part is added. For example, at the initial certification, Part 1 Asset is certified. After 1 or 2 years, Part 2 Management will be added.
- A 'significant' change has taken place. If the score changes by more than 10%, the change is significant.
- A 'relatively minor' change has taken place. If the score changes less than 10%, the change is relatively small.

If a significant change has taken place, a site visit by a BREEAM-NL In-Use Assessor is required. If a relatively small change has taken place, a 'desk-based audit' will suffice. The BREEAM-NL Assessor must indicate in the 'status commentary' whether the interim certification concerns a 'relatively minor' or a 'significant' change.

If a portfolio (in accordance with instruction 117) uses the interim certification cycle, the BREEAM-NL Assessor must take a sample of the square root of the number of buildings with a 'significant' change with a minimum of 10% for the site visits.

For an interim certification, the regular QA (Quality Assurance) procedure and deadlines are adhered to, as described in the User Manual (HL001 User Manual). After approval in the QA, the initial validity of the certificate is maintained. To use the Intermediate Certification Cycle, the Project must copy the assessment in the Assessment Tool and select "copy for intermediate certification". See the fees for the intermediate certification cycle on www.breeam.nl.

Rules for the launch of the new assessment guideline

After the launch of a new version of the BREEAM-NL In-Use Assessment Guideline, it is possible to register against the old version one year after launch. From the moment of registration, it is still possible to recertify against the same (old) version within one year. After this, the new version of the Assessment Guideline will have to be used.

5.3 Certificates

When the certificate is issued, one certificate is generated per asset by default. Other options include:

- For apartments, you can choose a certificate for the entire building or a separate certificate for each apartment within the building.
- OR

- Each block of houses receives a certificate, or it can be chosen to provide each separate ground-level house with a separate certificate.

If desired, please contact DGBC via helpdesk@dgbc.nl.

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6. How to read the issues

The light green area contains general information about the issue, such as how many credits are available and whether it is a minimum standard.

Code and name of the issue.

This box shows the purpose of the issue.

For each issue, a question is asked with 1 or more answer options. Above the answer options, it always says if there are

Most answer options come with criteria. The last column of this table shows the answer options to which the criteria apply.

Methodology describes the method on which criteria should be determined, for example by means of calculations.

HEA 06
GEZONDHEID

Toegankelijkheid

Het waarderen en stimuleren dat de woning toegankelijk is voor alle gebruikers.

Beschikbare punten : **2**

Exemplary performance : **X**

Bevat minimale vereiste : **X**

Bevat filter : **X**

Verplicht vanaf : **X**

Vraag. Toegankelijkheid

Is het gebouw ontworpen volgens principes voor inclusieve toegankelijkheid?

PUNTEN	ANTWOORD	SELECTEER ÉÉN ANTWOORDOPTIE
1	A	Ja, het gebouw is ontworpen en gerealiseerd volgens de basiseisen van een toegankelijke woning.
2	B	Ja, het gebouw is volledig ontworpen op inclusieve toegankelijkheid voor bewoners en bezoekers.

Criteria

#	CRITERIA	TOEPASBAAR OP ANTWOORD
1.	Betreft de BREEAM-certificering een grondgebonden woning, dan zijn de toegankelijkheidseisen van toepassing op de woning en de buitenruimte op de kavel. Wanneer een woongebouw wordt gecertificeerd worden aanvullend de algemene (verkeers) ruimten opgenomen van het gebouw, bijvoorbeeld de entreehal, trappenhuis, bergruimten, enzovoorts.	Alle
2.	De woning is ontworpen en gerealiseerd met toegankelijkheidseisen, hiervoor worden de volgende methodieken geaccepteerd: <ul style="list-style-type: none"> i. NEN 1814, de Minimale eisen (A) en de basiseisen (B) worden gerealiseerd (Niveau 2 - Bruikbaar). ii. ITS Basis voor een woning en ITS Totaal voor een woongebouw. 	A
3.	Het gebouw heeft het ITstandaard Keurmerk 2023 certificaat behaald en voldoet aan de categorie ITS Basis (voor een woning) en ITS Totaal (voor een woongebouw).	B

Tabellen

Geen

Methodiek

Geen

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DUTCH GREEN BUILDING COUNCIL

HEA 06

GEZONDHEID 

Toegankelijkheid

Bewijsvoering

CRITERIA	VEREISTEN BEWIJSVOERING
Alle	Met één of meerdere bewijsstukken zoals vermeld in hoofdstuk 4.0 BREEAM-NL Bewijsmateriaal moet worden aangetoond dat het project aan de criteria voldoet.

Specific burden of proof is described with every credit. The first column indicates the criteria for which the evidence applies.

Definities

TOEGANKELIJKHEID

Het voorzien in gebouwen, gebouwdelen of buitenruimten die toegankelijk en bruikbaar zijn voor alle gebruikers, ongeacht beperking, leeftijd of geslacht.

Definitions describe how important concepts are used to describe the interpreted.

ITSTANDAARD

De Integrale Toegankelijkheidsstandaard (ITstandaard) biedt een praktische bouwstandaard voor het inclusief ontwerpen van gebouwen. De eisen die worden toegepast voor ontwerp en realisatie zorgen voor een integraal toegankelijk project, waarbij de eisen voortkomen uit algemene richtlijnen, wet en normen en aansluiten op de reguliere bouwkundige praktijk. ITstandaard richt zich niet enkel op bewoners met een lichamelijke beperking, het maakt projecten integraal toegankelijk voor o.a. ouderen, ouders met kinderen, etc. De ITstandaard 2023 kent de toevoeging voor Wonen. De categorieën Basis en Totaal vormen hierbij de vereisten voor een grondgebonden woning en woongebouw.

NEN 1814

De norm geeft een methode voor het bepalen van de toegankelijkheidsprestaties van buitenruimten, gebouwen en woningen. Het kent door de niveaus een onderverdeling in de scope waarop de maatregelen van toepassing zijn. Niveau 2 – Bruikbaar is gericht op zowel de bewoners en bezoekers van een woning en richt zich daarbij zowel op de eigen woning (minimale eisen) als ook de algemene gebouwdelen wanneer deze van toepassing zijn (zoals in een woongebouw). Niveau 2 – Bruikbaar laat zien dat een woning met kleine aanpassingen, zonder bouwkundige ingrepen, integraal toegankelijk is.

Aanvullende informatie

Geen

Referenties

- NEN 1814:2001 nl - Toegankelijkheid van buitenruimten, gebouwen en woningen
- Integrale Toegankelijkheid Standaard 2018. <https://www.pbtconsult.nl/itstandaard-2023/213/1280/>

Under references are pieces of where you can find more information on the subject in question.

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Asset

CATEGORIES	WEIGHINGS	AVAILABLE CREDITS	AVAILABLE EXEMPLARY PERFORMANCE
Management	0%	0	0
Health	18,5%	39	1
Energy	27%	63	4
Transport	6%	23	0
Water	9,5%	30	0
Resources	11%	17	2
Resilience	14,5%	16	1
Land Use and Ecology	4,5%	6	1
Pollution	9%	16	0
Total	100%	210	
Exemplary performance			9

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Health



SUMMARY

The aim of this category is to encourage a building to be healthy, safe, accessible and comfortable for all building users, including its immediate surroundings.

CONTEXT

The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being, and not just the absence of disease or physical infirmity. The WHO emphasizes that the right to the highest attainable standard of health applies to everyone, regardless of race, religion, political opinion, or social and economic status. This idea is also reflected in "good health and well-being", the third goal of the United Nations Sustainable Development Goals (SDGs).

On average, people spend more than 90% of their time in and around buildings, while the rest of their time is often spent traveling between different locations. This makes the built environment an important factor for the well-being and health of the users. There is growing evidence that the indoor climate of buildings – such as visual, thermal, acoustic and air comfort – has a major impact on both physical and mental health. Health problems that are often linked to indoor environments include lung problems, allergies, cardiovascular disease, but also psychological complaints such as stress and fatigue. Individuals in high-risk groups, such as young children, the elderly, the disabled, and the sick, may experience additional health problems due to an unhealthy environment. Some of these health risks can be serious or even life-threatening.

The well-being of residents has a direct impact on their quality of life, satisfaction and overall well-being. This makes the environment in which people live, work and relax of great importance for their personal well-being. A healthy and well-designed living environment not only promotes the physical and mental health of residents but also contributes to their overall well-being and the enjoyment of their daily lives.

Value of the issues

HEA 01	Daylighting	3 credits
Aim	To ensure that living areas in homes are provided with sufficient daylight.	
Value	Provides connection to nature for better mood, supports circadian rhythm and reduces energy costs and environmental impact by reducing the need for electric lighting.	
HEA 02	Minimising overheating from solar gain	2 credits
Aim	To value and encourage measures to minimise glare, to reduce overheating caused by sunlight.	
Value	Prevents visual discomfort, eye fatigue and headaches, lowers the risk of overheating and provides privacy.	
HEA 03	Internal and external lighting levels	4 credits
Aim	To ensure the appropriate lighting is provided so that residents can perform visual tasks efficiently and accurately.	
Value	Enables residents to perform tasks safely, efficiently and comfortably through good visual perception of the environment.	
HEA 05	Minimising flicker from lighting systems	2 credits
Aim	Increasing visual comfort by preventing the use of flickering lights.	
Value	Prevents visual distraction, fatigue and reduced performance. And reduces physiological effects such as headaches, eye strain and the risk of seizures.	
HEA 06	View out	4 credits
Aim	Offering residents the opportunity for relaxation and variety through a view of the outside, preferably of a natural outdoor environment.	
Value	Provides a connection to the outdoors and nature to improve the state of mind.	
HEA 07	User comfort control, and maintenance	3 credits
Aim	To recognize the provision for the easy operation of temperature and ventilation systems, to optimize effectiveness, usability and comfort and to prevent moisture problems.	
Value	Allows residents to adjust comfort in poor temperature or air quality and reduces environmental impact and operational costs through unnecessary heating or cooling.	
HEA 08	Air supply and exhaust points of the ventilation system	2 credits
Aim	Contributing to a healthy living environment by ensuring that air exchange is free from contaminants originating from pollution sources.	
Value	Reduces air pollution from external sources and supports the physical health of users.	
HEA 09	Carbon dioxide sensors	2 credits
Aim	Stimulating the monitoring of internal air quality, in order to ensure a healthy indoor climate.	
Value	Ensures good air quality in the building and warns users of changes.	
HEA 10	Carbon monoxide detection	2 credits
Aim	Protecting residents of the asset from harmful carbon monoxide concentrations associated with combustion appliances and enclosed parking garages.	
Value	Ensures protection of building users from carbon monoxide and helps identify problems with combustion appliances or ventilation systems.	

HEA 11	Indoor and outdoor spaces	6 points
Purpose of credit	To recognise the provision of outdoor recreational space, promoting community spirit, activity and wellbeing.	
Value	Encourages physical activity and social cohesion through the presence of an outdoor recreation area for residents, which can have physical, mental and social benefits for residents.	

HEA 12	Inclusive design	4 points +1 Exemplary Performance
Purpose of credit	To recognise and encourage that the asset is accessible to all users.	
Value	Ensures secure and easy access to the asset for all users, regardless of their characteristics or abilities.	

HEA 13	Radon risk management	2 points
Purpose of credit	Highlight the risks of exposure to Radon and valuing an asset where the risks are limited.	
Value	Encourages understanding of radon risk on the asset and enables appropriate measures to be taken to protect the health of occupants.	

HEA 101	Living environment air quality	3 points
Purpose of credit	Valuing locations with good air quality, to guarantee a healthy and safe living environment.	
Value	Determine whether the residents live in a location with good air quality.	

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Daylighting

To ensure that living areas in homes are provided with sufficient daylight.

Part	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is sufficient daylight access possible in occupied spaces?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, all occupied spaces have a glazed area of $\geq 10\%$.
2	C	Yes, $\geq 80\%$ of the occupied spaces have a glazed area of $\geq 15\%$.
3	D	Yes, all occupied spaces have a glazed area of $\geq 15\%$.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Occupied spaces meet the requirements for glazed area in relation to the floor area $\geq 10\%$. See methodology for the calculation.	B
2	Occupied spaces meets the requirements for glazed area in relation to the floor area $\geq 15\%$. See methodology for the calculation.	C and D
3	If there are communal occupied spaces in the home or building, these spaces must also meet the criteria.	B, C and D

Specific notes

None.

Tables

None.

Methodology

To determine what percentage of glass area an occupied space has in relation to the floor area, the calculation below must be used. In order to demonstrate that the homes within the assessment meet the requirements, a calculation must be made for at least one home per home type (if the window/facade openings differ). Credits are awarded based on the worst performing home type.

Calculation:Step 1

Calculate the floor area in m² for each relevant room. If the living room and kitchen are in one room, this must also be included as one room in the calculation.

Daylighting

Step 2

Calculate the total glass area in m2 per occupied space.

Step 3

Calculate the percentage of glazed area in relation to the floor area for each living room with the calculation below.

$$\text{Percentage of Glass Area in relation to Floor Area} = \frac{\text{Total glazed area of the occupied spaces in m}^2}{\text{Floor area of the occupied spaces in m}^2} \times 100$$

Step 4

Determine what percentage of the occupied spaces meet the criteria requirements and select the correct answer option.

Supplement for tinted or diffused glass: for occupied spaces with tinted or diffused glass, a light transmission weighting must be used. The percentage of glazed area in relation to the floor area must be multiplied by T/0.8 (T = transmission value of the glass as a decimal number). If no transmission value is known, the percentage of glazed area in relation to the floor area must be multiplied by: 0.25 for tinted glass and 0.60 for diffused glass.

Daylight Entry Calculations, Measurements, and Simulations

Have daylighting calculations, measurements or simulations been carried out for the asset, for example during the design or construction process, and have no adjustments been made to the floor layout or glass surface? These calculations, measurements or simulations may then be used to determine what percentage of the floor area of the living areas meets the criteria. An example of this is a calculation of the energy label according to NEN 2057 and NTA8800.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	Documentation (such as measurement data, drawings, etc.) and calculation regarding the glazed area.
1, 2 and 3	Photos of the windows in the residences or communal occupied spaces (a representative sample will suffice).

Definitions

Occupied space

A space intended for people to stay for at least a continuous period of 30 minutes per day. Within a home this at least relates to the living room, kitchen, bedroom, study.

Additional information

None.

References

None.

Minimising overheating from solar gain

To value and encourage measures to minimise glare, to reduce overheating caused by sunlight.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are there external facilities that prevent glare and overheating in occupied spaces?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, facilities are available for $\geq 80\%$ of the occupied spaces.
2	C	Yes, facilities are available for all the occupied spaces.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	External shading features are required on windows in houses and apartments, where there is a risk of overheating. This is also required in communal occupied spaces.	B and C
2	Examples of compliant external shading features: <ul style="list-style-type: none"> • Integrated measures on the outside of the building, such as overhanging eaves, overhangs, fixed slats and brise-soleil. • External sun protection, such as drop screens, sliding screens and external blinds. • The location and/or design of the asset minimizes the risk of light pollution, for example: north-facing windows, where there is no chance of glare due to reflection from other buildings. 	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Minimising overheating from solar gain

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Photographic evidence of the external shading systems (a representative sample will suffice).

Definitions

Occupied space

A space intended for the stay of people for at least a continuous period of 30 minutes per day. Within a home, this at least relates to the living room, kitchen, bedroom, study.

Additional information

Solar shading guidance

The SBR publication "Vat op de Zon" (control on the sunshine, solar shading for residential buildings) can be used as guiding documents for the application of solar shading.

References

None.

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Internal and external lighting levels

To ensure the appropriate lighting is provided so that residents can perform visual tasks efficiently and accurately.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question 1

Do internal lighting levels meet actual standards illuminance levels?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 50\%$ of the communal areas meet the actual standards for internal lighting.
2	C	Yes, $\geq 80\%$ of the communal areas meet the actual standards for internal lighting.

Question 2

Do external lighting levels meet actual standards illuminance levels?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
2	E	Yes, $\geq 80\%$ of external lighting meets the actual standards for outdoor lighting.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If outdoor lighting is not present and is not required for safety and execution of tasks, the answer option can be filtered from the assessment	D and E
CRITERIA FOR QUESTION 1		
2	<p>The illuminance level is measured by a competent person and is in accordance with the standard below:</p> <ul style="list-style-type: none"> NEN-EN 12464-1:2021 Light and lighting – Lighting of work places. Part 1: Indoor work places. <p>If a DIALUX calculation or equivalent has been carried out, which shows that the standards mentioned above (which apply) are met, this can be regarded as equivalent to a measurement. It must be demonstrated that the assumptions of the calculation correspond to the current situation of the asset.</p>	B and C
CRITERIA FOR QUESTION 2		
3	<p>The illuminance level is measured by a competent person and is in accordance with the standards below:</p> <ul style="list-style-type: none"> NEN-EN 12464-2: 2021 Light and lighting technology – Lighting of work places. Part 2: Outdoor work places. NPR 13201+A1:2018: Public lighting. 	E

Internal and external lighting levels

#	CRITERIA	APPLICABLE ON ANSWER
	If a DIALUX calculation or equivalent has been carried out, which shows that the standards mentioned above (which apply) are met, this can be regarded as equivalent to a measurement. It must be demonstrated that the assumptions of the calculation correspond to the current situation of the asset.	
4	External lighting that should be assessed are (but are not limited to): <ul style="list-style-type: none"> • Entrance of the asset. • Walkways exclusively for pedestrians. • Traffic areas for slowly moving vehicles (maximum 10 km/h), e.g. bicycles. • Regular vehicle traffic (maximum 40 km/h). • Vehicle turning, loading and unloading points. • Parking areas. 	E

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	Documentation confirming the illuminance levels in the occupied spaces and/or outdoor areas.
2, 3 and 4	The qualifications of the measuring instrument and the relevant knowledge and experience of the person who carried out the measurement.
2, 3 and 4	If necessary: Calculation of the percentage common areas that comply with the criteria.

Definitions

Illuminance

The amount of light falling on a surface per unit area, measured in lux.

Occupied space

A space intended for the stay of people for at least a continuous period of 30 minutes per day. Within a home, this at least relates to the living room, kitchen, bedroom, study.

Competent person

Someone who has demonstrable experience in carrying out light measurements in indoor and outdoor spaces.

Internal and external lighting levels

Additional information

Reference NEN-EN 12464-1 and -2

The credit refers to NEN-EN 12464-1 and -2 because these standards contain specific requirements for illuminance levels in indoor and outdoor spaces that are relevant to apartment complexes. The standards set illuminance levels for various communal spaces, such as corridors, stairwells, entrance halls, parking lots and other outdoor spaces, ensuring an optimal balance between visual comfort, safety and energy efficiency. By using these standards, the necessary lighting requirements are met that contribute to a safe and comfortable living environment for the residents.

References

None.

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Minimising flicker from lighting systems

Increasing visual comfort by preventing the use of flickering lights.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: X
Minimum standard	: X

Question

Are lighting techniques used in the common areas and management offices that minimise the risk of flicker?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 50\%$ of lighting techniques do not cause any flickering nuisance.
2	C	Yes, all of the lighting techniques do not cause any flickering nuisance.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The number of credits awarded should be based on the proportion of lighting installations with features that minimise or prevent flicker compared to the total number of lighting installations.	B and C
2	<p>One or more of the lighting techniques below have been applied in the asset. The following lighting techniques do not cause flicker and meet the purpose of the issue:</p> <ul style="list-style-type: none"> Fluorescent and gas discharge lighting where the light is controlled by electronic high frequency control gear. LED lighting without dimming. LED lighting with dimming where dimming occurs through controlling the current. Incandescent lighting, e.g. halogen lamps. Equivalent lighting techniques. <p>Where Digital Addressable Lighting Interface (DALI) or similar systems are used to dim LED lighting, evidence must be provided to demonstrate that the LED products do not flicker.</p>	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Minimising flicker from lighting systems

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Calculation of the percentage of lighting techniques that meet the criteria.
1 and 2	Photographic evidence of the installed lighting (a representative sample will suffice).
1 and 2	Technical specifications of the installed lighting and the dimming techniques used.

Definitions

High frequency control gear

Device connected between the supply and one or more discharge lamps which serves mainly to limit the current of the lamp(s) to the required value. Control gear may also include means for transforming the supply voltage, correcting the power factor and, either alone or in combination with a starting device, provide the necessary conditions for starting the lamp.

Flicker

Impression of unsteadiness of visual sensation induced by a light stimulus whose luminance or spectral distribution fluctuates with time.

Stroboscopic effect (SVM)

The stroboscopic effect of lighting is more difficult to observe than flickering. That is why a method has been developed to make this measurable: SVM (Stroboscopic Visibility Measure). This method makes it possible to quantify the visibility of the stroboscopic effect in common lighting.

Additional information

The criteria for flicker and strobe effect in dimming techniques for LED lighting are formulated in NEMA 77-2017 in terms of the measures Pst LM (flicker severity) and SVM (stroboscopic visibility measure).

Dimming techniques for LED lighting using PWM, leading edge and trailing edge are accepted if the LED systems meet the criteria for flicker \leq PstLM 1.0 and stroboscopic effect SVM $0.4 \leq$ in accordance with the provisions in NEMA 77-2017. This applies to normal and dimmed operating conditions, taking into account the possible influence of voltage fluctuations on the power grid.

References

None.

View out

Offering residents the opportunity for relaxation and variety through a view of the outside, preferably of a natural outdoor environment.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Do occupied spaces have an adequate external view out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 80\%$ of the occupied spaces have a window or a permanent opening providing a view out.
2	C	Yes, all of the occupied spaces have a window or a permanent opening providing a view out.

Question 2

Does the view out provide a view of a natural outdoor environment?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
1	E	Yes, $\geq 50\%$ of the occupied spaces have a view of a natural outdoor environment.
2	F	Yes, $\geq 80\%$ of the occupied spaces have a view of a natural outdoor environment.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The living areas must have a window or facade opening where residents can look out at least at sitting height AND where the window or facade opening is at least 20% of the surrounding wall area. A view of a courtyard, courtyard or atrium is sufficient if the distance from the window to the back wall of the courtyard/courtyard or atrium is at least 10 metres.	B and C
CRITERIA FOR QUESTION 2		
2	The view of nature should be determined at seated eye level.	E and F
3	The following examples provide some guidance on what would be considered acceptable: <ul style="list-style-type: none"> Gardens attached to the home that contains green Local parks, streams, sports fields or other greenery in the neighbourhood. Forest-, dune-, heather area. Peat landscape, hilly landscape, river landscape and lakes. Views of the sea in the distance 	E and F

Specific notes

View out

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation/photographic evidence showing that there are windows or facade openings in living areas.
1	Documentation showing that the facade opening is at least 20% of the surrounding wall area.
2 and 3	Photographic evidence of the view of nature (a representative sample will suffice).

Definitions

Occupied space

A space intended for the stay of people for at least a continuous period of 30 minutes per day. Within a home, this at least relates to the living room, kitchen, bedroom, study.

Additional information

None.

References

None.

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User comfort control, and maintenance

To recognize the provision for the easy operation of temperature and ventilation systems, to optimize effectiveness, usability and comfort and to prevent moisture problems.

Part	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Are residents able to control the ventilation system?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Question 2

Are residents able to control the temperature in the home?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	C	No.
1	D	Yes, residents can adjust the temperature in the occupied spaces independently of each other.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	Extractor fans in wet rooms (such as bathrooms) shall be controlled by a humidity sensor, which may be built into the extractor fan unit. In addition, the fan must be able to be operated with a switch.	B
2	Ventilation controls for continuous mechanical extract (MEV), and continuous mechanical supply and extract with heat recovery (MVHR) systems: There is a ventilation system that has the ability to be manually boosted by the home occupant when required i.e. increase in humidity levels in the bathroom due to showering or bathing activities taking place and an information sign explaining when to activate and deactivate the boost function. OR A ventilation system that has the ability to be automatically activate boost mode when there are increased humidity levels in the bathroom due to showering or bathing activities taking place. The system should prevent activation as a result of abnormally high levels of naturally occurring background humidity (such as can occur on a humid summer's evening)	B
3	For mechanical continuous ventilation systems, there are control options that allow the ventilation speed to be adjusted.	B
CRITERIA FOR QUESTION 2		
4	The temperature in occupied spaces can be controlled in one of the following ways (list is not exhaustive): <ul style="list-style-type: none"> Room thermostats (these can also be smart thermostats). 	D

User comfort control, and maintenance

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Thermostatic radiator valves (TRVs). Fan Coil units with user control. 	

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 3	For mechanical ventilation system controls: <ul style="list-style-type: none"> Manufacturer's information confirming the method of control. Photographic evidence showing the method of control.
4	Photographic evidence of the temperature control present (a representative sample will suffice).

Definitions

Wet room

A room used for domestic activities (such as cooking, clothes washing and bathing) which give rise to significant production of airborne moisture.

Occupied space

A space intended for the stay of people for at least a continuous period of 30 minutes per day. Within a home, this at least relates to the living room, kitchen, bedroom, study.

Additional information

None.

References

None.

Ventilation system air intakes and exhausts

Contributing to a healthy living environment by ensuring that air exchange is free from contaminants originating from pollution sources.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are ventilation system air intakes and exhausts located to minimise the entry of air pollutants into the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p><u>Assets with mechanical air supply</u> The asset's air intakes are positioned at least 10m horizontal distance from sources of external pollution, including the location of air exhausts from the asset and other buildings. Exhausts or other pollutant sources are not be discharged into enclosed external spaces, such as courtyards, in which intakes are also located.</p> <p>OR</p> <p>The supply air dilution factor is in accordance with one of the following standards:</p> <ul style="list-style-type: none"> • 0.01 for ventilation, determined with NEN 8087 • 0.01 for the discharge of flue gas determined with NEN 2757-2 	B
2	<p><u>Assets with natural ventilation or natural supply</u> The ventilation grilles and the opening (roof) windows and doors are at least 10 metres horizontally away from 'external sources of air pollution'. This also includes the flue gas discharge from your own and other buildings. In enclosed spaces, such as courtyards, where there are also air inlets, there are no exhaust air and/or other sources of air pollution.</p>	B
3	The resident has (physical/online) information describing the operation of the ventilation system.	B

Specific notes

None.

Tables

None.

Ventilation system air intakes and exhausts

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	Maps, photographs or other documentation indicating the locations of the air supply and exhaust points, external sources of pollution and the distances between them.
3	Documentation or photos of how the ventilation system information has been shared with the resident.

Definitions

Sources of external air pollution:

This include:

- Highways and the main access roads associated with the asset.
- Nearby car parks, delivery and vehicle pick-up, drop-off or waiting bays.
- Nearby other building-related emissions, including from building services exhausts, industrial or agricultural processes, and external smoking areas.

Service and access roads with restricted and infrequent access, e.g. roads used only for waste collection, are unlikely to represent a significant source of external pollution. These roads can therefore be excluded from assessment.

Additional information

None.

References

None.

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Carbon dioxide sensors

Stimulating the monitoring of internal air quality, in order to ensure a healthy indoor climate.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are sensors installed in the asset that monitor the levels of carbon dioxide (CO2) in indoor air?

CREDITS	ANSWER	SELECT ONE SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, in all occupied spaces.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p><u>Assets with mechanical ventilation</u> In mechanically ventilated spaces, the carbon dioxide sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.</p> <p>OR</p> <p>The sensors visibly or audibly alert the residents or building managers when carbon dioxide levels exceeds the recommended set point.</p>	B
2	<p><u>Assets with natural ventilation or natural ventilation</u> In naturally ventilated areas, the carbon dioxide sensors should visibly or audibly alert residents or building managers when carbon dioxide levels exceed the recommended set point.</p> <p>OR</p> <p>The sensors are linked to controls, with the ability to adjust the quantity of fresh air. For example, a system that automatically opens windows or scales up the exhaust ventilation flow.</p>	B
3	<p>Sensors must:</p> <ol style="list-style-type: none"> Be installed, tested, calibrated and maintained in accordance with the manufacturer's instructions. Be placed to provide representative readings of the conditions in the spaces. Be wall-mounted at a height that corresponds to an average sitting or standing height, which is in line with the main activity carried out in those spaces. 	B
4	Set points for sensors must not exceed a carbon dioxide concentration of 800 ppm in indoor air.	B

Specific notes

None.

Carbon dioxide sensors

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Photographic evidence of the sensors
1, 2, 3 and 4	Documentation, policies, or procedures about the maintenance of the installed systems.

Definitions

Occupied space

A space intended for the stay of people for at least a continuous period of 30 minutes per day. Within a home, this at least relates to the living room, kitchen, bedroom, study.

Additional information

None.

References

None.

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Carbon monoxide detection

Protecting residents of the asset from harmful carbon monoxide concentrations associated with combustion appliances and enclosed parking garages.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Are carbon monoxide detection (CO) systems and alarm systems installed in spaces that contain combustion appliances and in enclosed parking areas?

CREDITS	ANSWER	SELECT ALL ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, in all spaces containing combustion appliances.
1	C	Yes, in all enclosed parking areas.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there is no combustion appliance present, the answer option can be filtered out of the assessment.	B
2	If there are no enclosed parking areas available, the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
3	The carbon monoxide detection system must consist of a carbon monoxide detector in all rooms where a combustion device is present and a carbon monoxide detector in all rooms that are used as sleeping accommodation and through which flue gases from a combustion device pass.	B
4	A carbon monoxide detector must be present in a fixed location. They can be self-contained detectors and alarm units that run on a battery or they can be connected to the power grid.	B and C
5	Carbon monoxide detection systems must be installed and maintained in accordance with the manufacturer's instructions.	B and C
6	The carbon monoxide detection system must warn building users of acute abnormal carbon monoxide concentrations. This allows users to react before exposing them to harmful concentrations. The detectors have a built-in siren or are connected to a central notification panel. The detector should also include an alert device to alert asset users when the detector's lifespan ends. If the detector is connected to the power supply, the detector must be equipped with a fault function.	B and C

Specific notes

None.

Tables

None.

Carbon monoxide detection

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Confirmation/documentation that there is no combustion equipment in the asset and/or that there is no enclosed parking garage.
3, 4, 5 and 6	Photographic evidence of installed systems.
3, 4, 5 and 6	Documentation, policies or procedures regarding the maintenance of the installed systems.

Definitions

Carbon monoxide (CO)

Carbon monoxide is a colourless, odourless, and tasteless gas. Low levels of carbon monoxide gas can be present in the atmosphere; however, it is highly toxic and dangerous to humans and animals in higher quantities. The gas is produced in high levels from appliances where incomplete combustion of a carbon-based fuel occurs. Incomplete combustion could occur in appliance installations that are defective, lack proper maintenance or have inadequate provision for combustion air.

Enclosed parking

Enclosed parking provides several advantages primarily focused on protection and security. This type of parking is typically found in garages or covered structures that shield vehicles from the elements.

Additional information

None.

References

None.

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Indoor and/or outdoor space

To recognise the provision of outdoor recreational space, promoting community spirit, activity and wellbeing.

Part	: Asset
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are indoor and outdoor spaces provided for residents?

CREDITS	ANSWER	SELECT ALL ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	The asset is located within 1 kilometer of a recreational space.
2	C	There is a communal space with close proximity to the building/home.
2	D	Private external space is provided.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The recreation space/facility is accessible via a safe walking route.	B
2	Common areas/facilities must be freely accessible to residents and located no more than 100 meters from the main entrance to the home (or main entrance to the building) via a safe pedestrian route.	C
3	Private balconies or roof terraces should be minimum 4m ² per apartment.	D
4	Homes should have a minimum of 25m ² private external space.	D

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Photographic evidence of the leisure facilities and facilities.

Indoor and/or outdoor space

CRITERIA	EVIDENCE REQUIREMENT
1	Distance and safe walking route to the relaxation facilities outside the plot.

Definitions

Safe walking route

A walking route where pedestrians can move safely from A to B. The walking route:

- On roads where speeds exceed 30 km/h, it is separated from the motorway by, for example, a sidewalk, so that pedestrians do not have to walk on the road.
- Is separated from cycle paths, so that pedestrians do not have to walk on the cycle path.
- Can be entered at crossing points where speeds exceed 30 km/h via a crossing or by means of traffic lights.

Communal space

A space that is accessible to the occupants of several homes, for example a community center, youth center, community garden, etc.

Private space

A space that is accessible only to the occupants of an individual home and is accessible directly from the home.

Recreational space

A location that is specially equipped or designated for relaxation, leisure and recreational activities. These places are intended for people to relax, have fun, practice sports, or otherwise spend their free time. Examples of these are: Park, beach, nature reserve, playground, sports field.

Additional information

None.

References

None.

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Inclusive design

To recognise and encourage that the asset is accessible to all users.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Does the asset contain features to allow all users regardless age, size, ability or disability to use the asset effectively?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, from the 'standard features' at least one feature per section is executed.
2	C	Yes, from the 'standard features' at least three features per section is executed.
4	D	Yes, from the 'standard features' at least three features per section is executed AND From the 'advanced features' at least one feature per section is executed.
4 +1 Exemplary Performance	E	Yes, the asset has a recognized accessibility certificate.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The measures to increase the accessibility of a building are shown in checklist HEA 12a for the 'standard features' and the advanced features are shown in checklist HEA 12b.	B, C and D
2	The Exemplary Performance is achieved if the asset has an ITS Total (Integral Accessibility Standard) quality mark, NLKT Platinum (Dutch Quality Mark for Accessibility) or equivalent.	E

Specific notes

None.

Tables

Checklist HEA 12a standard features.

CATEGORIES	STANDARD FEATURES
1. Access to the asset	<ul style="list-style-type: none"> a) Step-free external access (i.e. level, gentle slope or ramp) from the site boundary to the main entrance(s) or alternative accessible entrance of the asset. b) Handrails to external stepped and ramped access routes to the main entrance(s) or alternative accessible entrance of the asset. c) Entrance doors that are accessible to all users, particularly persons who use wheelchairs and those with limited physical dexterity, and are wide enough when open to allow unrestricted passage for a variety of users, e.g. those in wheelchairs, people carrying luggage, people with assistance pets, and parents with pushchairs and small children.

Inclusive design

CATEGORIES	STANDARD FEATURES
	d) Where car parking is provided for the asset, designated parking spaces for persons with disabilities are as close as possible to the main entrance(s) of the asset.
2. Horizontal and vertical circulation	<ul style="list-style-type: none"> a) Corridors and passageways that are wide enough to allow all persons to pass through unimpeded or turn in a wheelchair. b) Interior doors that are easy to operate and wide enough to provide free passage for all users, including wheelchair users. c) Access to all rooms in the building is barrier-free or has a maximum height of 20mm. d) Handrails for internal stairs, steps and ramps. e) Accessible lift(s) or vertical and inclined lifting platforms that reach all accessible levels of the asset. f) Accessible horizontal and vertical emergency evacuation routes (e.g. in the event of fire) and facilities (e.g. evacuation chairs) or a strategy and plan for assisted evacuation. g) The entrance, living room and toilet are located on ground floor level or are accessible with an elevator or chairlift.
3. Use of the asset's facilities	<ul style="list-style-type: none"> a) Power-operated entrance door(s) (e.g. via push pad or motion sensor). b) Controls and switches (e.g. door handles and locks, taps, activation devices, electric outlets and switches, etc.) that are easy to understand and operate, visible and at a suitable height. c) Where drinking water outlets are provided for asset users, outlets are accessible to persons with disabilities including those who use wheelchairs (a minimum of one per floor for regularly occupied areas). d) Showers, bathrooms or changing rooms should be easily adaptable for asset users who use wheelchairs, persons with limited mobility, etc.

Checklist HEA 12b advanced features

CATEGORIES	ADVANCED FEATURES
1. Orientation	<ul style="list-style-type: none"> a) Well-planned layouts that clearly identify key elements such as entrances, lifts, sanitary facilities, etc. b) Good lighting conditions with additional illumination at decision points such as access routes, entrances, staircases, lifts, etc. c) Clear information and signage that is legible and easily understood, including availability in different languages where appropriate to the asset's location. d) Use of visual contrast and colour to facilitate orientation and navigation, to provide warnings about potential hazards, and to facilitate reading of information and signs. e) Provision of tactile information, e.g. embossed signage, Braille signage, tactile walking surface indicators (TWSI), tactile maps, models and plans, changes in floor surface, changes in level, tapping rails. f) Audible communication and sounds, e.g. talking signs, announcement systems, audio descriptive way-finding information, changes in walking surface. g) Use of scents or smells to provide additional orientation cues.
2. Assistive technologies	<ul style="list-style-type: none"> a) Audible information systems. b) Visual alarm systems. c) Voice or touch screen operated controls.
3. Inclusive spaces	<ul style="list-style-type: none"> a) Assistance animal relief (toilet) area(s). b) Accessible and inclusive fitness spaces and equipment. c) Communal spaces that promote regular informal social interactions and information exchange with different asset users.

Methodology

None.

Evidence

Inclusive design

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photographic evidence of listed features.
2	Documentation of certificate.

Definitions

Accessibility

Provision of buildings, parts of buildings, or outdoor built environments for people, regardless of disability, age or gender, to be able to gain access to them, into them, to use them and exit from them.

Inclusive design

Approach to the design of the environment, including buildings and their surrounding spaces, and managed and natural landscapes, to ensure that they can be accessed and used by everyone.

Universal Design

Designing products, environments, programs and services so that everyone can use them, without the need for modifications or special design. Universal design does not exclude the need for assistive devices for certain groups or persons with disabilities, where relevant. Terms such as "universal Design", "design for all", "barrier-free design", "inclusive design" and "transgenerational design" are often used interchangeably with the same meaning.

Usability

Extent to which a product, service and the built environment can be used by specific users to achieve specific goals, with effectiveness, efficiency and satisfaction in a specified context of use.

Orientation

The ability to find your way, avoid obstacles, and know when the destination is reached.

Additional information

Principles of Universal Design

The Principles of Universal Design were developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers at the North Carolina State University, with the purpose "to guide a wide range of disciplines including environments, products and communications". The seven principles "may be applied to evaluate existing designs, guide the design process and educate both designers and consumers about the characteristics of more usable products and environments".

The seven principles are:

- Principle 1: Equitable Use - The design is useful and marketable to people with diverse abilities.
- Principle 2: Flexibility in Use – The design accommodates a wide range of individual preferences and abilities.
- Principle 3: Simple and Intuitive Use – Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- Principle 4: Perceptible Information – The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- Principle 5: Tolerance for Error - The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- Principle 6: Low Physical Effort - The design can be used efficiently and comfortably and with a minimum of fatigue.
- Principle 7: Size and Space for Approach and Use - Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

BREEAM-NL recognized certification system for accessible buildings

Inclusive design

A DGBC-approved quality mark for inclusive buildings. Trustmark administrators who think that their quality mark should also fit in the list can contact DGBC.

ITS total: The ITS standard includes three types of certifications. Basic, Total and Plus. At least an ITS Total is required for this credit. This includes all rooms and traffic areas in the object with the exception of technical rooms (central heating, ventilation rooms), professional kitchen rooms, specific laboratories and rooms where special requirements are imposed for safety reasons. The traffic routes to the primary functions and areas outside the object (on the site belonging to the object) are also part of this category.

NLKT Platinum: The Dutch Quality Mark for Accessibility (NLKT) offers building owners and managers the tools to make their buildings accessible to everyone, step by step and within the possibilities. A location with the platinum Quality Mark for Accessibility is fully independent and equally accessible to everyone, regardless of disability, chronic illness, body size or body size.

References

- Integral Accessible Standard (ITS).
- The Dutch Quality Mark for Accessibility (NLKT).

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Radon risk management

Highlight the risks of exposure to Radon and valuing an asset where the risks are limited.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is the asset in an area with the potential for elevated indoor level of radon?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Yes, the asset is in a risk area, testing has been carried out but no mitigation measures are in place.
1	B	Yes, the asset is in a risk area, testing has been carried out but no mitigation measures are required.
2	C	Yes, the asset is in a risk area, testing has been carried out and all appropriate mitigation measures are in place.
2	D	No, the asset is not located in an area of increased risk.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Based on the RIVM map 'radon in homes', the radon concentration for the homes is determined. If the RIVM map shows that there is an increased risk, at a Radon concentration from more than 40 Bq/m ³ , testing must be performed in accordance with NEN 7181.	A, B, C and D
2	The radon level at which mitigation measure are required, recommended by the World Health Organisation, is <100 Bq/m ³ . Therefore, radon levels above this would require mitigation measures.	A, B, C and D
3	Mitigation measures should follow RIVM guidance.	B and C
4	Where mitigation measures have already been installed further testing is not required. The Assessor must confirm that the measures are still in good working order.	C

Specific notes

None.

Tables

None.

Methodology

None.

Radon risk management

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The 'radon in homes' map of the RIVM is used.
1 and 2	The radon test results including confirmation that the testing procedure used aligns with the NEN 7181.
3 and 4	Confirmation of the RIVM guidance used to determine mitigation measures or a report by a suitable professional that confirms the mitigation measures are appropriate. AND Photographic evidence of risk mitigation measures and a confirmation that they are still in good working order.

Definitions

None.

Additional information

Guidance on mitigation of Radon risks

The following reference sources provide guidance on commonly used protective measures for radon and may be used to help find the best solution(s) for an asset's situation:

- <https://www.milieucentraal.nl/in-en-om-het-huis/gezonde-leefomgeving/gezond-in-en-om-huis/radongas-en-thoron-in-house/>.
- <https://www.rivm.nl/straling-en-radioactiviteit/straling-van-natuurlijke-oorsprong/straling-binnenshuis/radon-en-thoron-in-gebouwen>.

References

- The map can be found on page 18 of the report 'Homes in the Netherlands with possibly higher radon concentrations' <https://www.rivm.nl/bibliotheek/rapporten/2017-0032.pdf>.

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Air quality in the surrounding

Valuing locations with good air quality, to promote a healthy and safe living environment.

Part	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Is the asset in an environment with good air quality?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No, the GES score is higher than 6.
1	B	GES score is between 4 and 6.
2	C	GES score is 3 or lower.

Question 2

Has relevant information about outdoor air quality been made accessible to all building users and are mitigation measures taken?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
1	E	Residents are informed in formal communication about outdoor air quality and the influence they have on the air quality. And if needed with a GES score from 4 or higher Appropriate mitigation measures are in place.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The GES score of the air quality in the surrounding of the home is determined using the most recent GCN map for NO ₂ , PM ₁₀ and PM _{2,5} and table HEA101.1.	B and C
CRITERIA FOR QUESTION 2		
2	Residents are informed about the quality of the outdoor air in their living environment at least every three years and at the start of the rental period. The information must be provided in an appropriate and accessible format like a (digital) newsletter or leaflet, it has to include: a) The outdoor air quality in comparison with the National average and the RIVM standards for good air quality. b) The influence that the behaviour of residents has on outdoor air quality, among other things, by minimizing the use of motorized transport and the influence of open fire and smoking. c) Measurements that have been taken to guarantee a good indoor air quality.	E
3	Appropriate mitigation measures include as minimum: a) For mechanical ventilated buildings: Installed high spec filters in the mechanical ventilation system in line with ISSO 61.	E

Air quality in the surrounding

#	CRITERIA	APPLICABLE ON ANSWER
	<p>b) Electric charging is provided for $\geq 5\%$ of the car parking capacity following requirements of answer F of TRA01.</p> <p>The following appropriate mitigation measures have to be considered and part of the long term investment plan:</p> <p>a) For natural ventilated buildings: the implementation of mechanical ventilation including high spec filtering of air.</p> <p>b) Combustion engines for heating are replaced for no-emitting alternatives.</p> <p>c) Other suitable appropriate mitigation measures.</p>	

Specific notes

None.

Tables

For determining the GES score and the NO₂, PM₁₀ and PM_{2,5} concentrations, the highest level present within the boundaries of the site must be assumed.

Table HEA 101.1 GES score

GES SCORE	PM10	PM2.5	NO2
2	<4	<2	<4
3	<20	<10	<20
4	20 – 29	10 – 14	20 – 29
5	30 – 34	15 – 19	30 – 39
6	35 – 39	20 – 24	40 – 49
7	40 – 49	25 – 29	50 – 59
8	>49	>29	>60

Values displayed as annual average $\mu\text{g}/\text{m}^3$.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Copy of most current GCN map of the NO ₂ , PM ₁₀ and PM _{2.5} on the site.
2	Copy of information distributed to residents.
3	Specifications of the mitigation measures that have been taken and management reports or minutes detailing the consideration.

Definitions

GES

Air quality in the surrounding

GES stands for health impact screening. GES has been developed to map out the actual health risks related to a number of environmental factors in spatial planning, in addition to legal environmental standards or agreements, which are by no means always sufficient to avoid risks and complaints. Not only the actual quality is taken into account, but also the number of people exposed. This issue concerns the GES score related to air quality.

Particulate matter (PM 10)

Particulate matter in the atmosphere with a (aerodynamic) diameter of $\leq 10 \mu\text{m}$.

Particulate matter (PM 2.5)

Particulate matter in the atmosphere with a (aerodynamic) diameter $\leq 2.5 \mu\text{m}$.

Nitrogen dioxide (NO₂)

NO₂ refers to nitrogen oxides. Nitrogen dioxide NO₂ is especially important for air quality. Therefore, the GCN map "Nitrogen dioxide (NO₂)" must be used.

Additional information

None.

References

- GCN maps: <https://www.rivm.nl/gcn-gdn-kaarten>

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Energy



SUMMARY

This category recognizes building installations that contribute to lower energy consumption and CO2 emissions over the life of the building. The credits in this category assess the energy efficiency of the building, the efficiency of the installations, and the capacity of installed renewable energy generation systems. It also encourages the installation of energy monitoring and management systems to support efficient energy use and prevent unnecessary consumption.

CONTEXT

Climate change is one of the biggest global challenges and is already causing higher temperatures, more flooding and extreme weather events. The increased concentration of greenhouse gases such as carbon dioxide and methane, mainly due to human activities, is the main cause. Since the Industrial Revolution, greenhouse gas emissions have increased by about 45%, mainly due to the burning of fossil fuels, agriculture, deforestation and industrial processes. The construction and real estate sector is responsible for 39% of energy-related CO2 emissions, most of which come from the use phase of buildings.

Climate change mainly affects vulnerable, poor communities, leading to poorer health, higher mortality rates and greater risks from extreme weather events. The Paris Agreement aims to limit global warming to a maximum of 2°C this century, preferably to 1.5°C. The 2018 IPCC report emphasized the urgency of limiting the temperature increase to 1.5°C, which requires a 45% reduction in CO2 emissions by 2030 and achieving net-zero CO2 emissions by 2050.

The UN has included affordable and clean energy as part of the Sustainable Development Goals, with the aim of doubling energy efficiency and increasing the share of renewable energy. Reducing energy consumption in buildings and promoting renewable energy is crucial to combating climate change and can contribute to reducing energy poverty and creating a healthy living environment, especially for vulnerable populations.

Value of the issues

ENE 01	Energy performance of the building	48 Credits
Aim	Stimulating and valuing insight into the energy performance of the building, and measures to minimize building-related energy consumption.	
Value	Identifies underperforming assets relative to the benchmark and promotes rapid improvement action. Drives energy performance improvements and simulates more efficient building envelopes and installations. Increases energy efficiency, lowers operational costs and reduces CO ₂ emissions.	
ENE 10	Matching supply and demand of electricity	4 Exemplary Performances
Aim	Reducing Carbon emissions from the electricity grid by matching the demand for electricity with the supply of renewable electricity.	
Value	It promotes lower CO ₂ emissions from the electricity grid, provides greater stability and reduces electricity costs, as the marginal cost of renewable energy is lower than that of fossil fuels.	
ENE 11	Indoor climate control	4 Credits
Aim	Reducing operational energy consumption and carbon emissions by installing appropriate control facilities to reduce unnecessary energy consumption.	
Value	It prevents unnecessary energy consumption, improves energy efficiency during the use phase of the asset, reduces energy costs and reduces CO ₂ emissions.	
ENE 15	Monitoring of energy consumption	4 Credits
Aim	Reducing operational energy consumption through effective management and monitoring of the energy use of various building-related installations and systems.	
Value	Increases awareness of energy consumption, identifies and monitors energy users and changing patterns, so that maintenance work can be scheduled in a timely manner. Encourages the prevention of unnecessary energy consumption and provides detailed information for setting realistic energy improvement goals.	
ENE 16	Monitoring of homes	2 Credits
Aim	Reducing operational energy consumption through the effective management and monitoring of energy consumption.	
Value	Increases awareness of energy use in rentable spaces. Encourages the prevention of unnecessary energy consumption and provides detailed information for setting realistic improvement goals.	
ENE 17	Outdoor lighting and lighting parking lots	4 Credits
Aim	Reducing operational energy consumption, and associated CO ₂ emissions, through energy-efficient outdoor lighting.	
Value	Identifies the energy efficiency of outdoor lighting and encourages improvement measures. Increases energy efficiency, lowers costs and reduces CO ₂ emissions from outdoor lighting.	
ENE 18	Energy-efficient lifts	1 Credits
Aim	Reducing operational energy consumption, and associated CO ₂ emissions, through energy-efficient elevators.	
Value	Identifies the energy efficiency of elevators, escalators and moving walks and drives improvement measures. Increases energy efficiency, lowers costs and reduces CO ₂ emissions from these systems.	

Energy performance of the building

Stimulating and valuing insight into the energy performance of the building, and measures to minimize building-related energy consumption.

Part	: Asset
Available credits	: 48
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Excellent
<i>Minimum 33 credits</i>	

Question

What is the energy performance of the asset, according to a valid energy label?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION	
0	A	Not Available	
48	B	NEN7120: $X \leq 0.00$	NTA8800: $X \leq 0$
47	C	NEN7120: $X \leq 0.06$	NTA8800: $X \leq 10$
46	D	NEN7120: $X \leq 0.12$	NTA8800: $X \leq 20$
45	E	NEN7120: $X \leq 0.18$	NTA8800: $X \leq 30$
44	F	NEN7120: $X \leq 0.24$	NTA8800: $X \leq 40$
43	G	NEN7120: $X \leq 0.30$	NTA8800: $X \leq 50$
42	H	NEN7120: $X \leq 0.36$	NTA8800: $X \leq 55$
41	I	NEN7120: $X \leq 0.42$	NTA8800: $X \leq 60$
40	J	NEN7120: $X \leq 0.48$	NTA8800: $X \leq 65$
39	K	NEN7120: $X \leq 0.54$	NTA8800: $X \leq 70$
38	L	NEN7120: $X \leq 0.60$	NTA8800: $X \leq 75$
37	M	NEN7120: $X \leq 0.64$	NTA8800: $X \leq 81$
36	N	NEN7120: $X \leq 0.68$	NTA8800: $X \leq 87$
35	O	NEN7120: $X \leq 0.72$	NTA8800: $X \leq 93$
34	P	NEN7120: $X \leq 0.76$	NTA8800: $X \leq 99$
33	Q	NEN7120: $X \leq 0.80$	NTA8800: $X \leq 105$
32	R	NEN7120: $X \leq 0.93$	NTA8800: $X \leq 123$
31	S	NEN7120: $X \leq 1.07$	NTA8800: $X \leq 142$
30	T	NEN7120: $X \leq 1.20$	NTA8800: $X \leq 160$
29	U	NEN7120: $X \leq 1.27$	NTA8800: $X \leq 170$
28	V	NEN7120: $X \leq 1.33$	NTA8800: $X \leq 180$
27	W	NEN7120: $X \leq 1.40$	NTA8800: $X \leq 190$
26	X	NEN7120: $X \leq 1.50$	NTA8800: $X \leq 205$
25	Y	NEN7120: $X \leq 1.60$	NTA8800: $X \leq 220$
24	Z	NEN7120: $X \leq 1.70$	NTA8800: $X \leq 235$
23	AA	NEN7120: $X \leq 1.80$	NTA8800: $X \leq 250$
18	AB	NEN7120: $X \leq 2.10$	NTA8800: $X \leq 282$
12	AC	NEN7120: $X \leq 2.40$	NTA8800: $X \leq 328$

Energy performance of the building

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The energy performance of the asset is derived from an Energy Label not older than 10 years	A to AC
2	The energy label has been issued by a company certified with the NL-EPBD quality mark	A to AC
3	Energy label is calculated in accordance with the NTA8800 (kWh/m ²) (X = EP2) or (if the energy label was issued before 2021) the NEN7120 (X = EI) in accordance with BRL 9500-00.	A to AC

Specific notes

None.

Tables

None.

Methodology

Dealing with homes with different energy labels

If the asset consists of homes with different energy labels, the weighted average number of credits must be determined based on the GFA. The Expert substantiates the calculation of the weighted average in his/her justification and selects the corresponding answer option for ENE01 in the assessment tool.

When entering the weighted average number of points below ENE01, the nearest answer option that has been achieved is chosen, without rounding up.

Energy performance calculation according to NTA 8800

The energy performance calculation is drawn up in accordance with the NTA 8800. This determines the building-related energy consumption of the building. Outcomes from this calculation are various indicators: for the energy label, the Primary fossil energy consumption (BENG 2) is considered.

The primary fossil energy indicator (EwePTot) is the sum of the annual primary energy consumption for heating, cooling, hot water preparation, fans, lighting and humidification. Energy generated by, for example, solar panels or other renewable energy sources is deducted from this.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
All	Copy of the energy label, including deregistration number.

Definitions

None.

Additional information

EP-Online

Buildings for which a valid energy label has been issued can be found on the website www.ep-online.nl. This website lists all buildings in the Netherlands that have been deregistered for the energy label. For buildings with the old methodology, the Energy Index is

Energy performance of the building

sometimes included. For buildings labelled with the NTA 8800, the energy requirement of the building is stated (BENG 1), the primary energy requirement (BENG 2) and the percentage of renewable energy generated (BENG 3).

Depending on the information available on EP-online, a print screen can serve as an alternative burden of proof. The available information should be in any case; the BAG ID; Recording date, valid until, the usable area (thermal zone) and the scores (EI or BENG 1,2 and 3).

References

Energy label for homes, from 1 January 2021

- NTA 8800 – Method of Determination
- ISSO publication 82.1 – Energy performance of dwellings and residential buildings

Energy label for homes, before 1 January 2021

- NEN 7120 – Energy performance of buildings – determination method
- NEN 8088-1 – Ventilation and air permeability of buildings
- NEN 1068 – Thermal insulation of buildings
- Further Regulation (from 2015) or ISSO 82 (before 2015)

Certification Advisory Organizations:

- BRL 9500

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Demand side management (DSM)

Reducing Carbon emissions from the electricity grid by matching the demand for electricity with the supply of renewable electricity.

Part	: Asset
Available Credits	: 0
Exemplary Performance	: 4
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

What facilities are available for matching the supply and demand of electricity in the asset?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no facilities available.
1 Exemplary Performance	B	The generation of local energy can be matched with the demand for energy.
1 Exemplary Performance	C	The asset is equipped with a system that matches the supply and demand of electricity.
1 Exemplary Performance	D	The asset has facilities for the storing electricity.
1 Exemplary Performance	E	The charging points for electric transport or other charging points are suitable for balancing the electricity grid (bidirectional).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Local generation concerns energy that has been generated on the plot/asset of the assessment.	B
2	Existing installations are based on a system with Demand Side Management (DSM). This system regulates that the consumer's demand for electricity is adjusted to the supply of generated electricity.	C
3	There are facilities for storing electricity so that the asset can be supplied with energy from the energy storage for at least 24 hours.	D
4	All charging points for electric transport are bidirectional. This means that the charging points are suitable for charging and supplying electricity, which is connected to a system with grid balancing and any available DSM.	E

Specific notes

None.

Tables

None.

Methodology

None.

Demand side management (DSM)

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Photos of the available facilities.
1, 2, 3 and 4	Specifications of the available facilities.

Definitions

Charging points

Building-related charging points, such as charging stations for electric vehicles, batteries or accumulators (like home batteries), can make a significant contribution to balancing electricity supply and demand.

Systems for matching supply and demand electricity (Energy demand management)

Energy demand management refers to measures to adjust consumer demand for electricity to the supply of electricity generated. By changing consumption patterns, the total (national) energy consumption and therefore the electricity demand decreases, while the same consumption needs are met. This is more commonly known as 'Demand Side Management'. This includes (but is not limited to):

- Increase in time-controlled installations and electrical appliances.
- Grid balancing via rechargeable electric vehicles.
- Energy demand management systems and platforms.
- Applications of electricity storage (battery, accumulator).

Grid balancing

Using this capability to ensure that electricity input to the grid match the electricity demand. This results in a reduction in carbon emissions compared to the conventional situation where a peak in demand leads to an increase in the production of fossil fuel power plants.

Switching on and off climate installations

This type of operation limits the number of operating hours of the installations. This includes entering settings, based on a predetermined timetable including pre-set phases.

Additional information

None.

References

None.

Installed controls

Reducing operational energy consumption and carbon emissions by installing appropriate control facilities to reduce unnecessary energy consumption.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

1. What type of control device is available to regulate the temperature at room level or per zone?
2. Can the power or performance of the heating and cooling supply be modulated?
3. Is it prevented that rooms are heated and cooled at the same time?
4. Can the air supply be controlled at room level?
5. Is the temperature of the air supply controlled?
6. Is the air humidity controlled?

QUESTION	SELECT A SINGLE ANSWER OPTION PER QUESTION	SUB-CREDITS TO BE AWARDED	AVAILABLE CREDITS
1	The asset has no heating and cooling.	Filter	0
	There are control facilities for temperature control, where the control facilities communicate with each other via a building monitoring or management system.	3	
	There are control facilities with temperature control, with a room thermostat or a digital facility, but no link to the building monitoring or management system.	2	
	No	0	
2	The asset has no heating and cooling.	Filter	0
	There is temperature control based on indoor temperature.	3	
	There is temperature control based on outside temperature.	2	
	No temperature control.	0	
3	The asset has no heating and cooling.	Filter	0
	There is total protection (interlock) that prevents cooling and heating at the same time.	3	
	There is partial protection (interlock) that prevents cooling and heating at the same time.	2	
	There is no protection (interlock) against cooling and heating at the same time.	0	
4	There is no mechanical ventilation or heating or cooling by air distribution.	Filter	0
	There is demand or presence controlled air supply at room level.	3	
	There is time-controlled air supply at room level.	2	
	The asset has no control on air supply at room level.	0	

Installed controls

QUESTION	SELECT A SINGLE ANSWER OPTION PER QUESTION	SUB-CREDITS TO BE AWARDED	AVAILABLE CREDITS
5	There is no heating or cooling by air distribution.	Filter	0
	The inlet temperature is regulated based on the desired room and measured return temperature.	3	
	The inlet temperature is regulated based on the measured outside temperature.	2	
	There is a fixed set point for the supply air temperature.	1	
	No regulation of the temperature for the air supply.	0	
6	There is no humidification in the asset.	Filter	0
	Control at room level, air exhaust point or air supply point.	3	
	Limited supply of air humidity.	2	
	There is no control on air humidity.	0	

See methodology for awarding credits.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 2		
1	The temperature control is based on room temperature or outside temperature, whereby it is possible to adjust the output of the heating and cooling installation (boiler, heat pump, air conditioning, etc.) accordingly.	-
CRITERIA FOR QUESTION 4		
2	In the case of demand- or presence-controlled air supply, the system regulates the air supply based on the current needs of the room, such as occupancy or air quality. With time-controlled air supply, the ventilation is set to specific times, regardless of the actual presence of people in the room.	-

Specific notes

None.

Tables

None.

Methodology

Credits Allocation

The number of credits is based on the percentage of the number of sub-credits obtained (max. 18 sub-credits) compared to the total number of available sub-credits (see table below). To calculate the number of credits, the calculation tool must be entered in the assessment tool.

Table ENE11.1: Allocation of credits

PERCENTAGE OF SUB-CREDITS OBTAINED COMPARED TO AVAILABLE CREDITS	CREDITS
≥ 20%	1
≥ 40%	2

Installed controls

PERCENTAGE OF SUB-CREDITS OBTAINED COMPARED TO AVAILABLE CREDITS	CREDITS
≥ 60%	3
≥ 80%	4

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
All questions	Photos of the existing facilities.
All questions	Documentation of installed facilities.

Definitions

Full protection that prevents cooling and heating at the same time ('interlock control')

With interlock control, there is a fully integrated system in which the operation of different devices or systems is connected. This means that the operation of one system depends on the status of another system. In a heating and cooling system, an interlock can cause the heating to automatically turn off when the air conditioning is on, to prevent both systems from operating simultaneously and wasting energy.

Partial interlock control

With partial interlock control, there are some links between systems, but these are not fully integrated. The system has certain conditions under which the operation of systems is partly dependent on each other. In a system, the heater can continue to operate even when the air conditioning is on, but with a limitation on power or capacity to prevent excessive energy consumption.

Control facilities

Systems and techniques used to manage and control the temperature in a building or space. This includes various methods to ensure that the desired temperature is maintained.

Temperature control based on room temperature

The control is based on the temperature within the room itself. Thermostats measure the temperature in the room and adjust the heating or cooling system to maintain the desired indoor temperature.

Temperature control based on outside temperature

The control is based on the temperature outside the building. Thermostats measure the outdoor temperature and adjust the heating or cooling to achieve a certain indoor temperature, often with a preset relationship between indoor and outdoor temperature.

Humidification

Humidification in buildings is the process of adding moisture to the air to keep the relative humidity at a comfortable and healthy level. This is important, especially in environments where heating systems dry out the air. The optimal humidity is usually between 40% and 60%. There are different types of humidification techniques, examples of which are evaporators, nebulizers, ultrasonic and central humidifiers.

Additional information

None.

References

None.

Monitoring energy uses

Reducing operational energy consumption through effective management and monitoring of the energy use of various building-related installations and systems.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: X
Minimum standard	: X

Question

What percentage of the significant building-related energy use groups are submetered?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There is no submetering or submetering for <25% of energy use groups.
1	B	There is submetering for ≥25% of energy use groups.
2	C	There is submetering for ≥50% of the energy use groups.
3	D	There is submetering for ≥75% of energy use groups.
4	E	There is submetering for ≥90% of the energy use groups.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The submeters are digitally 'readable'.	B, C, D and E
2	The submeters measure the energy consumption of a percentage of the user groups present in the asset, see methodology for an explanation of the determination of the percentage of energy consumption groups that are equipped with a submeter.	B, C, D and E

Specific notes

None.

Tables

None.

Methodology

Energy use groups for submetering

To determine what percentage of the energy use groups are submetered, it must first be determined which building-related energy use groups are present (see list of energy use groups below). Based on this inventory, it can be made clear what percentage of this is equipped with a submeter.

Energy usage groups:

- Heating
- Cooling
- Hot tap water

Monitoring energy uses

- Mechanical ventilation
- Fans, space heater distribution
- Fans for distributing room cooling
- Pumps for heating
- Pumps for cooling
- Pumps for hot water
- Interior lighting
- Control systems and telecommunications
- Internal transport (elevators and escalators)
- Outdoor lighting
- Other significant energy use systems – if applicable to the specific building function – where, based on the energy performance calculation, the energy consumption of the relevant use group exceeds 5% of the total building-related energy consumption.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos or documentation of the submeters (a sample is sufficient).
2	Overview of the energy use groups with a submeter and documentation/measurement data on the percentage of the annual building-related energy consumption that is measured by this.

Definitions

Sub-metering

Sub-meters are subordinate to the main meter and are installed to measure the use of a specific plant or equipment, or of specific physical areas. Think of individual buildings, floors in a multi-storey building, rentable spaces or functional spaces. The output of the submeter is a pulse or other universal communication protocol.

Digitally readable

Meters are digitally readable if the meter reading information does not need to be read manually but is processed and transmitted in the form of electronic signals.

Additional information

None.

References

None.

Monitoring of homes

Reducing operational energy consumption through the effective management and monitoring of energy consumption.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

To what level is electricity and other fuels measured?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There is no measurement.
1	B	Electricity and other fuels are measured at the building level.
2	C	Electricity and other fuels are measured per home.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	All meters must be digitally 'readable'.	B and C
2	If electricity is the primary energy carrier for heating, then a meter for electricity is sufficient. If the house is heated with another fuel such as gas, a separate meter must be available for this.	B and C
3	The meter at building level should measure the use of the entire building and not just the consumption of the common areas.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 3	Floor plans showing the location of the meters (sample is sufficient)
1,2 and 3	Photos of the installed meters (sample is sufficient)
1,2 and 3	Confirmation (e.g. documentation, photo, video, etc.) that the meters are working (sample is sufficient)

Definitions

Digitally readable

Meters can be read digitally if the information about the meter reading does not have to be read manually but is processed and transmitted in the form of electronic signals.

Additional information

None.

References

None.

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External lighting

Reducing operational energy consumption, and associated CO₂ emissions, through energy-efficient outdoor lighting.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question 1

What type of outdoor lighting is installed?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	The outdoor lighting is not energy efficient and is not equipped with an energy-saving control.
1	B	There is energy-efficient outdoor lighting or the outdoor lighting is equipped with energy-saving control.
2	C	There is energy-efficient outdoor lighting and the outdoor lighting is equipped with energy-saving control.

Question 2

What type of lighting is installed at the parking lots?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	The lighting of parking spaces is not energy-efficient and is not equipped with energy-saving control.
1	E	There is energy-efficient lighting at parking lots or the lighting at parking lots is equipped with an energy-saving control.
2	F	There is energy-efficient lighting at parking spaces and the lighting at parking spaces is equipped with an energy-saving control.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If outdoor lighting is not required for safety, the answer options can be filtered out of the assessment.	A, B and C
2	If there are no parking spaces owned/managed by the building owner/manager and no parking spaces are rented by the building owner/manager, the answer options can be filtered from the assessment.	D, E and F
CRITERIA FOR QUESTIONS 1 and 2		
3	Outdoor lighting and parking lot lighting is energy-efficient if the average light output is at least 70 lumens per watt. OR All lighting is equipped with the following types of lamps: <ul style="list-style-type: none"> • LED • TL5 • Sodium Different type of lamp with a light output of at least 70 lumens per Watt.	A, B, C, D, E and F

External lighting

#	CRITERIA	APPLICABLE ON ANSWER
4	<p>An energy-saving control includes automatic switching on and off, preventing lights from being on during the day.</p> <p>OR</p> <p>The control includes presence detection in areas with irregular (pedestrian/vehicle) traffic. The presence detection must be appropriate for the type of lamp, as regular switching on and off of the lamp will reduce the life of some lamps. Other forms of presence detection are allowed, if the lighting is automatically switched off when no one is in the area.</p> <p>OR</p> <p>For outdoor lighting that is not equipped with presence detection, timers can be used. The timer should automatically switch off the lights after a set curfew. Except in situations where the lights have to be left on all night.</p>	A, B, C, D, E and F
5	Parking lot lighting is energy-efficient if it is equipped with a timer, motion sensor or a dimming function (if possible).	E and F

Specific notes

None.

Tables

None.

Methodology

Temporary lighting, decorative lighting and floodlights

Decorative lighting and floodlights are part of this issue. Temporary lighting such as lighting for maintenance work can be excluded.

Emergency lighting

Emergency lighting, including lighting to ensure safety during normal business operations, is part of this issue. The emergency lighting must be energy-efficient, but it is not mandatory to apply an energy-efficient control to the emergency lighting. Lighting that is only activated in the case of an emergency can be excluded.

Lighting parking spaces

Car park lights on open terrain, open air, and covered car parks must be considered under this issue.

Average Initial Luminous Efficacy of Outdoor Lighting

The individual luminous fluxes of all luminaires within the construction zone are summed (in lumens), then divided by the total circuit Watts for all the luminaires. LED lamps are typically integral to the luminaire (LED luminaires). As such, the manufacturers' literature will encompass both lamp and luminaire as a whole.

External lighting

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Documentation of the type of installed luminaires.
4 and 5	Documentation/specifications of the energy-saving controls.
3, 4 and 5	Photos of the lighting or energy-saving controls.

Definitions

Areas with irregular pedestrian traffic

An area where pedestrians come to or are present less than two-thirds of the time during the period in which the lights would be on without presence detection.

Automatic on and off

Automatic switching on and off with a timer or daylight sensor prevents lights from being on during daylight hours (a manual control of the lights that allows the lights to be forcibly switched on, for example in emergency situations, is acceptable).

Daylight sensor

A type of sensor that detects daylight and turns lights on at sunset and off at dawn.

Outdoor lighting

Building lighting and advertising lighting, entrance/exit lighting, canopy lighting, lighting of paths, roads, parking lots, and other outdoor areas belonging to the plot of the building.

Presence detection

A sensor that turns on the lighting when it detects presence and switches off after a pre-set time when no presence is detected. An example is presence detection, where lighting is turned on by pressing a switch or similar control, but where the lighting switches off automatically. Another example is a secure space key protection, where a card system or a keypad is used to enter a space.

Time switch

A switch with a built-in clock that switches the lighting on and off at programmed times.

Additional information

None.

References

None.

Energy efficient lift

Reducing operational energy consumption, and associated CO₂ emissions, through energy-efficient elevators.

Part	: Asset
Available Credits	: 1
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

Are the elevators in the building energy efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Nope.
1	B	Yes, all the elevators are energy efficient.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no elevators available, the issue can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
2	An elevator is energy-efficient if all of the following are met: a) The measurement was carried out by an independent organisation. b) The measurement was carried out no longer than 5 years ago. c) The measured energy consumption has resulted in at least an energy label C, where the measurement was carried out on the basis of NEN-EN ISO 25745-2 or VDI 4707-1.	B
3	If there are several elevators of the same type and year of construction, a sample of the systems is sufficient for the measurement. For the elevator, at least the elevator with the shortest floor distance must be included in the sample of the measurement.	B
4	For elevators that are less than 5 years old, a calculation by the producer/manufacturer of the expected energy label can be seen as an equivalent measurement.	B

Specific notes

None.

Tables

None.

Methodology

Excluded system types

The following conveyor systems can be disregarded, if these are the only elevators present in the asset then the filter for lifts can be turned on:

- Elevators for vehicles.

- Wheelchair elevator and stair elevators
- Historic elevators, such as elevators installed before 1970, which are largely still in their original state.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	An overview with the location of the elevators.
2, 3 and 4	Documentation/photos of the type of elevators.
2	The measured energy consumption of the elevators in accordance with NEN-EN-ISO 25745-2 or VDI 4707-1.

Definitions

Elevator:

A transport system that moves with a cage along fixed conductors inclined by more than 15 degrees (relative to the horizontal plane), which is intended to transport:

- Persons.
- Persons and goods.
- Only goods if the cage is accessible. That is, a person can enter it without difficulty, and the system is equipped with controls. These must be in the cage or within reach of the person sitting in the lift.
- Elevators that follow a fixed route and have a lift speed of greater than 0.15 m/s that do not move past leaders are also part of the credit (such as scissor elevators).

Additional information

None.

References

None.

Transport



SUMMARY

This category promotes the availability of easily accessible local facilities and sustainable means of transport. This encourages alternative modes of transport that reduce car use, leading to fewer congestions and lower emissions. In addition, promoting physical activities, such as cycling, has a positive effect on people's well-being.

CONTEXT

Cities around the world are actively looking for ways to improve quality of life, air quality and mobility in urban environments. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on creating inclusive, safe, resilient and sustainable cities and communities. It highlights the importance of cycling, walking, and using public transportation to improve air quality in cities. One of its goals is to provide access to safe, affordable and sustainable transport systems for all, with a focus on improved road safety, including the expansion of public transport by 2030.

An important point of attention is to reduce private car use. Alternative modes of transport, such as cycling, can help to reduce transport-related emissions and reduce congestion. Scientific studies have clearly shown that there is a strong link between air quality and people's health. Every year, 4.2 million premature deaths worldwide are attributed to polluted outdoor air. Reducing air pollution can reduce the risk of diseases such as stroke, heart disease, lung cancer, and respiratory problems. Air pollution also has harmful effects on flora, fauna, biodiversity and crop yields.

Value of the issues

TRA 01	Alternative modes of transport	7 Credits
Aim	Making use of alternative public, private and active transport options by facilitating sustainable means of transport that suit the location.	
Value	Encourages bicycle use and reduces dependence on private cars. Promotes the availability of charging stations for electric cars and reduces dependence on petrol and diesel cars.	

TRA 02	Proximity to public transport	8 Credits
Aim	To ensure the availability of suitable public transport for residents, reducing transport-related emissions and congestion.	
Value	Encourages sustainable transport and movement. Increases awareness of alternative means of transport and makes them more accessible.	

TRA 03	Proximity to amenities	4 Credits
Aim	Ensuring easily accessible basic facilities for residents near the asset, reducing the transport-related impact.	
Value	Ensures proximity to basic amenities to reduce short journeys. This helps to reduce emissions and negative environmental impact of building users, improves local air quality and reduces traffic congestion.	

TRA 04	Traffic safety in the living environment	4 Credits
Aim	To recognize a living environment where residents can safely use the surroundings of the home, without the hindrance of traffic.	
Value	Ensuring safe access to the plot and the building and encouraging activities that can have the physical, mental and social benefits for building users.	

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Alternative modes of transport

Making use of alternative public, private and active transport options by facilitating sustainable means of transport that suit the location.

Part	: Asset
Available Credits	: 7
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question 1

What bicycle facilities are available?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are no facilities available.
1	B	The minimum number of compliant cycle storage facilities is available.
2	C	The minimum number of compliant cycle storage facilities and additional storage facilities are available.

Question 2

What provisions are available for electric vehicle charging?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	D	There are no charging points available.
1	E	The home is within proximity of an electric charging point.
2	F	Electric charging is provided for $\geq 5\%$ of the car parking capacity.

Question 3

Which subsystems for transport are available?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	G	There are no facilities for car sharing.
1	H	The home is within proximity of a compliant car club.
1	I	The home is within proximity of a compliant car club where at least 60% of the vehicles are hybrid or electric.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	Where no parking spaces owned/managed by the building owner/manager and no parking spaces are rented by the building owner/manager, the answer option can be filtered from the assessment.	F
CRITERIA FOR QUESTION 1		
2	The number of cycle storage facilities for bicycles complies with the values in table TRA 01.1	B and D
3	Cycle storage facilities should have the following features:	B and D

Alternative modes of transport

#	CRITERIA	APPLICABLE ON ANSWER
	The storage facilities are covered, illuminated and only accessible through a locked gate or door. The parking spaces can be individual or a shared cycle storage facility for residents. OR A cycle storage facility that is not covered and meets all requirements below: a) There is the possibility to attach both the wheel and frame of the bike to a secured object with a lock. b) The distance between each storage facility, and other obstructions, e.g. a wall, allows for appropriate access to the cycle storage facility to enable bikes to be easily stored and accessed. c) The storage facilities are in a prominent site location that is viewable or overlooked from either an occupied building or a main access to a building. In the scenario where cycle storage facilities are within the building, prominent signage should be provided to advertise their location to building users and cyclists. d) The parking space has sufficient lighting; The cycle storage facility has adequate lighting. e) The majority of racks are within 100m of the main building entrance.	
CRITERIA FOR QUESTION 2		
4	Electric car provisions: a) Electric charging points can be used for all common connections. b) Electric recharging stations with a minimum of 7kW have been provided. c) The electric charging point must be within 300 meters walking distance from the home, accessible via a safe pedestrian route.	E and F
CRITERIA FOR QUESTION 3		
5	Car clubs should have the following features: a) Accessible to the occupants. The car club should be within 650m walking distances from the home via a safe pedestrian route. b) Dedicated parking space for car sharing in the vicinity of the house.	H and I

Specific notes

None.

Tables

Parking spaces for bicycles

To determine how many credits can be awarded for question 1, cycle storage facilities must be provided must be compliant with Table TRA01.1 below.

Table TRA01.1: Compliant cycle storage facilities

SIZE OF THE HOUSE	MINIMUM NUMBER	EXTRA
Studio/1 bedroom	1 storage facility per home	2 storage facility per home
2 and 3 bedrooms	3 storage facility per home	5 storage facility per home
4 or more bedrooms	4 storage facility per home	6 storage facility per home

Alternative modes of transport

Methodology

Number of compliant electric charging points

The number of charging points required should be calculated as a percentage of the total car parking capacity. If the number of charging facilities that should be supplied is not a whole number, it must be rounded up to the nearest whole number. For example, where the number of charging facilities that should be provided is calculated to be 10.2, the actual number of facilities that must be provided is 11. Charging points for Car Clubs cannot count towards percentage provided for residents.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2	Calculations showing the numbers of cycle storage required.
3	Photos of of cycle storage and, if applicable, a map showing the location of the of cycle storage.
4	Calculations showing the percentage of electric vehicle charging stations.
4 and 5	Photos/documentation of facilities for electric charging and car sharing in the area or on the site.

Definitions

Main building entrance

The main building entrance is the entrance to the assessed building which is directly connected to the main building reception, circulation routes, lifts or stairs, and is available to the majority of the building's staff and visitors on arrival. It is not the site entrance (unless the site entrance is also the building entrance, e.g. building with a boundary on a public highway).

Safe pedestrian route

A walking route where pedestrians can safely move from A to B.

The walking route:

- On roads where speeds exceed 30 km/h, it is separated from the motorway by, for example, a sidewalk, so that pedestrians do not have to walk on the road.
- Is separated from cycle paths, so pedestrians do not have to walk on the cycle path;
- Can be entered at crossing points where speeds exceed 30 km/h via a zebra crossing or by means of traffic lights.

Additional information

None.

References

None.

Proximity to public transport

To ensure the availability of suitable public transport for residents, reducing transport-related emissions and congestion.

Part	: Asset
Available Credits	: 8
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is the asset within walking distance of a public transport node which operate a frequent service?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Public transport node over 1km away from the home, with a 30 minute service frequency at peak times.
2	C	Public transport node over 1km away from the home, with a 15 minute service frequency at peak times.
3	D	Public transport node within 1km of the home, with a 30 minute service frequency at peak times
4	E	Public transport node within 500m of the home, with a 30 minute service frequency at peak times.
6	F	Public transport node within 1km of the home, with a 15 minute service frequency at peak times.
8	G	Public transport node within 500m of the home, with a 15 minute service frequency at peak times.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The distance must be measured via safe pedestrian routes and not be measured in a straight line.	B, C, D, E, F and G
2	Services that operate from more than one stop within proximity of the building, i.e. two separate bus stops served by the same bus, must be considered only once; at the stop in closest proximity to the Home. Different services at the same stop can be considered as separate.	B, C, D, E, F and G

Specific notes

None.

Tables

None.

Methodology

None.

Proximity to public transport

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Annotated map/overview demonstrating the distance and route to the public transport nodes(s).
1	Photographic evidence of public transport networks and safe pedestrian route(s).
2	Copies of public transport network timetables.

Definitions

Compliant transport node

A hub of one or more types of mobility (bus, tram, metro, train) that connects to either a city centre, a local and regional public transport network or basic facilities (such as a doctor's office or a school).

Peak times

This is when a typical resident would be commuting to and from work (e.g. 06:30 – 09:00 and 16:00 – 18:30).

Safe pedestrian route

A walking route where pedestrians can safely move from A to B.

The walking route:

- On roads where speeds exceed 30 km/h, it is separated from the motorway by, for example, a sidewalk, so that pedestrians do not have to walk on the road.
- Is separated from cycle paths, so pedestrians do not have to walk on the cycle path;
- Can be entered at crossing points where speeds exceed 30 km/h via a zebra crossing or by means of traffic lights.

Additional information

None.

References

None.

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Proximity to amenities

Ensuring easily accessible basic facilities for residents near the asset, reducing the transport-related impact.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is the asset within walking distance of amenities?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Two amenities are within 1km of the asset.
2	C	Two amenities are within 500m of the asset.
2	D	Four or more amenities are within 1km of the asset.
4	E	Four or more amenities are within 500m of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The distance must be measured via safe pedestrian routes and not be measured in a straight line.	B, C, D and E
2	<p>The amenities are in present in several of the categories below:</p> <ul style="list-style-type: none"> • Food supply: food stores, supermarket, market, butcher, bakery, greengrocer, etc.; • Healthcare: pharmacies, general practitioner, hospital, etc. (with the exception of private clinics); • Education: daycare, primary school, secondary school, etc.; • Services: ATMs, bank, postal services, parcel point, launderette, hairdressers, etc.; • Eating facilities: restaurants, lunchroom, etc.; • Commercial: clothing stores, cinemas, shopping center, etc.; • Cultural: social services, leisure centres, community centres, social centres, etc.; • Sports and exercise: gym, swimming pool, etc. <p>Please note: Each category of amenities can only be counted once towards the number of amenities. For example, if there is only a supermarket and a butcher, these both fall into the food supply category and count as one amenity. Other amenities from one of the other categories must be present in order to earn points.</p>	B, C, D and E

Specific notes

None.

Proximity to amenities

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Where amenities listed are external to the asset: a) Annotated map demonstrating the route and distance to amenities listed by the client. b) Photographic evidence of listed amenities and safe pedestrian route(s).
1 and 2	Where amenities listed are contained within the asset: a) Asset floor plans with location of amenities indicated. b) Photographic evidence of listed amenities and safe pedestrian route(s).

Definitions

Safe pedestrian route

A walking route where pedestrians can safely move from A to B.

The walking route:

- On roads where speeds exceed 30 km/h, it is separated from the motorway by, for example, a sidewalk, so that pedestrians do not have to walk on the road.
- Is separated from cycle paths, so pedestrians do not have to walk on the cycle path;
- Can be entered at crossing points where speeds exceed 30 km/h via a zebra crossing or by means of traffic lights.

Additional information

None.

References

None.

Traffic safety in the livingenvironment

To recognize a living environment where residents can safely use the surroundings of the home, without the hindrance of traffic.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

What is the traffic situation on the asset and in the surrounding of the asset?

CREDITS	ANSWER	SELECT ALL ANSWER THAT APPLY
0	A	None of the below.
1	B	The building is located in a home zone or a pedestrian zone.
1	C	Residents can reach outdoor facilities in the surrounding of the building without crossing a crosswalk.
1	D	There are safe pedestrian routes from the cycle storage to the entrance of the home (communal entrance of the building for an apartment block).
1	E	The home is connected to a safe cycle route via a safe pedestrian route.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	At least one entrance to the building or residential complex must be adjacent to a home zone or a pedestrian zone.	B
2	The cycle storage can relate to a communal bicycle shed, but also to a private storage/shed near the home.	D

Specific notes

None.

Tables

None.

Methodology

None.

Traffic safety in the livingenvironment

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Photographic evidence of the traffic situation on the site and in the vicinity of the building or a map demonstrating the traffic situation on the site and in the vicinity of the building.

Definitions

Safe pedestrian route

A walking route where pedestrians can safely move from A to B.

The walking route:

- On roads where speeds exceed 30 km/h, it is separated from the motorway by, for example, a sidewalk, so that pedestrians do not have to walk on the road.
- Is separated from cycle paths, so pedestrians do not have to walk on the cycle path;
- Can be entered at crossing points where speeds exceed 30 km/h via a zebra crossing or by means of traffic lights.

Safe cycling routes

A compliant cycle route should meet one or more of the following:

- On a road with little traffic and a maximum speed of 30 km/h, cyclists are allowed to share the road with other vehicles;
- Shared cyclist and pedestrian routes must have a minimum of 3 meters wide;
- Dedicated cycle lanes (segregated or unsegregated from roads), with one-way cycle lanes being a minimum of 2.2m wide and two-way cycle lanes a minimum of 3m wide).

Outdoor living environment

The outdoor living environment refers to the area in the immediate vicinity of the building.

Home zone

A (residential) area in accordance with the Traffic Rules and Traffic Signs Regulations 1990 (RVV) is a road in an area where the residential function (walking, playing, meeting, etc.) has priority over the traffic function of the road. Pedestrians are allowed to use the entire width of the street to walk and play. It is not allowed to drive faster than 15 km/h and parking is only allowed in designated places.

Pedestrian zone

In a pedestrian zone only pedestrians are allowed. A pedestrian zone is indicated by the G07-ZB traffic sign.

Outdoor facility

Examples of outdoor facilities are playgrounds/places and parks.

Additional information

None.

References

- Traffic rules regulation: <https://wetten.overheid.nl/BWBR0004825/2024-07-01>.

Water



SUMMARY

This category promotes sustainable drinking water use during the use phase of the asset and the associated outdoor spaces. Minimizing water loss due to leaks is also part of this, so that drinking water consumption is reduced throughout the life of the asset.

CONTEXT

Water efficiency is a key focus within the United Nations Sustainable Development Goals (SDGs). Goal 6, "clean water and sanitation", states that by 2030 we must increase the efficiency of water use in all sectors and ensure the sustainable extraction and supply of freshwater, to remedy water scarcity and significantly reduce the number of people affected by it.

Increasing population density and high water consumption is causing water shortages worldwide, which are expected to worsen further in the coming years. The demand for water will increase by 55% between 2000 and 2050. In addition, the energy required for the extraction, purification, supply, heating, cooling and disposal of water (and wastewater) contributes to climate change and deteriorated air quality. Using water more efficiently is therefore essential to meet future demand while combating climate change.

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Value of the issues

WAT 01	Water monitoring	3 Credits
Aim	Reducing water consumption in buildings, by effectively monitoring and managing water consumption.	
Value	Increasing awareness about water use in the building. Identifying and monitoring high water consumption and changes in usage patterns, to optimize management and maintenance and prevent unnecessary water consumption.	
WAT 02	Water efficient equipment: toilets	4 Credits
Aim	Reduce water consumption by encouraging water-efficient toilets.	
Value	Improving water efficiency and reducing the costs associated with water use. By reducing water consumption, water reservoirs are preserved for times of scarcity. Innovation and the development of water-saving sanitary facilities are also stimulated.	
WAT 04	Water efficient equipment: taps	4 Credits
Aim	Reducing water consumption by encouraging water-efficient taps.	
Value	See value at credit WAT 02.	
WAT 05	Water efficient equipment: showers and baths	4 Credits
Aim	Reducing water consumption by encouraging water-efficient showers and baths.	
Value	See value at credit WAT 02.	
WAT 06	Water efficient equipment: appliances	3 Credits
Aim	Reducing water consumption by encouraging water-efficient white goods.	
Value	See value at credit WAT 02.	
WAT 07	Leak detection system	2 Credits
Aim	Reduce water consumption in buildings by minimizing waste from water leaks.	
Value	Combating drinking water waste due to water leaks. Minimizing damage, costs, and disruptions due to leaks. It also reduces water consumption and associated costs.	
WAT 08	Leak prevention	2 Credits
Aim	Limiting the impact of water leaks in spaces that are not occupied and would otherwise go unnoticed.	
Value	See value at credit WAT 07.	
WAT 09	Insolation valves	4 Credits
Aim	Limiting unnecessary water consumption due to defects and during maintenance.	
Value	See value at credit WAT 07.	
WAT 10	Reducing utility-supplied water consumption	4 Credits
Aim	Limiting drinking water use by facilitating alternative sources.	
Value	Reducing greenhouse gas emissions, pollution and the cost of drinking water supply. By reducing water use, water reservoirs are preserved for times of scarcity.	

Water monitoring

Reducing water consumption in buildings, by effectively monitoring and managing water consumption.

Part	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: C for Apartments
Contains filter	: X
Minimum standard	: Good
<i>Minimum 1 credit</i>	

Question

To what level is water consumption metered?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Water consumption is not metered.
1	B	Site – where water consumption is metered for the whole site.
2	C	Building – where water consumption is metered at the whole building level.
3	D	Home – where water consumption is metered at the home level.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Each water meter has the ability to have instantaneous reading (digital or analogue) and needs to be accessible.	B, C and D
2	Where water is metered and monitored at site level, the water meters must measure all water that is utilised on-site.	B
3	The water meter at building level must meter the water consumption of the entire building and not just the consumption of the common areas.	C

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.

Water monitoring

CRITERIA	EVIDENCE REQUIREMENT
1, 2 and 3	Copies of site/building/asset plans, indicating where water meters are located (a representative sample will suffice).
1, 2 and 3	Photographic evidence of installed water meters (a representative sample will suffice).
1, 2 and 3	Copy (e.g. documentation, photo, video, etc.) of most current water meter readings to confirm that all meters are working (a representative sample is sufficient).

Definitions

Accessible water meter:

A water meter must be accessible to be read, if this is not read digitally via, for example, a smart meter. A water meter is accessible if the water meter can be read without having to make adjustments to the building.

Additional information

None.

References

None.

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Water efficient equipment: toilets

Reduce water consumption by encouraging water-efficient toilets.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

What is the effective flush volume (EFV) of the toilets?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are toilets with an effective flush volume of > 6 liters per flush.
1	B	All toilets have an effective flush volume of ≤ 6 liters per flush.
2	C	$\geq 75\%$ of toilets have an effective flush volume of ≤ 4.5 litres per flush, all remaining toilets have an effective flush volume of ≤ 6 litres per flush.
3	D	All toilets have an effective flush volume of ≤ 4.5 liters per flush.
4	E	$\geq 50\%$ of toilets have an effective flush volume of ≤ 3 litres per flush, all remaining toilets have an effective flush volume of ≤ 4.5 litres per flush.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The answer options relate to both toilets in the communal areas and toilets in the homes. All toilets within the demarcation of the project must be included.	A, B, C, D and E
2	For dual flush toilets the effective flush volume will need to be calculated. An explanation and worked example are available in the Methodology section.	A, B, C, D and E
3	Installing water efficient toilets can cause blockages in pipework that may have been designed for larger volumes of water. In assets where this might be a problem, toilets should be specified to avoid this, e.g. those with a full flush of at least 6l, or pump assisted toilets. If the effective flush volume in these cases is more than 6 litres, no credits can be earned for the issue.	A, B, C, D and E

Specific notes

None.

Tables

None.

Water efficient equipment: toilets

Methodology

Effective flush volume of a Dual Flush Toilet

The effective flush volume of a dual flush toilet is the ratio of full flush to reduced flush. This is taken to be one full flush for every two reduced flushes for domestic buildings.

The effective flush volume would therefore be calculated as follows, using a 6/4 litre dual flush volume toilet as an example:

Assessor checks

An adequate proportion of toilets within the asset need to be checked. It is not necessary to check all toilets.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	Manufacturer/supplier literature of installed toilets (if available).
1, 2 and 3	Photographic evidence of the installed toilets (a representative sample will suffice).
1, 2 and 3	Copies of asset floor plans and/or inventory of sanitary elements indicating the location and quantity of toilets
1, 2 and 3	If applicable, a calculation in accordance with the methodology for the effective flush volume of the toilets.

Definitions

Effective Flush Volume (EFV)

Effective flush volume is the volume of water needed to clear the toilet and transport any contents far enough to avoid blocking the drain. The effective flush volume of a single flush toilet is the volume of water used for one flush.

Additional information

None.

References

None.

Water efficient equipment: taps

Reducing water consumption by encouraging water-efficient taps.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

What percentage of washbasin taps are water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	All the washbasin taps have a flow volume of > 5 liters per minute.
1	B	50% of the washbasin taps have a flow volume of ≤ 5 liters per minute.
2	C	90% basin taps have a flow volume of ≤ 5 liters per minute.

Question 2

What percentage of kitchen taps are water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	All the kitchen taps have a flow volume of > 8 liters per minute.
1	E	50% of the kitchen taps have a flow volume of ≤ 8 liters per minute.
2	F	90% the kitchen taps have a flow volume of ≤ 8 liters per minute.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The answer options relate to both sink and kitchen taps in the common areas and sink and kitchen taps in the homes. All sink and kitchen taps within the demarcation of the project must be included.	B and C
2	Hand washing basin taps must have a maximum flow rate that is less than 5 Litres per minute.	B and C
CRITERIA FOR QUESTION 2		
3	The answer options relate to both the kitchen taps in the common areas and kitchen taps in the homes. All kitchen taps within the demarcation of the project must be included in the assessment.	E and F
4	Basin taps have a maximum flow volume ≤ 8 liters per minute.	E and F

Specific notes

None.

Water efficient equipment: taps

Tables

None.

Methodology

On-site inspection

An adequate proportion of taps within the asset need to be checked.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	If available, the product specifications of the manufacturer or supplier of the installed basin taps.
1, 2, 3 and 4	Photographic evidence of the installed wash basin taps (a representative sample will suffice).

Definitions

None.

Additional information

Reduce flow volume

To reduce the flow volume of taps, a aerator can be used, among other things.

References

None.

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Water efficient equipment: showers and baths

Reducing water consumption by encouraging water-efficient showers and baths.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Are the showerheads water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	All showerheads have a flow rate of > 8 liters per minute.
1	B	50% of the showerheads have a flow rate of ≤ 8 liters per minute.
2	C	90% showerheads have a flow rate of ≤ 8 liters per minute or 50% of the showerheads have a flow rate ≤ 6 liters per minute.
3	D	90% shower heads have a flow rate ≤ 6 liters per minute.

Question 2

Are the bathtubs water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	E	No.
1	F	All bathtubs must have a maximum capacity of 170 litres or there are no bathtubs in place.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTIONS 1 and 2		
1	All showerheads and bathtubs within the demarcation of the project must be included in the assessment.	A, B, C, D and F

Specific notes

None.

Tables

None.

Methodology

None.

Water efficient equipment: showers and baths

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	If available, the product specifications of the manufacturer or supplier of the installed showers and/or baths.
1	Photographic evidence of the installed showers and/or bathtubs (a representative sample will suffice).
1	Where manufacturer information is not available, evidence must be provided that confirms that the showers and bathtubs meet the stated criteria. This could include: <ul style="list-style-type: none"> • Measured flow rates of showerheads. • Measured dimensions of bathtubs (e.g. if a bath is assumed to be a cuboid a simple Height x Depth x Width calculation will overestimate the volume of the bathtub which would be acceptable).

Definitions

None.

Additional information

None.

References

None.

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Water efficient equipment: appliances

Reducing water consumption by encouraging water-efficient white goods.

Part	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

What percentage of dishwashers and washing machines are water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	< 5%.
1	B	≥ 5% to < 25%.
2	C	≥ 25% to < 50%.
3	D	≥ 50% to < 75%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTERING		
1	Where no washing machines that are managed or installed by the building owner/management answer option can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	This issue only covers washing machines and dishwashers that are managed or installed by the building owner/management	A, B, C and D
3	In order to be awarded the relevant credits, baseline water usage of installed equipment must be equal to or below the figures as outlined in Table WAT06.1.	A, B, C and D

Specific notes

None.

Tables

Table WAT06.1: Baseline figures for white goods

WHITE GOODS	BASIC NUMBERS
Domestic sized dishwasher (if applicable)	0.9 litres per couvert*
Domestic sized washing machine (if applicable)	40 liters per washcycle

*Water consumption per couvert is calculated by dividing the water consumption (per cycle, based on the eco program) by the capacity of the number of standard place settings for the eco program.

Water efficient equipment: appliances

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Photographic evidence of the installed white goods (a representative sample will suffice).
2 and 3	Product specifications of the manufacturer or supplier of the installed white goods.

Definitions

None.

Additional information

None.

References

- ERPEL: <https://eprel.ec.europa.eu/screen/product/dishwashers2019/1986139>.

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Leak detection system

Reduce water consumption in buildings by minimizing waste from water leaks.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: X
Minimum standard	: X

Question

Does the asset have an automated leak detection system?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	A leak detection system should have the ability to automatically detect the presence of a water leak throughout the water supply within a building. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system e.g. a system that detects higher than normal flow rates at meters and/or sub-meters would be compliant. The system can be flow based or sensor based.	B
2	The leak detection system must: <ol style="list-style-type: none"> Be able to easily identify any detected leaks. Activated when a continuous flow of water passes through the water meter at a flow rate above a pre-set minimum for a pre-set period of time. Detect leaks for all the pipework for which management has responsibility for. 	B
3	The system does not need to cut off the water supply when the alarm is triggered.	B
4	Where there is a water supply company meter at the site/building boundary, it may be necessary to install a separate flow meter (or alternative measurement system) just after the water supply company meter to detect leaks. However, if the water supply company agrees to some form of leak detection being installed on their meter, this would also be acceptable.	B
5	In order to be compliant, emergency systems such as fire hydrants and sprinklers need also to be covered by a leak detection system.	B

Specific notes

None.

Tables

None.

Leak detection system

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4 and 5	Photographic evidence of leak detection system (a representative sample will suffice).
1, 2, 3, 4 and 5	Manufacturer or supplier specifications of the installed leak detection system.

Definitions

None.

Additional information

None.

References

None.

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Leak prevention

Limiting the impact of water leaks in spaces that are not occupied and would otherwise go unnoticed.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

Are communal sanitary facilities fitted with controls that isolate water supply when they are unoccupied?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	Where there are no communal sanitary facilities this question can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
2	<p>The following could be considered as types of flow control devices:</p> <ul style="list-style-type: none"> A time controller, i.e. an automatic time switch device to switch off the water supply after a predetermined interval. A programmed time controller, i.e. an automatic time switch device to switch water on or off at predetermined times. A volume controller, i.e. an automatic control device to turn off the water supply once the maximum preset volume is reached. A presence detector and controller, i.e. an automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed. A central control unit, i.e. a dedicated computer-based control unit for an overall managed water control system, utilising some or all of the types of control elements listed above. 	B
3	Proximity detection shut off of the water supply is not required for each individual shower or toilet. Leak prevention is sufficient if the water supply is cut off for each block of sanitary facilities.	B

Specific notes

None.

Tables

None.

Leak prevention

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Photographic evidence of the installed systems (a representative sample will suffice).
2 and 3	Product specifications of the manufacturer or supplier of shut off controls.
2 and 3	A map or installation diagram showing the areas of isolation.

Definitions

None.

Additional information

None.

References

None.

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Isolation valves

Limiting unnecessary water consumption due to defects and during maintenance.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Do all water using fixtures and appliances have isolation valves fitted?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	< 25%.
1	B	≥ 25 to < 50%.
2	C	≥ 50 to < 75%.
3	D	≥ 75 to < 100%.
4	E	100%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The answer options relate to both the shut-off valves in the common areas and the shut-off taps in the homes. All stop valves within the demarcation of the project must be included.	A, B, C, D and E
2	Evidence illustrates that isolation valves are installed for relevant equipment within the asset. Relevant equipment includes (but is not limited to): a) Wash basin b) Shower c) Toilet d) Washing machine e) Dishwasher	A, B, C, D and E
3	If at least one stop valve has been applied in areas where water-using plumbing and equipment is installed (supplied through the same pipe), such as in bathrooms and kitchens, it meets criterion 2.	A, B, C, D and E
4	Isolation valves must be easily accessible.	A, B, C, D and E
5	Isolation valves can be automatic or manual.	A, B, C, D and E

Specific notes

None.

Tables

None.

Methodology

None.

Isolation valves

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4 and 5	Photographic evidence of installed water isolation controls to demonstrate presence and accessibility (a representative sample will suffice).
1, 2, 3, 4 and 5	Product specifications of the manufacturer or supplier if it cannot be visually determined that there is a stop valve is present.

Definitions

Stop valve

A stop valve is any valve in the water line that prevents the flow of water to a specific device or area.

Additional information

None.

References

None.

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Reducing utility-supplied water consumption

Limiting drinking water use by facilitating alternative sources.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Does the asset harvest and reuse greywater and/ or rainwater?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	Yes, the collected grey and/or rainwater is used for outdoor use.
2	C	Yes, the collected grey and/or rainwater is used for sanitary use.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	Where legislative requirements prevent the use of non-utility supplied water, this issue can be removed from the assessment.	C
CRITERIA FOR QUESTION		
2	Usage of rainwater and greywater include (but are not limited to): <ul style="list-style-type: none"> • Irrigation for landscaping • Toilet flushes • Washing textiles • Car wash 	B and C

Specific notes

CRITERIA

Apartments

Greywater or rainwater systems do not have to supply water to all homes, but must be designed to be used as efficiently as possible. It must be demonstrated that the installations are suitable for the size of the apartment complex and the climate conditions.

Homes

For individual homes with a garden, the provision of a rain barrel is sufficient to meet the requirements of the credit. There are no requirements for the type/size of the rain barrel. It must be demonstrated that the installations are suitable for the size of the home and the climate conditions.

Tables

None.

Reducing utility-supplied water consumption

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2	Documentation of legal objection for the use of grey and/or rainwater in the asset.
2	Photographic evidence of facilities for grey and/or rainwater (a representative sample will suffice).

Definitions

Greywater:

Slightly contaminated water from household activities (such as dishwasher, washing machine, sink, shower, bath).

Rainwater:

Rainwater or melt water from ice, snow and hail that is captured and reused.

Additional information

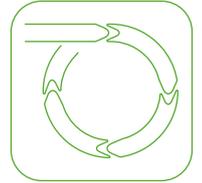
None.

References

None.

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Resources



SUMMARY

This category promotes the responsible and circular use of materials in the building, with the aim of improving value and sustainability performance, both during the use phase and at the end of its life cycle. This is achieved by gaining insight into the condition and value of the building, which contributes to maintaining and strengthening the building value and the optimal (re)use of building materials. In addition, the circular use of residual flows during the use phase is encouraged.

CONTEXT

The use phase has a significant share in the amount of materials used during the life cycle of the asset. In addition, many materials are released that reach the end of the life cycle. Many important materials are non-renewable and are becoming scarcer, more expensive and riskier to extract. In addition, the extraction and production of mainly raw materials lead to social and ecological degradation. One of the United Nations' 'sustainable development goals' includes 'responsible consumption and production' (SDG12). The goal is to achieve sustainable management and efficient use of natural resources. By 2030, waste streams must be significantly reduced through prevention, reduction, recycling and reuse. It is essential that the real estate industry does everything it can to highlight these challenges by:

1. Use existing buildings for as long as possible.
2. Maintain or increase the value of materials.
3. Facilitate the reuse or recycling of raw materials in existing buildings.
4. Enable users to maximize the reuse or recycling of waste.
5. Minimize the overall use of materials.
6. Choosing reused or recycled materials instead of primary materials.
7. Using raw materials that cause less harm to society and the environment.

Value of the issues

RSC 01	Condition survey	7 Credits
Aim	To encourage asset owners to understand the physical condition of their property, to plan scheduled maintenance, repair or refurbishment activities and avoid higher impact and more costly works later. To achieve or exceed the expected life of the asset.	
Value	Provides visibility into the building's health and safety performance, reducing risk to occupants. Identifies work required for repair, refurbishment and renovation. Reduces lifecycle costs by addressing issues early, before they become more extensive and costly. Reduces the risk of premature obsolescence due to neglect and extends the life of the building, making the most of the value of invested raw materials.	

RSC 02	Reuse and recycling facilities	6 Credits
Aim	Facilitating the reuse, repurposing or recycling of waste by making facilities available.	
Value	Helps meet regulatory and organizational recycling targets while reducing the environmental impact and processing costs of waste. Provides facilities to separate waste at the source and provides suitable storage locations for reuse and recycling. Supports circular principles and avoids unnecessary replacements by providing storage space for replacement products.	

RSC 03	Resources inventory	4 Credits + 2 Exemplary performance
Aim	Promoting insight into the materials used in the building and stimulating high-quality reuse, while preventing or limiting the use of new materials.	
Value	Reduces waste and costs in future renovations, refurbishments and dismantling. Increases the lifespan of materials and products and encourages the application of circular economy principles throughout the life of the building. Identifies materials and products, making the building act as a 'materials bank'.	

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Condition survey

To encourage asset owners to understand the physical condition of their property, to plan scheduled maintenance, repair or refurbishment activities and avoid higher impact and more costly works later. To achieve or exceed the expected life of the asset.

Part	: Asset
Available Credits	: 7
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Has a condition survey been carried out in the past 5 years?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No condition survey has been carried out
1	B	A condition survey has been carried out by organisation managing the asset.
2	C	A condition survey has been carried out by organisation managing the asset, in accordance with the procedure of a third party.
3	D	A condition survey has been carried out by an independent third party, in accordance with the procedure of a third party or a standard.

Question 2

Has work been conducted to rectify any defects identified?

CREDIT	ANSWER	SELECT A SINGLE ANSWER OPTION
0	E	No work has been carried out to rectify identified defects and there is no maintenance plan.
1	F	No work has been carried out to rectify identified defects, but a maintenance plan is available that includes when the defects will be addressed.
2	G	All major flaws have been rectified.
3	H	All major defects have been rectified and the maintenance plan stipulates when the minor defects will be addressed.
4	I	All identified major and minor defects have been rectified or the building is in excellent condition and no defects have been identified

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	In a condition survey, the technical condition of the asset is assessed. This includes the main building elements, components, structural parts (both inside and outside) and installations. This includes at least the following components: a) Condition of the structural elements; b) Condition of the technical installation elements; c) Condition of the finishing elements.	B, C and D
2	If the asset is less than five years old and the installations, control systems and building fabric have been commissioned post construction, this is equivalent to a condition survey.	B, C and D

Condition survey

#	CRITERIA	APPLICABLE ON ANSWER
	The commissioning meets the following requirements: a) A commissioning manager is appointed to plan, execute and monitor the pre-commissioning, commissioning and testing activities. This also includes recommissioning work. b) Commissioning is carried out in accordance with ISSO 107 or equivalent. c) An air permeability measurement has been carried out.	
3	The condition survey is carried out by a competent person. A competent person is trained and qualified to perform condition surveys. In addition, this person has carried out at least two condition surveys of a comparable asset or made a significant contribution in the past five years. The following examples can be considered an competent person: • Facilities management/asset manager. • Civil engineers. • Architects. • Building inspectors. • Members of institutions or associations that have followed training in the field of due diligence and/or condition surveys. • Is registered as a NEN 2767 inspector or with Commissioning Nederland or has an equivalent recognition.	B and C
4	The condition assessment has been drawn up according to NEN 2767 or equivalent and has been carried out in the last 5 years.	C and D
5	The condition assessment has been carried out by a recognised person who is registered with DBCA as an NEN 2767 inspector or has an equivalent recognition. This person works for an external organization.	D
CRITERIA FOR QUESTION 2		
6	Answer options F to I can only be achieved if answer options B, C or D are met.	F, G, H and I
7	The defects are categorized based on the condition from minor to major defects to determine work prioritisation. Categories: No defects – condition 1 Minor defects – condition 2 to 3 Major defects – condition 4 – 6 See the additional information for an explanation of the condition categories.	F, G, H and I
8	The condition survey includes recommendations for maintenance, repair, replacement or renovation. Measures to address identified minor and/or major deficiencies have been implemented or are scheduled to be implemented.	F, G, H and I

Specific notes

None.

Tables

None.

Methodology

None.

Condition survey

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 4, 7 and 8	Documentation of the condition survey and/or commissioning carried out.
3 and 5	The name of the employee and organization (of the independent third party if applicable) that performed the condition survey And information that demonstrates the knowledge and experience of the person who carried out the condition survey.
7 and 8	Documentation/photos showing that measures have been taken to rectify identified defects, or that identified defects are scheduled to be rectified, for example, in a MJOP.

Definitions

A third party

A person or organization that is recognized as independent of the parties involved. For this issue, the third party is independent of the organization that manage, own or use the asset.

Commissioning Manager

An independent expert person responsible for planning, executing and monitoring the commissioning activities. The person is independent of the installation consultant and the executive installation company. The person has demonstrable experience as a commissioning manager. Persons who are included in the Register of Approved Commission Agents at the DBCA with this qualification in any case meet this qualification.

Additional information

Condition categories

The condition categories have been drawn up based on NEN 2767. Where:

Condition 1 (Excellent):

- The part is in new condition.
- There are no visible defects or aging
- Maintenance is not required.

Condition 2 (Good):

- The part shows slight signs of aging or minimal use.
- Minor defects may be present, but they do not affect functionality.
- Preventative maintenance may be necessary to maintain its good condition.

Condition 3 (Fair):

- The part shows clear signs of aging or moderate use.
- Some defects are present and can potentially cause problems in the short term.
- Regular maintenance is necessary to prevent further deterioration.

Condition 4 (Moderate):

- The part shows significant signs of aging and/or use.
- Multiple flaws are present that affect functionality.
- Repairs are necessary to ensure functionality and safety.

Condition survey

Condition 5 (Poor):

- The part shows severe signs of aging and/or heavy use.
- Many flaws are present that seriously hinder functionality.
- Extensive repairs or replacement are necessary.

Condition 6 (Very bad):

- The part is very outdated and has very serious defects.
- Functionality is no longer guaranteed, and there is a dangerous situation.
- Replacement or very extensive renovation is urgently needed.

References

- NEN 2767-1 Condition Assessment – Methodology
- NEN 2767-2 Condition measurement of building and installation parts - Defect lists

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Reuse and recycling facilities

Facilitating the reuse, repurposing or recycling of waste by making facilities available.

Part	: Asset
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Outstanding
<i>At least 3 credits</i>	

Question

Are there suitable facilities available to reuse, repurpose or recycle household waste?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No
1	B	The residents have access to information about waste separation in the home and information about facilities in the area.
2	C	Yes, there are facilities in place to collect household waste separately according to local ordinances.
1	D	Yes, the home or residential building has a compost facility or there is a communal facility for composting within 200 meters of the house.
1	E	Yes, there is a collection point in the residential building or within 500 metres of the home for at least three additional waste streams.
1	F	Yes, there is a permanent recycling centre within 10 km of the residential building or home or there is a mobile pick-up service at least once a month or on request.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The residents must have online or physical access to information about the waste streams to be separated (this can be a waste collection guide, for example) and which waste streams they can be disposed separately in the area.	B
2	There must be facilities in the home to be able to collect the waste that is generated separately. The facilities in the home are in line with flows that are collected separately by the municipality from the home or in the vicinity of the home. In addition to residual waste, facilities must be offered for at least two other streams (list is not exhaustive): <ul style="list-style-type: none"> • Glass (colored glass is classified as one waste stream) • Paper/ cardboard • Plastic, metal packaging (such as cans), beverage cartons (PMD) • Vegetable, fruit and garden waste (GFT) 	C
3	If there is a communal area for the collection of waste, the waste streams collected in the common areas must be in line with the waste separation facilities in the home.	C
4	If present, the communal facilities comply with: <ol style="list-style-type: none"> Is accessible to residents or building manager for the separate collection of waste and for the separate disposal of waste. Is accessible to people with mobility limitations. 	C

Reuse and recycling facilities

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> c) Is illuminated and ventilated for safe use. d) Is positioned in such a way or has measures been taken so that building users and the immediate environment experience as little nuisance as possible (e.g. from odour and noise). e) The containers are clearly labeled so that residents know which waste stream belongs to which container. 	
5	The collection of organic waste based on municipal planning is not rewarded within this answer option.	D
6	<p>If the compost facility is present in the building:</p> <ul style="list-style-type: none"> a) The facility complies with the applicable laws and regulations and there is a plan for the processing and/or application of the compost. b) Have a designated, clearly visible and marked location and is accessible to all residents. c) At least one water drain for cleaning in and around the facility. d) Informed the residents about the working method of the composting facility. 	D
7	<p>If residents use a shared compost facility in the area, one of the following facilities must be present:</p> <ul style="list-style-type: none"> • An accessible local municipal or community compost service, run by a local government or a private organisation. • A management plan that ensures food or green waste is properly disposed of and delivered to an alternative composting facility. • A municipal or private collection system for compost. 	D
8	<p>At least three additional waste streams are collected in the residential building or within 500 metres of the home.</p> <p>Additional waste streams:</p> <ul style="list-style-type: none"> • Batteries and accumulators • Clothing, textiles and shoes • Electrical appliances • Cooking oil/frying fat • Lamps 	E
9	Residents can go to the recycling center for at least their bulky waste. If a collection service is used at the residential building/house, at least bulky waste must be collected.	F

Specific notes

None.

Tables

None.

Methodology

None.

Reuse and recycling facilities

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos or documentation of the information made available to residents.
2,3 and 4	Photos of waste separation facilities in the property and if applicable in the common area for waste collection.
6 and 7	Photos or documentation of the compost facility on site or in the surrounding area that also indicate the distance to the facility.
8	Photos or documentation of the facilities on location or in the area that also indicate the distance to the facility.
9	Documentation on the distance to the recycling center or documentation on pick-up service.

Definitions

Bulky waste

Bulky household waste comes from the contents of the home and does not fit in the normal container or underground container due to its size or weight. For example, discarded furniture and large appliances.

Additional information

None.

References

None.

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Resources inventory

Promoting insight into the materials used in the building and stimulating high-quality reuse, while preventing or limiting the use of new materials.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 2
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has a resources inventory been completed?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE F CAN BE SELECTED SEPARATELY
0	A	No
2	B	Yes, an inventory has been made for the 'structure'.
3	C	Yes, an inventory has been made for the 'structure' and 'skin'.
4	D	Yes, an inventory has been made for the 'structure', 'skin' and 'services'.
4 +1 Exemplary Performance	E	Yes, an inventory has been made for the 'structure', 'skin', 'installations' and 'space plan/stuff'.
1 Exemplary Performance	F	There is insight into the detachability, value and end of life cycle of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The resources inventory has been drawn up by an expert person who has knowledge of architectural elements and is able to draw up a building inventory. The following examples can be considered an expert person: <ul style="list-style-type: none"> • Building manager. • Structural engineer. • Architects. • Building inspectors. • Members of institutions or associations that have followed training in the field of due diligence and/or condition assessments. • Is registered as a NEN 2767 inspector or with Commissioning Nederland or has an equivalent recognition. 	B, C, D and E
2	The inventory is digital and adaptable for updating, possible changes or expansions. In addition, the data must be translatable into an 'open' format, preferably csv (if this is not the case).	B, C, D and E
3	Someone has been made responsible for the management of the resources inventory. To ensure that the building passport is up to date.	B, C, D and E
4	The resources inventory is built up in different layers of the building in accordance with the concept of 'Shearing layers', also known as Layers of Brand (see additional information). For existing buildings, it may not be feasible to provide insight into all the materials used, but it must be made plausible that the inventory is representative and provides valuable information.	B, C, D and E
5	The resources inventory contains:	B, C, D and E

Resources inventory

#	CRITERIA	APPLICABLE ON ANSWER
	Material/product description: with product trade name, type designation, most important function(s), and explanation of how the material/product is constructed NL/SfB classification up to and including layer 3. If the material/product complies with CAT1 in the environmental database, this must be stated.	
6	The Exemplary Performance for answer option F requires understanding of the following topics: a) Detachability of the products and elements. Please note: <ul style="list-style-type: none"> Type of connection (dry, wet, sealed, glued, etc.). Accessibility of the connection. Shape inclusion. Crossings. b) Guiding valuation of the current and/or future financial (residual) value, ideally divided into the various layers of a building (Shearing Layers). c) Guide to maintaining value through planned maintenance, repair, replacement (of composite components) and refurbishment. d) Dismantling plan: Manual for maintaining the value during disassembly or at the end of the life cycle (depending on the estimated remaining life of the raw material and the estimated remaining life of the asset). e) Guidance for maximizing the financial return, or preventing costs, by taking advantage of opportunities for reuse or recycling during the dismantling work.	F

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation about the person or organization that made the resources inventory.
2, 3, 4 and 5	Documentation of the resources inventory.
6	Documentation on detachability, disassembly plan and other guidance

Resources inventory

Definitions

Resources inventory

A resources inventory contains detailed information about the materials used in the building. This inventory makes it possible to recognise, preserve and use the values of the materials in the building.

Principles from the circular economy

Relevant principles for the construction and real estate sector, derived from the theory of the circular economy. The following resources contain examples of principles that may be applied:

- Framework for circular existing buildings.
- British Standards Institution (2017) BS 8001:2017 Framework for implementing the principles of the circular economy in organisations – Guide
- Ellen MacArthur Foundation (2017) Introduction to the circular ecology – Circular economy booklet.
- Ellen MacArthur Foundation [online] What is a circular economy?
- SPP Regions (2017) Circular Procurement – Best Practice Report.
- UKGBC (2019) Circular economy guidance for construction clients: How to practically apply circular economy principles at the project brief stage.

Additional information

Relationship between the resources inventory and the condition survey

As soon as a condition assessment is available for the building, the condition assessment can support the preparation of the resources inventory.

Shearing layers/Layers of Brand

Shearing layer or the Layers of Brand (developed by Stewart Brand in 1994) identifies different building layers in a building, each layer having a different function. It can be noted that the life cycle of products in these different building layers is different. The floors are from the outside in:

- Site – plot
- Structure
- Skin – façade
- Services – installations
- Space plan – built-in/spatial layout
- Stuff – loose furnishings and furniture

References

- NL/SFB classification.
- Determination method for the environmental performance of buildings
<https://milieudatabase.nl/milieuprestatie/bepalingsmethode/?cn-reloaded=1.nl>.
- Shearing layers: How Buildings Learn: what happens after they're built, by Stewart Brand 1994.
- Adaptive capacity building method: <https://www.dgbc.nl/publicaties/methode-adaptief-vermogen-gebouwen-59>.

Resilience



SUMMARY

This category focuses on the protection of the asset, including against the effects of climate change. These include physical risks, such as flooding and the possible contamination of run-off water, but also damage to materials, physical safety, and social risks and opportunities. A proactive approach is encouraged to mitigate these risks, seize opportunities to strengthen the resilience of the asset and environment, and ensure a rapid recovery. In addition to risk management, the focus is also on disaster preparedness and response, as well as the factors that contribute to the broader resilience of both the asset and its immediate environment.

CONTEXT

The risk of flooding is a major concern, especially since many buildings are located in locations with an increased risk of flooding, which is increasing every year. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on promoting sustainable, safe and resilient cities. In the event of flooding, the consequences are far-reaching, with a major impact on business continuity. Cleaning, repairing and preparing buildings for reopening is time and cost intensive. The first step in managing flood risks is to gain insight into the specific risk to a building.

In addition, the runoff of rainwater can have serious consequences for water quality, public health and the local economy. However, controlling this run-off water offers opportunities for the asset and the environment, such as the reuse of rainwater, the construction of resilient infrastructure, the restoration of urban waterways and the introduction of more greenery to increase the quality of life. In addition to flooding, other natural disasters can also pose a threat to the asset and building users. Understanding the risks associated with such events helps develop strategies to protect both the users and the value of the asset.

The durability of the building itself also plays a role. Exposed parts of the building can suffer damage due to aging or wear and tear, leading to unnecessary use of materials and waste. This can be reduced by identifying, phasing out, and taking protection measures in place at risk.

Finally, safety is crucial for the well-being of building users. Fear of crime can affect the sense of security, affecting health and productivity. The presence of an alarm system contributes to the safety and comfort of users and strengthens the overall resilience to such risks.

Value of the issues

RSL 01	Climate risk assessment	6 Credits + 1 Exemplary performance
Aim	Encourage that the climate risk is made transparent and, where necessary, mitigating measures are taken.	
Value	Encourages a better understanding of the climate risks to the asset. And encourages the implementation of appropriate mitigation measures, so that both the asset and the building users are protected.	
RSL 02	Measures to reduce run-off rainwater	3 Credits
Aim	Preventing, reducing and slowing the discharge of precipitation into public sewers and waterways, thereby reducing the risk of local flooding, pollution and other environmental damage.	
Value	Reduces the risk of flooding downstream and prevents problems with standing water on the plot.	
RSL 04	Durable and resilient features	3 Credits
Aim	Minimizing the frequency of building components by maximizing the protection of materials.	
Value	It prevents damage to building components, reduces maintenance costs and time, while preserving the value of the building and strengthening the safety of occupants.	
RSL 05	Alarm system	4 Credits
Aim	Ensuring that the asset has an appropriate monitoring system in place to prevent damage to the asset and the assets in the asset.	
Value	Protects owners and building users from permanent losses.	

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Climate risk assessment

Encourage that the climate risk is made transparent and, where necessary, mitigating measures are taken.

Share	: Asset
Available Credits	: 6
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Very Good
<i>Minimum 2 credits</i>	

Question

Has a climate risk assessment been carried out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, for the area score.
3	C	Yes, for the area score and there is a plan to make for determine the building score.
5	D	Yes, for the area score and building score.
6	E	Yes, for the area score and building score. And an adaptation plan has been made.
6 + 1 Exemplary Performance	F	Yes for the area score and building score. And an adaptation plan has been made and measures from the adaptation plan have been implemented.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	To determine the climate risks, the Framework for Climate Adaptive Buildings (FCAB) or a similar methodology was used. See 'methodology' for the implementation of the area- and building score and the preparation of an adaptation plan. A similar methodology should: a) Address the same climate risks. b) Be classifiable from 'Very high' to 'Very low' in a similar way. c) Use data that is equivalent, newer or made on the basis of more negative Climate Model than the data in FCAB. d) Meet all other relevant criteria in this issue.	B, C, D, E, F
2	The implementation of the building score is included in a strategy/planning that sets out the period within which the building score will be implemented. Even if the building is part of a portfolio, it must be clear when the building score for the asset is drawn up.	C
3	If there is a 'Very High' or 'High' risk, an adaptation plan has been made. The necessary physical of non-physical measures in the plan must be implemented within five years. If the asset has a lower than average, high or very high risk for all physical climate risks, the credits will also be earned without drawing up an adaptation plan.	E
4	Measures from the adaptation plan have been implemented.	F
5	The adaptation solutions implemented: a) Do not have an adversely affect on the area in terms of people, nature and other buildings. b) Favour nature-based solutions or rely on blue or green infrastructure to the extent possible.	E and F

Climate risk assessment

#	CRITERIA	APPLICABLE ANSWER
	c) Are consistent with local, sectoral, regional or national adaptation plans and strategies. d) Are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met.	
6	The adaptation plan has been prepared by a competent person with sufficient knowledge and experience who is able to: <ol style="list-style-type: none"> Determine the potential of climate risks in the asset area. Recognise and interpret various data sources from, for example, online maps. Determine the expected impact on the environment, the plot and the building. Identify appropriate mitigation measures. 	E and F

Specific notes

None.

Tables

None.

Methodology

Framework for Climate Adaptive Buildings

With a comprehensive alliance of financial institutions, knowledge institutes, consultants and governments, a Framework for Climate Adaptive Buildings (FCAB) has been developed. The framework consists of three parts containing an open, unambiguous approach to identifying physical climate risks for existing buildings with different building functions such as residential, office, healthcare and logistics. Four themes have been chosen as the biggest risks for the Netherlands: heat, drought, flooding and flooding.

The approach is based on three steps:

1. Estimating the climate effects on a building's surroundings (area score)
2. Determining the building-specific vulnerability (building score)
3. Defining area and building measures (adaptation plan/measures)

Based on the area score (part 1) and building score (part 2) together, a climate risk score for the building can then be determined. It then turns to defining area & building measures that can help to counter or eliminate the identified risks (part 3).

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	The climate risk assessment provides a justification on the determination of the climate risk scores.
2	Documentation on strategy/planning on the building score to be executed.
3, 4, 5 and 6	Adaptation plan with justification of planned and/or applied physical or non-physical measures.
6	Documentation demonstrating that the author of the adaptation plan has the required knowledge and experience.

Definitions

Nature based solutions

Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services.

Climate-Related Physical Risks:

The physical risks of climate change are risks resulting from events, such as extreme weather (hurricanes, floods, extreme heat), as well as longer-term shifts in climate patterns. Physical risks from climate change can be either acute, such as increased severity of extreme weather events, or chronic such as sea level rise or chronic heat waves.

Additional information

None.

References

- European Commission report: https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm.
- Framework for climate adaptive buildings: <https://www.dgbc.nl/publicaties/framework-climate-adaptive-buildings-63>.

Possible input for Adaptation Plan:

- FCAB part 3,
- Minimum PoR from the Covenant for Climate-Adaptive Building in South Holland (2018),
- Sustainable Living Environment Register.
- Toolbox Climate-proof city.
- Platform of Green-Blue Grids.
- European Commission report on blue and green infrastructure, available for download at: https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm.
- The EPRA report EU Taxonomy Alignment in Listed Real Estate (pages 17 and 22).
- EU-level Best Practice Guidance.

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Measures to reduce run-off rainwater

Preventing, reducing and slowing the discharge of precipitation into public sewers and waterways, thereby reducing the risk of local flooding, pollution and other environmental damage

Share	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are there measures in place to minimise the rate of surface water runoff from the site?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, one measures is in place.
3	C	Yes, two or more measures are in place.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>Measures to minimize rainwater runoff, which can be applied (the list is not exhaustive):</p> <ul style="list-style-type: none"> • Sustainable urban Drainage Systems (SuDS). • (Water) permeable paving in gardens or parking lots. • All gardens (both for and backyards) have a maximum of 50% of their surface unpaved. • Infiltration trenches. • Green or blue roofs on the roofs of houses, barns or apartment complexes. • Rainwater tanks. • Separate sewer system for rainwater and wastewater that works through infiltration sewer, overflow, closed system with overflow and pump or another system that drains the water with a delay. 	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Surface water run-off impact mitigation

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photographic evidence or documentation on disconnected drains.

Definitions

Green roof

A green roof is a roof that is partially or completely covered with vegetation and soil or another growing medium, situated on top of a waterproof membrane. These systems can be either intensive or extensive.

- An intensive green roof: A roof garden with a construction height of more than 15 cm thick. This allows for a high diversity of plant species. The vegetation is characterized by the presence of shrubs and trees, possibly in combination with sedum, moss, grass and herb roofs. This vegetation requires intensive maintenance and, depending on the vegetation used, is also a form of irrigation. In addition, an intensive green roof places greater demands on the supporting structure.
- Extensive green roof: A collective name for sedum, moss, grass and herb roofs. The thickness of the green roof structure is a maximum of 15 cm and the height of the vegetation is often less than 50 cm. This vegetation usually requires a minimum of maintenance, does not need to be irrigated and places less stringent demands on the supporting structure.

Blue roof

A roof construction that is designed to store water. This can include open water surfaces, storage within or beneath a porous media or modular surface or below a raised decking surface or cover.

Additional information

None.

References

None.

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Durable and resilient features

Minimizing the frequency of building components by maximizing the protection of materials.

Share	: Asset
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Does the asset contain features that protect exposed elements of the building and landscaping from damage from pedestrian traffic and external vehicular collision?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
1	B	Yes, the building has protection against the effects of heavy pedestrian traffic at all entrances, public spaces and passageways (corridors, lifts, stairwell, gallery, basement boxes, sheds, doors, etc.).
1	C	Yes, outside the building there is protection against, or prevention of, collisions with vehicles where the parking and manoeuvring of vehicles takes place within 1 meter of the façade of the building for all parking areas.
1	D	Yes, walking routes have been installed outside the building, which prevent building users from walking through green areas.

Criteria

#	CRITERIA	APPLICABLE ANSWER
FILTER		
1	If vehicles cannot park and maneuver within 1 meter of the building, this answer option can be filtered from the assessment.	C
2	If the asset has no outdoor areas, the answer option can be filtered from the assessment.	D
CRITERIA FOR QUESTION		
3	Suitable durability and protection measures must be taken to protect the building against damage. Examples of measures are shown in the 'additional information'.	B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Protective measures against damage

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Photos of the protective measures.

Definitions

None.

Additional information

Examples of measures to prevent damage to main entrances, public spaces or passageways are:

- Hard-wearing and easily washable floor finishes in heavily used circulation areas.
- Use of robust materials to limit damage caused by vandalism.
- Wall protection and/or wall bumpers.

Examples of suitable durability and protection measures from vehicular parking and manoeuvring areas can include:

- Barrier posts, bumpers, barriers or raised curbs.
- Collision protection.
- Robust external wall construction, up to 2 meters high.

Examples of measures to protect green spaces

- Raised edges on flower/green beds, such as border edges and border containers.
- Increase the distance between the greenery and walking route so that the greenery is not used as a shortcut route.

References

None.

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Alarm systems

Ensuring that the asset has an appropriate monitoring system in place to prevent damage to the asset and the assets in the asset.

Share	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: X
Minimum standard	: X

Question 1

Is the asset equipped with an approved fire alarm system and is the installation connected to a 24-hour alarm center?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
1	B	Yes, there is a fire alarm system.
1	C	Yes, the fire alarm system is connected to a monitoring facility that is operational 24 hours a day.

Question 2

Is the asset equipped with an approved burglar alarm system and is the installation connected to a 24-hour alarm center?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
2	E	Yes, there is an intruder alarm system.

Criteria

#	CRITERIA	APPLICABLE ANSWER
CRITERIA FOR QUESTIONS 1 and 2		
1	An alarm should be audible in case a fire alarm systems and/or intruder alarm system is installed. This is to ensure building users are warned in case of emergencies.	B, C and E
2	The fire alarm system is installed according to NEN2535 and possesses a valid Inspection certificate according to CCV Inspectieschema Brandbeveiligingssysteem Versie 12.0.	B
3	The alarm receiving centres should be staffed 24 hours a day.	C
4	The existing burglar alarm system is CCV certification scheme BORG-E or equivalent certified, whereby the security measures are based on the risk class classification from the VRKI or a certificate according to the Police Quality Mark Safe Living (PKVW) 'Existing Building' has been obtained or equivalent.	E

Specific notes

None.

Tables

None.

Alarm systems

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photographic evidence of the installed alarm systems.
3	Documentation that demonstrates that the alarm system in the asset is connected to a 24-hour manned alarm center.
2 and 4	Assets that have intruder alarms will require: <ul style="list-style-type: none"> • Documentation demonstrating that the intruder alarm system is approved according to the CCV certificaatschema BORG-E or equivalent, whereby the security measures are based on the VRKI or Police Quality Mark Safe Living (PKVW) Existing Building achieved or equivalent. • Documentation demonstrating that the fire alarm system is approved according to NEN 2535 and has a valid Inspection Certificate according to CCV certificaatschema Leveren Brandmeldinstallaties.

Definitions

None.

Additional information

Verbeterde Risico Klassenindeling (VRKI)

The VRKI is an instrument for determining the burglary risk of commercial buildings and homes. The attractiveness for criminals is determined on the basis of an inventory of the available goods. The risk class is determined together with the value of the goods. This risk class determines the type and severity of the security measures proposed by the VRKI.

Equivalent to 'CCV certificaatschema BORG-E':

VEB Security Certificate.

Police Quality Mark Safe Living (PKVW) for existing buildings

The Police Quality Mark Safe Living (PKVW) for existing buildings is a quality mark that certifies homes and apartment buildings on the basis of burglary prevention. It focuses on strengthening security through measures such as improving locks, windows, doors, and lighting. The quality mark offers advice on the application of these safety measures and requires that the building meets specific burglar-resistant standards. Obtaining the quality mark increases the safety of the building and contributes to a safe living environment for the resident.

References

- NEN 2535 – Brandveiligheid van gebouwen - Brandmeldinstallaties- Systeem- en kwaliteitseisen en projectierichtlijnen.
- Politiekeurmerk Veilig Wonen (PKVW) Bestaande Bouw

Land use and Ecology



SUMMARY

This category promotes awareness of strengthening the ecological value of the asset or plot. In addition, it provides insight into the impact that the asset has on the ecology during the use phase. With the help of this category, a long-term strategy can be developed that focuses on improving the ecological value of the asset.

CONTEXT

The conservation and creation of biodiversity and natural habitats are essential for life on land. Habitats support both the diversity of living organisms and the interdependence between them. Goal 15 of the United Nations Sustainable Development Goals (SDGs) focuses on 'life on land' and aims to integrate ecosystem and biodiversity values into national and local planning and strategies, including poverty reduction, by 2020.

The ecological value of an asset extends beyond the plot boundaries and can have a significant impact on the ecological value of the environment. It is therefore important to understand the existing values and characteristics of the plot, promote ecological facilities and increase biodiversity on the plot where possible.

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Value of the issues

LUE 01	Planted area	4 Credits
Aim	Measuring and stimulating external landscaping within the asset's footprint, thereby increasing the ecological value of the site. In addition, the well-being of the users is strengthened by access to nature.	
Value	This category identifies green spaces that, if properly managed, can contribute to biodiversity. In addition, it supports the improvement of the health, well-being and potentially productivity of building users through the presence and proximity of natural elements.	

LUE 02	Ecological features	2 Credits + 1 Exemplary performance
Aim	Recognizing and measuring ecological facilities within the footprint of the asset, improving the ecological value of the plot.	
Value	This category increases awareness of the ecological value of the plot and strengthens the biodiversity on site. It creates connection zones for local native species and contributes to the restoration and continuous growth of biodiversity in the vicinity of the asset.	

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Planted area

Measuring and stimulating external landscaping within the asset's footprint, thereby increasing the ecological value of the site. In addition, the well-being of the users is strengthened by access to nature.

Part	Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question 1

What percentage of the common outdoor space of the asset's footprint has been implemented as landscaping (planted)?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	< 5%.
1	B	≥ 5% to ≤ 40%.
2	C	> 40%.

Question 2

What percentage of the private outdoor space of the asset's footprint has been implemented as landscaping (planted)?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	< 5%.
1	E	≥ 5% to ≤ 40%.
2	F	> 40%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there is no communal outdoor space, the relevant number of credits can be filtered out of the assessment.	A, B and C
2	If there is no private outdoor space, the relevant number of credits can be filtered out of the assessment.	D, E and F
CRITERIA FOR QUESTIONS 1 and 2		
3	The landscaping can be a combination of horizontal and vertical planting.	A, B, C, D, E and F
4	Vertical habitats or green walls are: <ul style="list-style-type: none"> Freestanding or part of the building, if they are within the footprint of the asset. Partially or completely covered with vegetation and in some cases soil or an inorganic nutrient medium. Green walls can consist of greenery that is planted in the façade (plug planted) or greenery that is planted in the open ground (at ground level). 	A, B, C, D, E and F

Specific notes

None.

Planted area

Tables

None.

Methodology

It depends on the project situation how the percentage of the footprint of the asset executed as landscaping is determined. The footprint of the asset is the surface area within the demarcation of the asset, i.e. building or building part including any outdoor space (see definitions for explanation).

Situation: building with outdoor spaces

The asset footprint boundary should be defined as:

- Where the responsibility of the ownership or management of the site changes.
OR
- If there are several buildings with different owners on one site and there is a clear demarcation between the land around the buildings, this must be considered to be the boundary of the asset's footprint.
OR
- If there are several buildings of the same owner on one site, the total green area over the entire plot may be calculated and assigned to all individual buildings on the site.

Calculating the percentage of landscaping within the asset's footprint:

$$\frac{\text{Total external planted area (m}^2\text{)}}{\text{Asset footprint (m}^2\text{)}} \times 100$$

This is how you calculate the percentage of green space in the presence of vertical/horizontal planting:

$$\frac{(\text{Total external planted area (m}^2\text{)} + \text{total planted vertical of horizontal area (m}^2\text{)})}{\text{Asset footprint (m}^2\text{)}} \times 100$$

NB: In the calculation, the area of the vertical planting must be added to the area of the horizontal planting. The percentage can therefore exceed 100%.

Situation: building without outdoor spaces

The asset is a self-contained building, with no corresponding outer surface area within the asset's footprint (e.g., an office building in the city center).

Situation: building with a shared (green) roof

To calculate the percentage of the footprint of the asset executed as landscaping in the case of a roof with shared ownership, for example by a VVE, the surface area of landscaping will have to be calculated according to the percentage of ownership. To clarify this, see the two calculation examples below.

Calculation example 1:

A certifying party owns 44.5% of the property. The roof of the building has an area of 70 m² and consists entirely of planted area, then the organization may:

$$\text{Total external planted area (m}^2\text{): } 0,445 \times 70 = 31.15 \text{ m}^2$$

Of this 31.15 m², 100% landscaping is within the footprint of the asset.

Calculation example 2:

A certifying organisation owns 44.5% of a building whose roof has an area of 70 m². In this case, the distribution in area of roofing is

Planted area

different, namely 40 m² consists of green space and 30 m² of non-green space, e.g. stone. To determine the total planted area, the certifying organisation must divide the proportion of planted area with the roof area owned:

$$1. \text{Share of green roof: } 0,445 \times 40 \text{ m}^2 = 17.80 \text{ m}^2$$

$$2. \text{Total area owned by certifying organisation: } 31.15 \text{ m}^2$$

$$3. \text{Percentage green roof footpring asset: } (17.80 \text{ m}^2 \div 31.15 \text{ m}^2) \times 100\% = 57.14\%$$

Please note: There may be several buildings being certified where ownership of the roofs is divided. In such a case, the certifying organisation should calculate the proportion of area of green space per roof as one of the above calculation examples (depending on the type of roofing; green and/or non-green). Then the area of greenery per roof should be added together to determine a total share of greenery.

Additional information

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3 and 4	Photos of the green areas.
3 and 4	Calculation of the percentage of landscaping.

Definitions

Landscaping

Site section with landscaped planting, for example a green roof, green walls and/or garden

Asset footprint

The asset footprint is the area within the demarcation of the asset, i.e. building or building section including any outdoor space. The area refers to the surface as projected on the earth, not, for example, the GLA. The situation of the asset determines how to calculate the percentage of green space within the asset's footprint.

Green roof

A green roof is a roof that is partially or completely covered with vegetation including soil or another substrate layer, situated above a waterproof membrane. There are several types of vegetation roofs. Two of these are an extensive and intensive vegetation roof.

An intensive vegetation roof

A green roof with a substrate layer of at least 15 cm. This allows for a high diversity of plant species. The vegetation is characterized by the presence of shrubs and trees, possibly in combination with sedum, moss, grass and herb roofs. This vegetation requires intensive maintenance and, depending on the planting used, also requires a lot of irrigation. In addition, an intensive vegetation roof places greater demands on the supporting structure.

Extensive vegetation roof

Planted area

A green roof with a substrate layer of up to 15 cm. The vegetation often has a height lower than 50 cm and is characterized by the presence of sedum, moss, grass and herbs. This vegetation usually requires a minimum of maintenance, hardly needs to be irrigated and places less heavy demands on the supporting structure.

Vertical planting/green façade

Vertical planting or living wall normally consists of a nutrient medium (soil, water or an inorganic sublayer), with an integrated water supply system if necessary, depending on the climate and local weather conditions. The vegetation can be planted in the façade (plug planted) or in the open ground (at ground level) and can be led upwards from this position with a structure. Vertical planting or green facades are also known as green façades or vertical gardens.

Private outdoor space

A space that is only accessible to the residents of an individual home and is directly accessible from the home.

Communal outdoor area

A space that is accessible to the residents of several homes and is clearly related to the development.

References

None.

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Ecological features

Recognizing and measuring ecological facilities within the footprint of the asset, improving the ecological value of the plot.

Part	Asset
Available Credits	: 2
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Are there different types of ecological features applied within the footprint of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	No.
1	B	Yes, there are two different types of ecological facilities available.
2	C	Yes, there are at least four different types of ecological facilities available.
1 Exemplary Performance	D	There is at least one habitat on the site that supports local native species.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>Examples of ecological features/facilities that can be applied to support local flora and fauna include (but not limited to):</p> <ul style="list-style-type: none"> Ecological facilities integrated in/on or near the building, such as nesting boxes or living areas for specific species (e.g. insect hotels). Ecological facilities around the building, such as external planters with (native) native plants, green roofs and/or facades, planting in parking lots and boundary fences, gardens with ecological greenery, hedgehog houses, etc. <p>Various ecological facilities must be present to earn credits. For example, if there are two nesting boxes, this counts as one type of ecological facility.</p>	B and C
2	The ecological provisions must have been applied in accordance with the manufacturer's guidelines. An ecologist or relevant nature organization(s) can also advise on the correct application.	B and C
3	The ecological facilities must meet the needs of local (indigenous) flora and fauna. Online maps can provide support in insight into which local (native) flora and fauna occur at the asset.	B and C
4	If local, regional and national guidelines are prescribed regarding increasing the ecological value and the application of ecological facilities, these are followed.	B, C and D
5	<p>Habitats that significantly support local (native) animal species in order to be able to sustain themselves must be applied and maintained in accordance with local guidelines and the ecological advice of a recognized ecologist.</p> <p>Conditions for a species to sustain itself are the presence of sufficient food, safety, connection, living spaces and variation (the Five Rs). If one of these components is missing, the Exemplary Performance</p>	D

Ecological features

#	CRITERIA	APPLICABLE ON ANSWER
	cannot be achieved.	

Specific notes

REQUIREMENT	CRITERIA
Improvement outside the scope of the asset	<p>When a recognised ecologist has confirmed that there are no or very limited possibilities to apply ecological facilities within the footprint of the asset, it is possible to realise ecological facilities within a radius of 2 kilometres from the asset. In this way, ecological value can still be added to the environment.</p> <p>The following conditions apply here:</p> <ol style="list-style-type: none"> The same criteria apply as if the ecological facilities could be realized within the footprint of the asset. The suitably qualified ecologist has confirmed that all possibilities on the plot have been exhausted before off-site improvement is recognized. The accredited ecologist has confirmed that the ecological facilities contribute significantly to biodiversity and are appropriate for the location in question. Have the ecological facilities been realized on a plot/asset of the same owner? Then it must be demonstrated by whom the provisions for the asset were realized. Counting a facility for different assets does not earn credits.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2and5	Photos of the ecological facilities and habitats installed.
2,3and4	Documentation on application/installation of ecological facility, connection to local flora and fauna and, if applicable, connection to local, regional and national guidelines (this can also be part of the ecological research).
5	Recommendations from a suitably qualified ecologist.
1,2,3,4and5	If applicable, documentation concerns ecological facilities outside the scope of the asset.

Additional information

Application of ecological facilities

For the application of ecological facilities, it is important that the facilities are applied/installed in the right way (preferably as prescribed by a manufacturer, ecologist or nature organization). In this way, it can be prevented that the facility is applied in an incorrect way, and its purpose is lost. For example, a south-facing nest box will usually get too hot, and the animals will not use it.

Local, regional, and national guidelines

Ecological features

It is important that projects find out which local, regional and national guidelines are prescribed. To ensure that the ecological facilities and habitats in place contribute to local biodiversity objectives. For example, it may happen that the municipality has a guideline regarding biodiversity that deals with certain species that occur in the vicinity of the building with an endangered status. It is then recommended to apply ecological facilities for these types.

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

Suitably qualified ecologist (SQE)

- Has completed a course at college or university level with a focus on ecology.

OR

- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Nature and species organizations

Organizations engaged in the collection of knowledge as a basis for research and the protection of species. Examples are Vogelbescherming, RAVON, FLORON, SOVON, De Vlinderstichting, De Zoogdiervereniging et cetera.

Habitat

A habitat describes the conditions that an area must meet for certain animal and plant species to survive there. The habitat is a description of the resources that a particular species needs.

Native native plants

Native native plants are plants that occur naturally in the Netherlands. The origin of plantings is important for biodiversity in the Netherlands. It is assumed that the planting occurs naturally in the Netherlands before 1500. These are originally native species (archaeophytes). In the Standard List of Dutch Flora 2020, the individuality and origin of the native species can be checked.

Alien species often have a different flowering time that does not correspond to the period when many insects need food. Or the trees or plants are not recognized by insects as a food source and are not visited. This is not the case with native plants. These are usually insect-attracting plants.

Five Rs

The five Rs stand for reproduction, safety, food, connection and variation and are the basic principles for creating a habitat. Without a balanced balance in the various Rs, it is difficult for species to make use of the measures offered. Because without food nearby, a species does not use the location as a place to stay.

1. **Reproduction:** nesting facilities for animal species, enclosure boxes, nesting boxes, insect boxes, breeding heaps and stones so that species can nest here.
2. **Safety:** hedges, shrubs and trees that provide shelter, due to different height levels, including the soil revetment, creating safe zones.
3. **Food:** the installation of facilities as plants that are used directly as food such as nectar, pollen, seeds and kernels. Or that attracts insects that are interesting as food. Good soil quality for soil life.
4. **Connection:** realising green-blue structures to connect locations. Think of flight paths or a connecting route with tree or shrub species to and from the location.
5. **Variation:** Variation in planting, difference in flowering time, use of height and level differences, deciduous and non-deciduous.

References

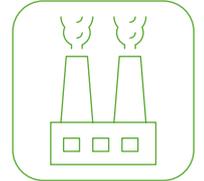
- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>.

Ecological features

- *Measurement programmes Network Ecological Monitoring (NEM)* - <https://www.netwerkecologischemonitoring.nl/>.
- *Delta Plan for Biodiversity Restoration* - <https://www.samenvoorbiodiversiteit.nl/>.
- *BIJ12 – Knowledge Documents Species – Nature Conservation* - <https://www.bij12.nl/onderwerp/natuurinformatie/kennisdocumenten-soorten-natuurbescherming/>.
- *Dutch Species Register – Overview of Dutch biodiversity* - <https://www.nederlandsesoorten.nl/>.
- *Nature management plans provinces* - [https://www.bij12.nl/onderwerp/natuursubsidies/snl/inhoud/natuurbeheerplan/#:~:text=Het%20Natuurbeheerplan%20\(NBP\)%20is%20a,nature%2C%20agricultural%20nature%20en%20landscape elements](https://www.bij12.nl/onderwerp/natuursubsidies/snl/inhoud/natuurbeheerplan/#:~:text=Het%20Natuurbeheerplan%20(NBP)%20is%20a,nature%2C%20agricultural%20nature%20en%20landscape elements.).
- *Dutch Action Agenda for Biodiversity* - <https://www.iucn.nl/app/uploads/2021/09/Rapport-De-Nederlandse-Actie-agenda-voor-biodiversiteit.pdf>.
- *Atlas living environment – Explore and discover your living environment* - <https://www.atlasleefomgeving.nl/kaarten>.
- *The Steenbreek - IVN Atlas* - <https://steenbreek.nl/steenbreek-atlas/>.

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Pollution



SUMMARY

This category focuses on preventing and controlling pollution related to the location and use of the asset. The aim is to reduce the impact on the surrounding neighbourhood and ecology, for example by reducing flooding and emissions to air, land and water. In this way, a healthy environment is created that is accessible to all demographic and economic groups, including vulnerable and disadvantaged populations.

CONTEXT

The United Nations has set "Good Health and Well-being" as one of its Sustainable Development Goals, with the sub-goal of significantly reducing deaths and illnesses from hazardous chemicals and pollution of air, water, and soil by 2030. BREEAM-NL contributes to this goal by reducing emissions from buildings, which improves air quality.

Air quality

Poor air quality has harmful effects on the health of humans and other organisms, especially in poor countries. Substances such as nitrogen oxides (NOx) react with other substances in the air, leading to dangerous compounds that irritate the respiratory tract, worsen allergies and can cause heart disease.

Refrigerants

Refrigerants in refrigeration systems have a much greater impact on climate change than CO₂. Although they are released in smaller quantities, they contribute greatly to global warming. The use of harmful refrigerants, such as CFCs and HCFCs, has now largely been phased out by global agreements, but HFCs are still used. These have a much greater warming capacity than CO₂ and are slowly being phased out worldwide.

It is crucial to effectively dispose of refrigerants at the end of the equipment lifecycle. BREEAM-NL supports this by prescribing systems that detect and control refrigerant leaks, which minimizes environmental impact, controls operational costs and extends the life of equipment.

Value of the issues

POL 01	Minimising watercourse pollution	2 Credits
Aim	Reducing the risk of pollution natural watercourses through contaminated surface run-off entering drainage systems.	
Value	This measure reduces the risk of pollution of local waterways, the soil and possible violations of environmental legislation. In addition, it helps to reduce the risk of clogged sewers, both on site and in the wider sewer system.	
POL 02	Chemical storage	2 Credits
Aim	Limiting the impact of leakage or spillage of hazardous chemicals.	
Value	Prevents damage to local waterways, the soil and possible violations of environmental legislation in the event of a chemical spill. And minimizes the risk for the people on site.	
POL 03	Local air quality	4 Credits
Aim	Reducing local air pollution by awarding and stimulation of the use no or low emission heating and hot water systems in the asset.	
Value	This measure reduces the impact on local air quality, human health, the formation of acid rain and the deterioration of the view. In addition, it helps reduce regulatory compliance costs by encouraging continuous and proactive maintenance.	
POL 04	Global warming potential of refrigerants	4 Credits
Aim	To encourage the use of refrigerants, with a low contribution to the greenhouse effect and to climate change.	
Value	This measure reduces the contribution to climate change and lowers regulatory compliance costs by promoting continuous and proactive maintenance.	
POL 05	Refrigerant leak detection systems	4 Credits
Aim	Reducing the level of greenhouse gas emissions related to the leakage of refrigerants.	
Value	Ensures that systems continue to function efficiently and deliver the intended cooling. This extends the lifespan and increases the market value of the system through the use of refrigerants with a low environmental impact.	

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Minimising watercourse pollution

Reducing the risk of pollution natural watercourses through contaminated surface run-off entering drainage systems.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

What measures have been taken to minimise the risk of pollution of natural watercourses?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	None.
2	B	Light-liquid separators are installed where a potential sources of pollution exist.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	<p>If there are no possible sources of contamination present, a light-liquid separators is not required, and the answer option can be filtered out of the assessment.</p> <p>It must be demonstrated that there are no possible sources of contamination.</p>	A and B
CRITERIA FOR QUESTION		
2	<p>Areas that serve the asset must be assessed. There is a risk of watercourse pollution in the following areas and light-liquid separator is required:</p> <ul style="list-style-type: none"> • Areas where trucks manoeuvre, park, and load and unload. • Car parks or parking lots for cars and motorcycles (from 50 parking spaces or larger than 800 m²). • Smaller parking spaces that drain into a sensitive nature reserve. • Areas designated for the storage of waste and hazardous substances (soil-threatening). • Refrigeration installations with a risk of leakage of liquid oil-containing refrigerants (such as glycol, on roof or grounds) are at high risk if they pose a risk to surface water or soil. 	B

Specific notes

REQUIREMENTS	CRITERIA
Other – Indoor parking	<p><u>Indoor parking (parking garages)</u></p> <p>If the project can demonstrate that there will be no water run-off from indoor parking, the purpose of the issue will be achieved for answer option B. Evidence is needed to demonstrate that water courses will be protected from hydrocarbons, both from spillage from vehicles and water ingress from outside.</p> <p>If it is plausible that water comes in from outside or there are drainage points that are cleaned regularly, the criteria for answer option B still apply.</p>

Minimising watercourse pollution

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
2	Photo's of separator equipment installed on-site.
2	(if any) Site plans showing the locations of the separators.

Definitions

Light-liquid/ Oil Separators

A part of the surface water drainage system into which potentially polluted wastewater flows. And where light floating liquids (such as oil) are separated from the wastewater by means of gravity and/or clumping and are retained.

Waterways

Rivers, streams, ditches, drains, culverts, dikes, locks, sewers and passages through which water flows.

Additional information

None.

References

None.

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Chemical storage

Limiting the impact of leakage or spillage of hazardous chemicals.

Part	: Asset
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

Are all hazardous chemicals stored in a storage facility that is suitable for $\geq 110\%$ of the chemicals stored?

CREDITS	ANSWER	SELECT A SINGEL ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If chemicals are not stored in the asset, this issue can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
2	With the right storage facilities, risks of leakage or spillage can be prevented. Measures that can be applied in the storage facility are (list is not limited to): <ul style="list-style-type: none"> • Double skin tanks • (Separate) drip trays • Structures made of a liquid-repellent material that provides a barrier to retain liquids • Containing storage • Separate and closed safety cabinets with ventilation and exhaust to outside air • Fire-resistant safety cabinets with fire resistance of at least 60 minutes. 	B
3	The scope of this issue includes all hazardous chemicals that are stored for use in the common areas of the asset.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Minimising watercourse pollution

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2	Photos of the storage facility.
2	Documentation indicating that the storage facility is appropriate for the asset for which it is intended.

Definitions

None.

Additional information

Hazardous chemicals

PGS 15 concerns the publication Hazardous Substances. The PGS 15 provides guidelines on the method of storage and temporary storage of packaged hazardous substances for fire safety, occupational safety and environmental safety.

The collection capacity of the hazardous liquids must be at least 110% of the volume of the largest packaging within the storage facility. If 110% of the largest package is less than 10% of the total volume of packaging, then 10% of the total volume of packaging must be adhered to.

If the hazardous substances stored in the building fall under the characteristics described below, the measures mentioned in PGS 15 should be applied. For further clarification, it is advisable to read section 1.2 Scope of the guideline from PGS 15 further. Below is a shortened overview of applicable substances within the PGS measures:

- Aerosol cans
- UN 2037 holders
- Gas cylinders containing suffocating, oxidizing or flammable substances
- Gas cylinders with ammonia and ethylene oxide
- Substances falling under classification codes M6 and M7 (UN number 3082 and UN number 3077)
- Substances classified as acute toxicity hazard classes (oral, dermal and inhalation)
 - Category 1 and 2 (H300, H310, H330)
 - Category 3 (H331, H331, H301)

Beyond that, it is important to be aware of the quantities of the substances that are stored. For this purpose, the PGS 15 guideline has made an overview with various lower limits in quantities. These can be viewed in section 1.2.1 lower limits of the PGS 15. From the stated quantities, the intention is that the PGS 15 will be applied. Below this number, there is a legal provision that exemption is possible.

References

- Manual Publication Series Hazardous Substances (PGS) 15 - version 2021.

Local air quality

Reducing local air pollution by awarding and stimulation of the use no or low emission heating and hot water systems in the asset.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Do the asset's heating and hot water systems generate local emissions of nitrogen oxides, particulate matter or volatile organic compounds?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Yes, and emissions from combustion systems exceed the limit values.
1	B	Yes, and emissions from solid fuel biomass or combustion systems comply with the limits.
2	C	Yes, and emissions from oil-based combustion systems comply with the limit values.
3	D	Yes, and emissions from gas-based combustion systems comply with the limits.
4	E	No, all heating for space heating and hot water is not generated by combustion systems, but by electricity, for example.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset is connected to a collective heat network (district heating) that is outside the ownership/management of the building owner or manager, the issue can be filtered out of the assessment.	A, B, C, D and E
CRITERIA FOR QUESTION		
2	Credits can be awarded if the emissions from the combustion plants for space heating and hot water do not exceed the limit values in Table POL 03.	B, C, D and E
3	The limit values in Table POL 03 use the following metrics: <ul style="list-style-type: none"> Nitrogen oxides (NOx) are measured in mg/kWh, based on the amount of fuel in Gross Calorific Value for gas and oil combustion systems. Particulate matter and volatile organic compounds (VOCs) from all solid fuels or biomass boilers are measured in mg/m³ 20% O₂ on a dry basis (mg/m³ 10% O₂). Particulate matter and volatile organic compounds (VOCs), for all local heating systems, based on solid fuel or biomass is measured in mg/m³ 20% O₂ on a dry basis (mg/m³ 10% O₂). <p>To demonstrate compliance with the emission limits, emission measurement information must be provided by the appliance(s) manufacturer(s). Where emission information is not available in these units of measurement, the correct information must be obtained from the appliance manufacturer.</p>	B, C, D and E
4	If multiple systems are installed, credits must be awarded based on the worst performing appliance.	B, C, D, E and F
5	Back-up rooms for space heating or hot water systems can be excluded from the assessment. On the condition that these systems are only used in emergencies, so that their impact is limited.	B, C, D, E and F
6	Credits cannot be awarded if the combustion system is not covered in Table POL 03 (such as open-fronted stoves or stoves with open chimneys).	B, C, D and E

Local air quality

Specific notes

None.

Tables

Table POL 03 Limits for emissions from combustion appliance

COMBUSTION SYSTEM	FUEL	NITROGEN OXIDES EMISSIONS	PARTICULATE MATTER EMISSIONS	VOC
Central combustion appliances (boilers) for heating, hot water or the combination of these.	Gas	56 mg/kWh		
	Oil	120 mg/kWh		
	Biomass	200 mg/m ³	40 mg/m ³	20 mg/m ³
	Solid fuel	350 mg/m ³	40 mg/m ³	20 mg/m ³
Space heating with CHP based on external combustion of fuels.	Gas	70 mg/kWh		
	Oil	120 mg/kWh		
Space heating with CHP based on internal combustion of fuels.	Gas	240 mg/kWh		
	Oil	420 mg/kWh		
Central heat pumps for heating, hot water or a combination of these based on external combustion.	Gas	70 mg/kWh		
	Oil	120 mg/kWh		
Central heat pumps for heating, hot water or combination of these based on internal combustion.	Gas	240 mg/kWh		
	Oil	420 mg/kWh		
Local space heating	Gas	130 mg/kWh		
	Oil	130 mg/kWh		
Closed-front local combustion appliances	Wooden pallets	200 mg/m ³	20 mg/m ³	60 mg/m ³
	Biomass	200 mg/m ³	40 mg/m ³	120 mg/m ³
	Solid fuel	300 mg/m ³	40 mg/m ³	120 mg/m ³

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3, 4 and 5	Photos of heating and hot water systems.
2, 3, 4 and 5	A specification of the installed combustion systems and the associated emission values.

Definitions

None.

Additional information

Local air quality

Emission limits from combustion systems

The limit values and measured values are based on the requirements of the European Union Ecodesign Directive (2009/125/EC) and the associated regulations for energy-related products. This requires a performance obligation for heating systems based on combustion, and obliges producers to publish the emissions of NO_x, particulate matter and volatile organic compounds for their products.

References

None.

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Global warming potential of refrigerants

To encourage the use of refrigerants, with a low contribution to the greenhouse effect and to climate change.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

What refrigerants are used in the refrigeration systems of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are refrigerants with a GWP-100 of >10 CO ₂ equivalents (such as the majority of HFCs and HCFCs).
1	B	50% of the cooling or heating capacity measured by kW of the refrigerants has a GWP-100 of ≤10 CO ₂ equivalents (such as Propane and Butane).
2	C	All refrigerants have a GWP-100 of ≤10 CO ₂ equivalents (such as Propane and Butane).
4	D	All refrigerants have a GWP-100 of ≤1 CO ₂ equivalents (such as ammonia, water, carbon dioxide).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If only small hermetically sealed systems are installed in the asset (refrigerant charge in each system is ≤5kg), this issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	This issue only applies to the refrigerants used in the installations installed in or on the asset, in particular for comfort cooling and heating (such as heat pumps).	A, B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Global warming potential of refrigerants

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Confirmation from the building manager/owner/installer that there are no installations in the asset in which refrigerants are applied, or that the installations have a maximum charge of ≤5 kg.
2	Manufacturer's specifications on the GWP of the refrigerants used.
2	Photos of the installation, the systems and the type of refrigerants used (if applicable).

Definitions

Global Warming Potential (GWP)

The contribution to the greenhouse effect expressed in CO₂ equivalents. The addition '100' refers to the trial period of 100 years. (The contribution of the refrigerant over 100 years). The list of common types of refrigerants with a GWP value over 100 years can be found in the most recent IPCC report.

Synthetic refrigerants

Synthetic refrigerants are substances that do not occur naturally but have been developed by humans for industrial purposes, such as HFCs.

Natural and environmentally friendly refrigerants

Natural refrigerants also occur naturally in the environment, such as water (R718), CO₂ (R744) and ammonia (R717).

Automatic isolation and containment of refrigerant

Any system that isolates and encloses the refrigerant to minimize leakage into the atmosphere in the event of a system failure.

Additional information

Refrigerants

There are mainly three types of refrigerants:

1. Hydrofluorocarbons (HFCs): consisting of hydrogen, fluorine and carbon. These substances do not contain chlorine atoms (which are used in most refrigerants), which makes them known as one of the least harmful refrigerants for the ozone layer.
2. Soft chlorinated fluorocarbons (hydrocarbons) (HCFCs): consisting of hydrogen, chlorine, fluorine and carbon. These refrigerants contain a minimal number of chlorine atoms, which means that they have fewer adverse effects on the environment than some other refrigerants.
3. Hard chlorinated fluorocarbons (hydrocarbons) (CFCs): consisting of chlorine, fluorine and carbon. These refrigerants contain the highest number of chlorine atoms, making them the most harmful to the ozone layer.

Hydrocarbons and refrigerants based on ammonia have no or a low GWP. These substances and products offer good alternatives to HFCs if health and safety issues are thoroughly addressed.

The government provides a detailed explanation of the environmental impact of refrigerants on the website infomil.nl.

IPCC report

For the current list of common refrigerants with a GWP value over 100 years, the most current IPCC report can be used (see reference).

References

- IPCC AR6 synthesis report – 2023.

Refrigerant leak detection systems

Reducing the level of greenhouse gas emissions related to the leakage of refrigerants.

Part	: Asset
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

Is there automatic leak detection for all refrigeration installations that use refrigerants?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No, there is no leak detection available.
3	B	Yes, there is leak detection with a warning system.
4	C	Yes, there is leak detection with a warning system or light, including automatic shut-off and pumping out of refrigerants.
4	D	Only natural and environmentally friendly refrigerants (GWP ≤1) are used.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If only small hermetically sealed systems are installed in the asset (refrigerant charge in each system is ≤5kg), this issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	This issue only applies to the refrigerants used in the installations installed in or on the asset, in particular for comfort cooling and heating (such as heat pumps).	C and D

Specific notes

None.

Tables

None.

Methodology

None.

Refrigerant leak detection systems

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Confirmation from the building manager/owner that there are no installations in the asset in which refrigerants are applied, or that the installations have a maximum charge of ≤ 5 kg.
2	Manuals or maintenance plans detailing the installation of the leak detection system, or a site visit.
2	Confirmation from the manufacturer that the risk of leaks is minimal or that leaks have a minimal impact, when applying the environmentally and nature-friendly refrigerants supplied.

Definitions

None.

Additional information

For the current list of common refrigerants with a GWP value over 100 years, the most current IPCC report can be used (see reference).

References

- IPCC AR6 synthesis report – 2023

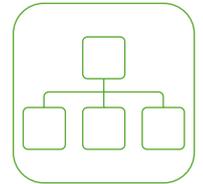
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Management

CATEGORIES	WEIGHINGS	AVAILABLE CREDITS	AVAILABLE EXEMPLARY PERFORMANCE
Management	10%	29	1
Health	16%	22	0
Energy	30%	58	5
Transport	0%	0	0
Water	8,5%	17	0
Resources	12%	14	1
Resilience	11%	18	1
Land Use and Ecology	8,5%	12	0
Pollution	4%	8	1
Total	100%	178	
Exemplary performance			9

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Management



SUMMARY

This category encourages sustainable management throughout the asset's lifecycle. For example, both technical and non-technical managers and users of buildings have appropriate guidelines, with which they can contribute to maximum sustainable performance. Clear goals and a feedback procedure help optimize processes and performance.

CONTEXT

New buildings contribute to a healthier indoor climate and are more sustainable and efficient than ever before. This increases the expected performance of existing buildings. The way a building is managed is often crucial, as only limited changes can be made while a building is still in use.

The goal of good building management is to ensure that buildings perform at least as intended by design, or better. This first requires that the building managers understand how the building should perform. They must then ensure that policies and procedures are in place to continue to perform. Finally, it must be ensured that the service provided meets the needs of the residents.

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Value of the issues

MAN 01	Building/ Home user guide	2 Credits
Aim	To recognise and encourage the provision of information to the building users, so that they can enter, understand and use the building efficiently.	
Value	Provides building users with better insight into the functionality of the building and how to use it effectively. This increases comfort, meets their requirements and contributes to greater satisfaction and productivity.	
MAN 02	Management engagement and feedback	8 Credits
Aim	Facilitating structured communication between facility management and residents optimally manage and use the building.	
Value	Provides the building manager with insight into the needs of the users and makes it possible for them to provide feedback. Ensures that problems are investigated and resolved when necessary.	
MAN 03	Maintenance Policies and Procedures	13 Credits
Aim	To recognise and encourage a proactive approach to the management and maintenance of the building.	
Value	Protects the long-term value of the asset with proactive maintenance policies and procedures. Ensures that knowledge about the use and operation of the building is effectively shared, so that the building functions efficiently according to the expectations of the users.	
MAN 04	Environmental Policy and Procedures	6 Credits + 1 Exemplary Performance
Aim	To recognise and encourage the implementation of progressive environmental management and ensuring that an environmental policy is in place and acted upon.	
Value	Helps building managers and occupants identify and manage the environmental performance of the asset. Supports the documentation of actions to minimise the environmental impacts of building activities and encourages the inclusion of resilience and climate adaptation in environmental policy.	

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Building/ Home user guide

To recognise and encourage the provision of information to the building users, so that they can enter, understand and use the building efficiently.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has relevant information from the user guide been made available to all users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The user guide does not have a mandatory format, but must be accessible to building users, with specific consideration given to people with disabilities	B
2	The user guide provides easily available and understandable information, relevant and accessible to all for at least the following stakeholders: <ul style="list-style-type: none"> Residents. The (non) technical facility management/building management. 	B
3	The user guide is building or location-specific. The purpose of the guide is to help building users access, understand and use the building efficiently. The user guide focuses on the current facilities, procedures and installations of the building. The guide should include information on the following topics, if applicable (list is not exhaustive): <ol style="list-style-type: none"> Overview of building and environmental policies, such as energy, water or waste efficiency policies. And how building users can participate in this policy. Availability and accessibility of shared facilities. Availability of facilities and facilities for users with disabilities or users who are in need of additional support. Information and/or instructions about safety and emergencies. Building-related reporting and complaints procedure with, if applicable, a feedback procedure. Information about availability and accessibility of transport facilities, such as public transport, bicycle parking, walking routes, etc. Information about availability and accessibility of local facilities. Links, references, and relevant contact information. Overview of the building installations and operation: Where is the operation located? What can you control? How do you use the installations effectively and efficiently? Information for visitors regarding access, security procedures and facilities. Rules regarding smoking in the house/residential building. Information on how building users should deal with the existing ecological facilities. Information relevant to the building and/or user that is not listed above. 	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 3	Copy of the user manual.
1,2 and 3	Data on how the user manual or relevant parts of the manual are shared with the relevant stakeholders.

Definitions

None.

Additional information

None.

References

None.

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Management engagement and feedback

Facilitating structured communication between facility management and residents optimally manage and use the building.

Part	: Management
Available Credits	: 8
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Very Good
<i>At least 2 credits (answer G or H)</i>	

Question 1

What processes are in place to ensure good communication between facility management, residents and the immediate vicinity of the asset?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no processes in place.
1	B	There is formal communication between facility management and the residents.
1	C	At least once a year there is a meeting between facility management and residents.
1	D	Residents are provided with information related to the environmental policy and the performance of the asset.
1	E	There is proactive involvement with stakeholders from the immediate vicinity of the asset and procedures are in place to handle complaints about the asset and the use of the asset (e.g. noise, smell and light).

Question 2

Has a satisfaction survey been conducted among the residents?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	F	No.
2	G	A satisfaction survey among residents was carried out by facility management.
4	H	A satisfaction survey among residents was carried out by an independent party.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	There is periodic formal communication and meetings are held. Also when new procedures are adopted, or systems/controls are installed.	B and C
2	Information may relate to: <ul style="list-style-type: none"> • Health, safety and environmental policy. • Procedures for the use of the building (building operating procedures). • Environmental performance of the asset (e.g. energy and water consumption). • Public transport. • Topics on environmental best practices. • Accessibility and equality. 	D
3	Examples of proactive engagement with local stakeholders/neighbours:	E

Management engagement and feedback

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> • Online feedback opportunities. • Surveys on and off-site with stakeholders/neighbours. • Events or meetings for social involvement. • Participation in existing neighborhood groups/activities. • A standing neighbourhood/community input committee. 	
4	The complaints procedure should describe how complaints are dealt with quickly and impartially	E
CRITERIA FOR QUESTION 2		
5	The survey and associated feedback should be conducted at least once every three years and results should be collected. And additionally, when major changes have been made in facility management, building facilities, etc.	F and G
6	The survey must include at least the following: <ol style="list-style-type: none"> Indoor environment conditions. Indoor environment controllability. Internal design and parts that fall under the responsibility of facility management. Communal facilities in the building. 	F and G
7	Based on the results of the survey, targets must be set for all topics for which residents have highlighted issues. In addition, the established targets and results from the survey must be shared with the building users. The progress of the set targets must be reviewed annually and achieved/implemented within 3 years.	F and G

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Data that demonstrates social cohesion or positive/proactive engagement with local residents.
4	Copy or description of the relevant complaints procedure.
5, 6 and 7	A copy of the user satisfaction survey, set targets and results.
5, 6 and 7	Data on how the objectives set and developments in procedures have been communicated with the residents.

Management engagement and feedback

Definitions

Formal communication

Formal communication refers to the communication according to predefined channels, with the aim of exchanging information between different parties (facility management and building users) within the asset.

Examples of formal communication are:

- Standard feedback forms (online or offline);
- Dedicated email address (helpdesk, receptive, service desk);
- Online feedback forms;
- Standard forms at locations accessible to residents.

Additional information

None.

References

None.

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Maintenance policies and procedures

To recognise and encourage a proactive approach to the management and maintenance of the building.

Part	: Management
Available Credits	: 13
Exemplary Performance	: 0
Applicable to	: G, H and I for apartments
Contains filter	: ✓
Minimum standard	: ✗

Question 1

Which of the following maintenance policies and procedures are in place?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no policies or procedures in place.
1	B	Maintenance manuals are available and accessible for facility management/ building management.
2	C	There is a proactive maintenance policy and procedures for the external site.
2	D	There is a proactive maintenance policy and procedures for the building fabric.
2	E	There is a proactive maintenance policy and procedures for heating, ventilation and cooling installations (climate installations), where applicable, and hot water systems.
2	F	There is a proactive maintenance policy and procedures for lighting.

Question 2

Is the monitoring or building management system regularly checked and maintained?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	G	No.
2	H	Regular review and maintenance of the building management (or monitoring) systems by a qualified facility management employee.
4	I	Regular review and maintenance of the building management (or monitoring) systems by a qualified third party.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset has no outdoor space, the answer option can be filtered out of the assessment.	C
2	For buildings equal to or smaller than 1000 m2 (surface area of the entire building including the apartments), a monitoring or building management system (BMS) is unnecessary, the corresponding answer options can be filtered out of the assessment.	G, H and I
CRITERIA FOR QUESTION 1		
3	The maintenance manuals include all current and relevant building installations and structural elements, including (but not limited to): <ul style="list-style-type: none"> • Heating and cooling systems; • Water distribution system; 	B

Maintenance Policies and Procedures

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> • Ventilation system; • Lighting installations; • External shading systems; • Building details/specifications of the building fabric; • Renewable and low-carbon technologies (where present). 	
4	<p>The multi-year maintenance policy (MJOB) and the resulting maintenance procedures include at least:</p> <ol style="list-style-type: none"> The person or organization responsible for the maintenance policy. The necessary resources for the proactive maintenance of the building (including financial, labor hours, equipment). Maintenance objectives and measures. An assessment framework in which it is determined whether a product/element must be replaced in the event of malfunctions or at an intended replacement moment, or whether this product/element can be repaired. 	B, C, D, E and F
CRITERIA FOR QUESTION 2		
5	This issue covers the entire monitoring or building management system. Individually automated controls, such as a motion sensor that controls lighting, are not considered a building management system.	Hand I
6	Employees of the facility management or the organization that manages the building must be trained so they are able use the monitoring or building management system to high efficiency standards.	Hand I
7	<p>Monitoring or building management systems should be reviewed at least annually to ensure the system is functioning correctly. The assessment must include at least the following:</p> <ol style="list-style-type: none"> Calibrating the meters; Inspection/evaluation whether the system is working correctly; Correctly signaling malfunctions; Completeness and quality of the system's data output. <p>Performance throughout the year is taken into account (e.g. during summer and winter or during wet and dry seasons).</p>	Hand I
8	Maintenance and control must be carried out by a person or organisation with sufficient knowledge about the monitoring or building management system (this party independent from the building owner/manager). This can be, for example, an external maintenance company, a trained technician or the manufacturer/supplier of the existing system.	I

Specific notes

None.

Tables

None.

Methodology

None.

Maintenance Policies and Procedures

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The front and contents of the maintenance policy and procedures and an overview of all current and relevant building installations and building elements.
3, 4, 5, 6 and 7	The multi-year maintenance policy and procedures (e.g. of the cover page and the table of contents) must clearly state: <ol style="list-style-type: none"> The person or organization responsible for the maintenance policy. Date on which the documents are created. Overview of the topics included in the policy/procedures.
6, 7 and 8	The inspection log, report or other form of documentation relating to the assessment of the building management system, if applicable carried out by the qualified third party.

Definitions

Building fabric

The external fabric of the building, including the walls, cladding, doors, windows, and roofs.

Proactive maintenance policy

Proactive maintenance policy to increase the reliability of the installed facilities and water systems. This maintenance policy usually consists of two parts:

- Preventive maintenance: Maintenance, measurements, tests, replacement of the parts, etc. to avoid errors and malfunctions.
- Predictive maintenance: Techniques that are designed to help determine the condition of installed equipment, to predict when maintenance will need to take place.

Additional information

Access to management and maintenance manual

The Assessor is not obliged to assess the content of the management and maintenance manual. But he or she must establish that all relevant documents are available and accessible. If the building management is carried out by an external party, they may store the manuals outside the building. In all cases, it is important that the information is easily available in such a form that it is easy for contractors to obtain a copy and use it in the building.

References

None.

Environmental Policy and Procedures

To recognise and encourage the implementation of progressive environmental management and ensuring that an environmental policy is in place and acted upon.

Part	: Management
Available Credits	: 6
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Very Good
<i>At least 2 credits (answer B)</i>	

Question

Which of the following maintenance policies and procedures are in place?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	The facility management has developed and applied an environmental policy or plan.
2	C	The environmental policy or plan is certified in accordance with ISO 14001 or an equivalent standard.
2	D	Improvement targets have been set for energy, water and waste/reuse.
1 Exemplary Performance	E	The environmental policy or plan also includes building resilience and climate risks.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>An environmental policy or plan must:</p> <ul style="list-style-type: none"> a) Be implemented and the evaluation process should ensure that targets are set, and action plans are completed. b) Have been approved by senior management. c) Available to all regular building users. d) Include an approach that describes how improvement targets for energy, water and waste/reuse are achieved (e.g. indicating required financial resources, instruments, manpower). <p>The required level of detail of the environmental policy or plan depends on the size and complexity of the asset.</p>	B, C and D
2	If the environmental policy or plan is certified in accordance with ISO 14001 (focused on facility management), the assessor does not need to check the content and structure.	C
3	Improvement targets should include a scope and targets. For energy, at least targets have been set for 2030 and 2050, in line with the EU Green Deal and the Paris Climate Agreement.	D
4	<p>The environmental policy or plan must meet the criteria for answer options B and D in order to qualify for the Exemplary Performance.</p> <p>The environmental policy or plan describes the approach and appoints who is responsible for identifying and mitigating climate risks, circularity and other sustainability-related issues of the asset.</p>	E

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 4	The environmental policy or plan, containing the documents marked that relate to the improvement targets and/or resilience and climate risks.
3	If the environmental policy or plan is certified by a third party, the certificate must be provided.

Definitions

None

Additional information

Standards equivalent to ISO 14001

The following standards are recognized as equivalent standards to ISO 14001:

- EMAS – Community eco-management and audit scheme;
- Eco-Lighthouse/Miljøfyrtårn.

EU Green Deal

With the EU Green Deal, the European Commission has introduced a package of policy initiatives to make Europe climate neutral by 2050, in accordance with the Paris Climate Agreement. This 'Fit for 55' package aims to achieve a CO2 reduction of at least 55% by 2030 compared to 1990. The initiatives are aimed at the full breadth of the economy. Within the construction and real estate sector, the Energy Performance of Buildings Directive (EPBD IV) is specifically aimed at the energy performance of buildings.

The EPBD IV indicates on the one hand where buildings should go by 2050 (Zero Emissions Buildings) and on the other hand it provides a path for phasing out the worst-performing buildings. In the EPBD IV, the emphasis is on phasing out the 16% worst-performing non-residential buildings by 2030 and 26% worst by 2033.

Parties can set improvement goals for this by (non-exhaustively):

- Gain insight into the energy label and energy consumption;
- Create a roadmap for the building;
- Planning work in such a way that the building no longer has a bad energy label before 2030/2033;
- Renovating the building to the renovation standard or Paris Proof in one go.

The EU Taxonomy stems from the EU Green Deal and also sets requirements for the energy performance of existing buildings. However, it is important to take a broader view, in order to achieve both the goals of the 'Fit for 55' package and ultimately meet the Paris climate targets.

Paris Climate Agreement

The Paris Climate Agreement is an international treaty to combat global warming. The agreement was presented on 12 December 2015 at the Paris climate conference. In it, 195 countries, including the Netherlands, have agreed to limit the increase in the average global temperature to well below 2 degrees Celsius, and if possible 1.5 degrees Celsius, by 2050. Part of the Climate Agreement is that the built environment will be completely climate neutral by 2050.

References

None.

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Health



SUMMARY

The aim of this category is to encourage a building to be healthy, safe, accessible and comfortable for all building users, including its immediate surroundings.

CONTEXT

The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being, and not just the absence of disease or physical infirmity. The WHO emphasizes that the right to the highest attainable standard of health applies to everyone, regardless of race, religion, political opinion, or social and economic status. This idea is also reflected in "good health and well-being", the third goal of the United Nations Sustainable Development Goals (SDGs).

On average, people spend more than 90% of their time in and around buildings, while the rest of their time is often spent traveling between different locations. This makes the built environment an important factor for the well-being and health of the users. There is growing evidence that the indoor climate of buildings – such as visual, thermal, acoustic and air comfort – has a major impact on both physical and mental health. Health problems that are often linked to indoor environments include lung problems, allergies, cardiovascular disease, but also psychological complaints such as stress and fatigue. Individuals in high-risk groups, such as young children, the elderly, the disabled, and the sick, may experience additional health problems due to an unhealthy environment. Some of these health risks can be serious or even life-threatening.

The well-being of residents has a direct impact on their quality of life, satisfaction and overall well-being. This makes the environment in which people live, work and relax of great importance for their personal well-being. A healthy and well-designed living environment not only promotes the physical and mental health of residents, but also contributes to their overall well-being and the enjoyment of their daily lives.

Value of the issues

HEA 14	Thermal comfort	4 Credits
Aim	Determine that the home provides thermal comfort for the occupants.	
Value	Reduces the risk of poor comfort due to extreme indoor temperatures and reduces unnecessary heating or cooling, reducing operational costs and environmental impact.	
HEA 15	Smoking policy	1 Credits
Aim	Appreciating and encouraging the health benefits of a smoke-free environment and minimizing the risk of fire.	
Value	Reduces the risk of health problems caused by (passive) smoking and improves the comfort and productivity of building users by eliminating this source of nuisance.	
HEA 16	Indoor air quality management	6 Credits
Aim	To encourage and support healthy internal environments with good indoor air quality.	
Value	Reduces air pollution from pollution sources in the building and supports the physical health of occupants by reducing the risk of air-related health problems.	
HEA 17	Acoustic conditions	7 Credits
Aim	Ensure that the asset provides a good indoor acoustic environment, ensuring a high level of noise comfort for occupants.	
Value	Minimizes noise pollution between rooms and ensures living comfort by creating a suitable acoustic environment for the different rooms in the home.	
HEA 18	Microbiological risk management	4 Credits
Aim	Ensure that water systems are managed in a way that prevents or minimizes the risk of microbiological contamination.	
Value	Protects residents from legionella risks and ensures the hygiene and quality of the water supply for safe use.	

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Thermal Comfort

Determine that the home provides thermal comfort for the occupants.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is the thermal comfort of residents regularly monitored?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
4	B	Yes, through occupant thermal satisfaction surveys.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Surveys should be completed at least every 3 years and all residents, or a representative sample of asset users, must be offered the opportunity to complete the survey. This survey can be part of the satisfaction survey as mentioned in MAN 02.	B
2	A reasonable response rate should be achieved for the survey. A response rate of at least 35% is considered reasonable. Where there are fewer than 45 occupants Assessors should use their judgement to determine a reasonable response rate.	B
3	Procedures must be in place that cover how issues and feedback identified through the occupant thermal satisfaction surveys are addressed. The results and any potential improvement measures should be presented to and considered by senior management.	B

Specific notes

None.

Tables

None.

Methodology

None.

Thermal comfort

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
All	Procedure and records for addressing thermal comfort related feedback and issues.
1 and 2	Relevant documents from satisfaction surveys and response rates.
3	Documentation, e.g. meeting minutes, showing senior management has reviewed the results of the survey and any potential improvement measures.

Definitions

None.

Additional information

Occupant thermal satisfaction surveys

ANSI/ASHRAE Standard 55-2017 Thermal Environmental Conditions for Human Occupancy provides an example thermal satisfaction survey. The following is an adapted version of the survey:

SURVEY QUESTION	ANSWER
1. How satisfied are you with the temperature in your home?	<ul style="list-style-type: none"> a) Very satisfied b) Satisfied c) Somewhat satisfied d) Neither satisfied nor dissatisfied e) Somewhat dissatisfied f) Dissatisfied g) Very dissatisfied
2. If you are dissatisfied with the temperature in your home, which of the following contribute to your dissatisfaction (check what applies): <ul style="list-style-type: none"> • In warm/hot weather, the temperature inside my space is: • In cool/cold weather, the temperature inside my space is: 	<ul style="list-style-type: none"> a) Always too hot b) Often too hot c) Occasionally too hot d) Occasionally too cold e) Often too cold f) Always too cold
3. If you are dissatisfied with the temperature in your home, when is this most often a problem (check all that apply)?	<ul style="list-style-type: none"> a) Morning (before 11:00) b) Midday (11:00 -14:00) c) Afternoon (14:00 -17:00) d) Evening (after 17:00) e) Weekends or holidays f) Monday morning g) No specific time h) Always i) Other
4. If you are dissatisfied with the temperature in your home, how would you describe the cause of this discomfort (tick all that apply)?	<ul style="list-style-type: none"> a) Humidity too high (damp) b) Humidity too low (dry) c) Air movement too high d) Air movement too low e) Incoming sun f) Heat from equipment g) Draughts from windows h) Draughts from vents i) The living area is warmer/colder than other rooms. j) Thermostat is inaccessible

Thermal comfort

SURVEY QUESTION		ANSWER
		k) Thermostat is adjusted by other people l) Heating/cooling system does not respond quickly enough to the thermostat m) Hot or cold surrounding surfaces (floor, ceiling, walls, or windows) n) Deficient windows (not operable) o) Other
5.	If you are dissatisfied with the temperature in your space, which of the following contribute to your dissatisfaction:	Please describe any other issues related to being too hot or too cold in your space.

References

None.

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Smoking policy

Appreciating and encouraging the health benefits of a smoke-free environment and minimizing the risk of fire.

Part	: Management
Available Credits	: 1
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is a smoke-free environment stimulated?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The rental contracts with the residents state that smoking is not permitted inside the home.	B
2	For apartment complexes with a communal outdoor area, measures have been taken to prevent smoking there to prevent nuisance to residents.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation about smoking policy, where applicable, tenancy agreement(s).
2	Photographic evidence of measurements in common areas.

Definitions

None.

Additional information

None.

References

None.

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Indoor air quality management

To encourage and support healthy internal environments with good indoor air quality.

Part	: Management
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: G for Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

Are there management processes in place to help maintain good levels of indoor air quality within the asset?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
1	B	Yes, provision of information or training to asset users on how to operate and manage the asset's ventilation systems.
1	C	Yes, procedures or plans for inspecting the cleanliness of and for cleaning ventilation system components.
1	D	Yes, procurement policies and operation and maintenance procedures specify products that have low or no emissions of pollutants to air.
1	E	Yes, procedures or plans for regularly monitoring indoor air quality in occupied spaces.
1	F	Yes, procedures or plans that minimise the impacts on the asset's indoor air quality during maintenance, redecoration, refurbishment or construction activities on the asset.
1	G	Yes, procedures or plans for cleaning the interior communal areas of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	In Individual homes, where the management organisation are not responsible for the procurement of any items within the home this issue can be filtered out of the assessment.	D
CRITERIA FOR QUESTION		
2	All policies, procedures or plans must current and could be part of an environmental policy at organizational level.	C, D, E, F and G
3	Information provided for residents must: <ol style="list-style-type: none"> Explain the use of ventilation system, including any maintenance that the residents can carry out themselves. How to report indoor air quality problems to the asset management. Be included in the Home User Guide produced for Man 01 Building/Home user guide or, where the credits for Man 01 are not achieved, in other written documentation provided to asset users, such as the information sign in Hea 08 Ventilation system air intakes and exhausts. 	B
4	Inspection and cleaning procedures and plans include the following where present: <ul style="list-style-type: none"> Air handling units (AHUs) Ductwork Filters Humidifiers 	C

Indoor air quality management

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> • Heating and cooling coil surfaces • Heat recovery units • Air intakes, extracts and exhausts • Volume flow controller for supply air with variable air volumes • Decentralised air treatment units, e.g. fan-coil units and induction units. <p>Inspection and cleaning frequencies should be in accordance with the following standards or equivalent alternatives: NEN- EN 15780 Ventilation for buildings – Ductwork – Cleanliness of ventilation systems OR ISSO publication 17 quality requirements for air systems in residential and commercial construction OR Table 8.2 of ANSI/ASHRAE Standard 62.1 Ventilation for Acceptable Indoor Air Quality.</p>	
5	<p>In any case, the procurement policy must include emissions of highly volatile organic compounds, including formaldehyde, and volatile organic compounds (VOCs). In addition, the procurement policy must include appropriate selection criteria for low or no emission products (see 'additional information')</p> <p>Products that should be covered by policies and procedures include, but are not limited to:</p> <ol style="list-style-type: none"> a) Interior paints and coatings. b) Interior adhesives and sealants. c) Floor materials including carpet. d) Furniture. e) Cleaning products. 	D
6	<p>Procedures and plans for monitoring indoor air quality shall incorporate and document the following measures conducted at least once every three years:</p> <ol style="list-style-type: none"> a) Measuring the concentrations of (relevant) air pollutants within the asset, using robust test methods at representative sampling sites. Instead of point sampling, continuously measuring sensors can also be used. b) The monitoring should cover at least carbon dioxide and at least two other pollutants (e.g. particulate matter, total volatile organic compounds (TVOC), formaldehyde, carbon monoxide, nitrogen dioxide (NOx) or radon). c) Conducting surveys among building users that provide insight into users' perceptions of indoor air quality. d) Carrying out inspections of the building envelope, sanitary facilities and climate installations to identify moisture and condensation sources. e) Evaluating the ventilation rates of the building, including airflows at inlets and outlets. f) Agreements/policies/procedures around following up on complaints from residents or problems that are identified. 	E
7	<p>Procedures and plans for maintenance, refurbishment, renovation or construction activities must, if applicable, contain at least the following measures:</p> <ol style="list-style-type: none"> a) If possible, turn off ventilation systems during work. b) Close off air intakes, air ducts and vents before work begins. c) Use tools with dust caps and/or dust collectors equipped with a suitable HEPA filter to collect dust and particles generated during work. d) Clean work areas regularly during operations and increase cleaning schedules for common areas. e) Clean air ducts and replace filters during and after completion of the work. f) Plan and coordinate work to minimize disruption to living areas. g) Separate/isolate workstations from other rooms by sealing doorways and windows or by physical partitions (for example, temporary partitions). h) Maintain living areas under overpressure in relation to outside and indoor areas where work is carried out. 	F

Indoor air quality management

#	CRITERIA	APPLICABLE ON ANSWER
	i) Apply measures to prevent the spread of dirt and contaminants from sites where work is taking place to residential areas (e.g. the use of mats at entrances and exits, and separate access routes for building users and workers).	
8	<p>Cleaning procedures and plans include the following:</p> <p>a) Extent and frequency of cleaning, i.e. daily, weekly and monthly tasks, including dated cleaning records.</p> <p>b) Regular deep cleaning of relevant areas, e.g. carpet, mats and flooring in regularly used areas such as entrances and exits, stairways, lifts, toilets, etc.</p> <p>c) Provision of appropriate cleaning equipment and materials that minimise impacts to indoor air quality, e.g. HEPA vacuum cleaners, lint free cloths and dusters, cleaning chemicals and products (see Methodology), etc.</p> <p>d) Training requirements and records for cleaning personnel covering cleaning methods and use of equipment and materials.</p>	G

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3, 4, 5, 6, 7 and 8	Copies of relevant policies, procedures and plans and associated records.

Definitions

None.

Additional information

Indoor air quality management procedures and plans

The indoor air quality within an asset and the associated management requirements to maintain a good level of indoor air quality will depend on various factors, including:

- The asset's location, size, layout and form.
- The function and use of the asset.
- External air quality.
- Internal sources of pollutants.
- The asset's ventilation strategy.
- The requirements of asset users, owners or managers.

Indoor air quality management

The content and detail of indoor air quality management related procedures and plans will therefore need to be specific to the asset under assessment. For example, the procedures and plans for naturally ventilated single-family homes in an area of good external air quality with few sources of internal pollutants may be relatively simple, whereas other assets will require more complex procedures and plans. Procedures and plans must cover all areas of the asset within the scope of the assessment, i.e. those areas that are under the control of the asset management organisation.

Prescribing suitable cleaning equipment and materials that minimise the impact on air quality: Examples are HEPA vacuum cleaners, lint-free cloths and vacuum cleaners, chemical cleaners (for more products see the 'Explanation').

Low or no emission products

There are a wide range of local and international standards, testing protocols and labelling initiatives for low emission products. The uptake of such initiatives, and therefore the availability of low or no emission products on the market, will vary between countries.

Therefore, policies and procedures should reference local or international product initiatives that are active in the asset's location.

Examples of such initiatives include but are not limited to:

- Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (AgBB) evaluation scheme;
- Belgian VOC regulation;
- Blue Angel Ecolabel;
- Eco-INSTITUT-Label;
- EMICODE;
- EU Ecolabel;
- FloorScore®;
- French VOC regulation;
- GREENGUARD Certified/GREENGUARD Gold;
- Green Label Plus™;
- GUT Label;
- Indoor Air Comfort®/Indoor Air Comfort Gold®;
- Indoor Advantage™ Gold - Building Materials;
- M1 Emission Classification of Building Materials;
- Nordic Swan Ecolabel.

Guidance on indoor air quality during maintenance, redecoration, refurbishment or construction

The Sheet Metal & Air Conditioning Contractors' National Association (SMACNA) guidance 'IAQ Guidelines for Occupied Buildings Under Construction' provides guidance on minimising the impact of maintenance, redecoration, refurbishment or construction activities on indoor air quality in operational buildings. Projects may wish to reference the SMACNA guidance when demonstrating compliance with criteria 6.

References

None.

Acoustic conditions

Ensure that the asset provides a good indoor acoustic environment, ensuring a high level of noise comfort for occupants.

Part	: Management
Available Credits	: 7
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Have residents been surveyed to determine the acoustics in their home?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
2	B	An acoustic study has been carried out, and acoustic conditions are covered within the occupant satisfaction survey.
2	C	All noise feedback has been resolved or there were no noise issues in the latest occupant satisfaction survey.

Question 2

Have the acoustics in the home been measured and optimized?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	D	No.
1	E	Yes, sound insulation performance standards are achieved for between the homes (to another home) and within the home.
1	F	Yes, performance standards for the characteristic sound insulation are achieved.
1	G	Yes, performance standards for the characteristic installation sound level of inside and outside the home are achieved. If applicable, the performance standard has also been achieved for the sound absorption of the enclosed common traffic area(s).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The questions about acoustic comfort can be part of the satisfaction survey among residents as described in MAN 02 "Involvement and Feedback" or can be a separate survey.	B
2	Complaints regarding noise related to the home or residential building (such as installations and noise) must be dealt with by the building owner/manager.	C
CRITERIA FOR QUESTION 2		
3	The acoustic measurements must be carried out by a suitable and qualified acoustic consultant, in accordance with the NEN 5077 standard. See Methodology regarding the number of homes to be measured.	E, F and G
4	The internal sound insulation, broken down into characteristic airborne sound level difference (DnT,A) and weighted contact sound level (LnT, A) between homes and between living areas that are next to and above each other, complies with the performance standards in table HEA 17.1	E

Acoustic conditions

#	CRITERIA	APPLICABLE ON ANSWER
5	The characteristic sound insulation of the facade (GA,k) against noise pollution from outside complies with the performance standards in table HEA 17.1.	F
6	The sound insulation must be determined with closed windows, based on the intended amount of air exchange. The noise load is based on the joint noise determined as environmental values in the environmental plan, the environmental permit for an environmental plan activity or the decision to establish noise production ceilings, as referred to in Annex I to the Environmental Quality Decree (traffic, industry, etc.).	F
7	The characteristic installation noise level (Li,A,k) in a living area of a home complies with the performance standard in table HEA 17.1. This performance standard applies to installations inside the home (such as a mechanical provision for ventilation or heat recovery, or an installation for heat or cold generation) as well as to installations outside the home (such as a flushing toilet, a tap, an installation for heat or cold generation, an installation for increasing water pressure or a lift).	G
8	The characteristic installation noise level (Li,A) must be determined in accordance with the provisions of NEN 5077.	G
9	If there is an enclosed communal traffic area (for example in an apartment complex), the sound absorption of this area is calculated in accordance with the NEN-EN 12354-6 standard. This concerns a traffic area to provide access to the home(s), excluding escape routes or fire escapes.	G

Specific notes

None.

Tables

Table HEA 17.1 Acoustic performance standards in accordance to NEN 5077 and NEN-EN 12354-6

ACOUSTICS ASPECTS	LIMIT VALUES	
The characteristic airborne sound level difference (DnT,A,k) from a living space to another living space of the same residential function	Equal to or greater than 32 dB	1
The characteristic airborne sound level difference (DnT,A,k) from an enclosed space to a living area of an adjacent residential function	Equal to or greater than 52 dB	
The characteristic airborne sound level difference (DnT,A,k) from an enclosed space to an enclosed space of an adjacent residential function	Equal to or greater than 47 dB	
The weighted contact sound level (LnT,A) from a living space to another living space of the same residential function	Less than or equal to 79 dB	
The weighted contact sound level (LnT,A) from an enclosed space to a living area of an adjacent residential function	Less than or equal to 54 dB	
The weighted contact sound level (LnT,A) from an enclosed space to an enclosed space of an adjacent residential function	Less than or equal to 59 dB	
The characteristic sound insulation of the facade (GA,k) of the external separation structure of living areas	GA,k ≥ Outdoor sound level – 33 dB, with a minimum of 20 dB	1
The characteristic installation sound level in a living area (Li,A,k)	Less than or equal to 30 dB	1
Sound absorption in enclosed communal traffic area for accessing residential functions	Not less than 1/8 of the numerical value of the volume of that space, expressed in m ³ , in each of the octave bands with centre frequencies of 250, 500, 1,000 and 2,000 Hz	

Acoustic conditions

Methodology

The measurement must be carried out by a competent person in accordance with NEN 5077. It is not necessary to carry out measurements in all homes within the assessment. However, measurements must always be taken between 2 homes. Within apartments, measurements must be taken between, next to and above each other. In order to obtain a representative picture of the acoustic comfort, the following must be observed:

TYPE ASSET	NUMBER OF MEASUREMENTS
Ground-level home	At least 1 home per home type* * Home type here refers to the different types of homes that can occur within one assessment. This is not a difference in surface area, but rather the difference between a corner and terraced house or houses that have recently been renovated.
Apartment building	At least 1 representative apartment per building

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	A copy of the occupant satisfaction survey and a sample of completed surveys.
2	Documentation (e.g. SQA report) showing that remedial actions have been implemented to resolve any noise issues OR summary of results from occupant satisfaction survey confirming that there were no noise issues identified.
3, 4, 5, 6, 7, 8 and 9	A report of the acoustic survey, showing that it was carried out by a suitably qualified acoustician
3, 4, 5, 6, 7, 8 and 9	Measurement data with substantiation showing that the limit values are met.

Definitions

Characteristic airborne sound level difference (DnT,AK)

A quantity that represents the difference between two sound levels in one number, standardised for the reference reverberation time, the relevant spectrum and converted to standardised dimensions of the receiving area.

Weighted contact sound level (LnT,A)

A quantity that represents the sound level, standardised for the reference reverberation time and the relevant spectrum, in one number.

Characteristic sound insulation of the facade (GA,k)

Characteristic sound insulation is the quantity that represents the difference between sound levels on either side of that facade, whereby the sound insulation has been recalculated to a standard depth behind the separating structure. On the one hand, this is the sound level from outside regarding the separating structure and on the other hand, the sound level in the living area behind it.

The sound level from outside is a jointly determined sound according to the Environmental Plan, Environmental Permit for an environmental plan activity or the decision to establish sound production ceilings as environmental values.

Characteristic installation sound level (LI,A)

A quantity that represents in one number the sound level in the receiving area, caused by an installation in operation and converted to standardised dimensions of the receiving area.

Acoustic conditions

Sound absorption

The sum of the sound absorption of the various construction components of that area. The sound absorption of such a construction component is understood as the ratio between the sound power that is absorbed by that component, i.e. not reflected, and the sound power that is incident on that component.

Living area and living (occupied) space

A home has a living area in which the activities characteristic of the function can take place in one or more living spaces. A living space is intended for people to stay for at least a continuous period of 30 minutes per day. Within a home this is (but not limited to) the living room, kitchen, bedroom and study.

Additional information

Suitably qualified acoustician

An individual achieving all the following items is considered as 'suitably qualified' for the purposes of this assessment issue:

- Has completed a course at college or university level or has completed an equivalent course with a diploma in acoustics or sound testing.
- Minimum of three years of relevant professional experience (during the last five years). Such experience should clearly demonstrate a practical understanding of the factors affecting acoustics in relation to construction and the environment, including an advisory role to make recommendations for appropriate acoustic performance levels and mitigation measures.

Where an suitable qualified acoustician is verifying the acoustic measurements or calculations carried out by another acoustician who does not meet the requirements, they must, as a minimum, have read and reviewed the report and confirm in writing that they have found it to:

- Complies with the limit values.
- Realistic is for the assessed building and is in line with PoR.
- Avoid invalid, biased and exaggerated recommendations.

References

None.

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Microbiological risk management

Ensure that water systems are managed in a way that prevents or minimizes the risk of microbiological contamination.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

What is present to prevent the risk of exposure to legionella?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	There is nothing present.
2	B	Guidance on minimising legionella risk is provided to residents.
2	C	A full risk assessment and management process is in place.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>Guidance should cover the following topic:</p> <ul style="list-style-type: none"> a) Explanation of what legionella is. b) Explanation of the health risks. c) Measures that residents can take to minimise the risks of infection. <p>Guidance can be included as part of the Home User Guide, but can also be repeated at appropriate times, e.g. during summer holiday season.</p>	B
2	<p>A risk analysis is performed in accordance with ISSO publication 55.1 for 'tap water installations' or ISSO publication 30.5 for 'inspection, maintenance and management of drinking water installations'. All water systems that present a potential risk from legionella bacteria must be assessed.</p> <p>The risk assessment must be reviewed periodically, especially following any changes to the water system(s) or changes to the asset's operation that may result in significant changes to water use within the asset, e.g. change in number of users or change in use of space(s).</p>	C
3	The risk analysis and the management plan must be carried out and drawn up by a BRL 6010 certified company.	C
4	Appropriate prevention or control measures must be included in the management plan for all water systems that pose a potential risk.	C

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	A copy of the guidance provided to residents.
2	Documentation of the risk analysis.
3	Documentation of the management plan.

Definitions

Legionella

Legionella is the name of the bacterium that can cause Legionellosis. People who are infected with Legionella bacteria can suffer permanent health damage or die. Infection occurs by inhaling the bacterium through very small droplets of water (aerosols) that can be released into the air by misting water.

Additional information

All water systems that present a potential risk from legionella bacteria must be assessed, including, but not limited to:

- Hot and cold-water storage and distribution systems;
- Evaporative cooling systems, e.g. cooling towers and evaporative condensers;
- Spa pools, hot tubs and whirlpool baths;
- Fountains and water features;
- Humidifiers;
- Emergency showers, eye and face showers;
- Industrial water systems, e.g. air scrubbers, wet gas scrubbers, car washes, wastewater treatment plants, foggers and sprinkler systems;
- A water system includes all equipment and components associated with that system, e.g. all associated pipework, pumps, feed tanks, valves, showers, heat exchangers, quench tanks, water softeners, chillers, etc.

References

None.

Energy



SUMMARY

This category recognizes building installations that contribute to lower energy consumption and CO2 emissions over the life of the building. The credits in this category assess the energy efficiency of the building, the efficiency of the installations, and the capacity of installed renewable energy generation systems. It also encourages the installation of energy monitoring and management systems to support efficient energy use and prevent unnecessary consumption.

CONTEXT

Climate change is one of the biggest global challenges and is already causing higher temperatures, more flooding and extreme weather events. The increased concentration of greenhouse gases such as carbon dioxide and methane, mainly due to human activities, is the main cause. Since the Industrial Revolution, greenhouse gas emissions have increased by about 45%, mainly due to the burning of fossil fuels, agriculture, deforestation and industrial processes. The construction and real estate sector is responsible for 39% of energy-related CO2 emissions, most of which come from the use phase of buildings.

Climate change mainly affects vulnerable, poor communities, leading to poorer health, higher mortality rates and greater risks from extreme weather events. The Paris Agreement aims to limit global warming to a maximum of 2°C this century, preferably to 1.5°C. The 2018 IPCC report emphasized the urgency of limiting the temperature increase to 1.5°C, which requires a 45% reduction in CO2 emissions by 2030 and achieving net-zero CO2 emissions by 2050.

The UN has included affordable and clean energy as part of the Sustainable Development Goals, with the aim of doubling energy efficiency and increasing the share of renewable energy. Reducing energy consumption in buildings and promoting renewable energy is crucial to combating climate change and can contribute to reducing energy poverty and creating a healthy living environment, especially for vulnerable populations.

Value of the issues

ENE 19	Energy consumption	50 Credits + 5 Exemplary performance
Aim	Minimizing energy consumption and related CO ₂ emissions.	
Value	Focuses on improving the energy performance of an asset by identifying and improving underperforming parts. It promotes energy management, reduces unnecessary energy consumption and lowers energy costs. The use of renewable energy and energy-efficient building materials is also encouraged.	

ENE 22	Energy audit	4 Credits
Aim	Identifying and implementing cost-effective energy saving measures.	
Value	Promotes a systematic process to understand the energy use of the asset, rewards the identification of cost-effective energy savings and encourages the reporting of the findings.	

ENE 23	Energy consumption reporting	4 Credits
Aim	Minimizing energy use and related CO ₂ emissions by collecting data, setting targets and raising awareness of energy use among the building manager and building users.	
Value	Encourages energy performance goal setting, promotes efficient energy use by users, and rewards improved energy efficiency. It reduces unnecessary energy consumption and energy costs, and encourages specifying an energy-efficient building envelope, installations and appliances.	

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Energy consumption

Minimizing energy consumption and related CO₂ emissions.

Part	: Management
Available Credits	: 50
Exemplary Performance	: 5
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

What is the energy intensity (operational energy) based on the actual energy consumption (in kWh/m² GO per year) of the asset determined according to the WEii calculation method in relation to the reference value?

CREDITS	ANSWER	ENERGY INTENSITY/ REFERENCE VALUE	CREDITS	ANSWER	ENERGY INTENSITY/ REFERENCE VALUE
SELECT A SINGLE ANSWER OPTION					
0	A	Not available	37	U	<0.28 to 0.24
5	B	<1.52 to 1.42	38	V	<0.24 to 0.21
6	C	<1.42 to 1.33	39	W	<0.21 to 0.18
7	D	<1.33 to 1.24	40	X	<0.18 to 0.16
8	E	<1.24 to 1.15	41	Y	<0.16 to 0.13
9	F	<1.15 to 1.06	42	Z	<0.13 to 0.11
10	G	<1.06 – 0.99	43	AA	<0.11 to 0.09
15	H	<0.99 to 0.91	44	AB	<0.09 to 0.07
16	I	<0.91 to 0.84	45	AC	<0.07 to 0.06
17	J	<0.84 to 0.77	46	AD	<0.06 to 0.04
18	K	<0.77 to 0.71	47	AE	<0.04 to 0.03
19	L	<0.71 to 0.65	48	AF	<0.03 to 0.02
23	M	<0.65 to 0.59	49	AG	<0.02 to 0.01
24	N	<0.59 to 0.53	50	AH	<0.01 to 0
25	O	<0.53 to 0.48	50 + 1 Exemplary Performance	AI	<0 to -0.2
26	P	<0.48 to 0.44	50 + 2 Exemplary Performance	AJ	<-0.2 to -0.4
30	Q	<0.44 to 0.39	50 + 3 Exemplary Performance	AK	<-0.4 to -0.6
31	R	<0.39 to 0.35	50 + 4 Exemplary Performance	AL	<-0.6 to -0.8
32	S	<0.35 to 0.31	50 + 5 Exemplary Performance	AM	<-0.8 to -1
33	T	<0.31 to 0.28			

Energy consumption

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The actual energy intensity of the asset must be calculated with the WEii calculation tool. If a WEii certificate is available, not older than 12 months, a substantive check of the determination of the actual energy intensity by the Assessor is not necessary CO ₂ emission of the actual energy intensity of the asset must be calculated with the WEii calculation tool.	A to AM
2	The benchmark is equal to the WEii's Paris Proof objective. The corresponding reference values are set out in Guidance Note 45. See the methodology for the conversion of WEii score to BREEAM-NL credits.	A to AM

Specific notes

None.

Tables

None.

Methodology

Conversion of WEii score to BREEAM-NL credits

ENE 19 uses the WEii calculation tool to calculate the actual energy intensity of the asset. The calculation tool must be completed via <https://www.weii.nl/rekentool>. The calculation tool shows the actual energy intensity indicator in kWh/m² GO per year. To determine the number of points in BREEAM-NL In-Use Homes, this result must be divided by the reference value shown in the table below and in Guidance Note 45.

If several homes are certified, use must be made of the determination at complex level, see the WEii website.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2	Documentation regarding the entered data and results of the WEii calculation tool and calculations OR WEii certificate.

Definitions

None.

Additional information

WEii

WEii stands for Actual Energy Intensity Indicator. The WEii of a building is calculated based on the actual, measured energy consumption and the usable floorspace of the building. The unit of WEii is kWh per year per m². WEii consists of a calculation protocol that results in seven gradations of energy use per building type. The Truly Energy Neutral Building (WENG) and Paris Proof, a building that meets the targets of the Paris Climate Agreement, are two of the seven energy intensity classes.

The WEii methodology for residential buildings can be applied at the complex level, meaning that a group of dwellings—such as terraced houses in one block or complex—can fall under the same score. See the conditions for this approach on the WEii website.

References

- WEii - <https://www.wei.nl>
- BREEAM-NL Guidance Note 45 – Reference values

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Energy audit

Identifying and implementing cost-effective energy saving measures.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has an energy audit been carried out for the asset and have energy-saving measures been implemented?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No energy audit has been carried out.
2	B	Yes, an energy audit has been carried out.
3	C	Yes, an energy audit has been carried out and all measures with a payback period of ≤ 5 years have been implemented.
4	D	Yes, an energy audit has been carried out and all measures with a payback period of ≤ 10 years have been implemented.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The energy audit is not older than four years.	B, C and D
2	The energy audit and the measures identified specifically relate to the assessed asset.	B, C and D
3	The energy audit is carried out in accordance with NEN-ISO 50002: 2014 or ISSO publication 75.2 or another equivalent standard.	B, C and D

Specific notes

None.

Tables

None.

Methodology

Energy Audit

The energy audit must at least:

1. Be based on current, measured and traceable data of energy consumption and (for electricity) load profiles.
2. Include a detailed assessment of the asset's energy usage.
3. Are based on the simple payback period (Simple TVT), or else a life cycle cost analysis (LCC) to account for long-term savings, the residual value of long-term investments and discount rates.
4. Be proportionate and sufficiently representative to be able to paint a reliable picture of the overall energy performance and the most significant improvement measures.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	The energy audit with recommendations for improvement measures.
2 and 3	Detailed and validated calculations of the payback period or LCC of the identified improvement measures.
2 and 3	Photos or other documentation to show that the measures have been implemented.
3	Documentation showing which standard is used to draw up the energy audit.

Definitions

Energy audit

A systematic procedure for obtaining sufficient knowledge about the energy use of the asset so that you can identify, quantify and report cost-effective energy saving opportunities.

Additional information

None.

References

None.

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Energy consumption reporting

Minimizing energy use and related CO₂ emissions by collecting data, setting targets and raising awareness of energy use among the building manager and building users.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

What happens with information about the energy consumption?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Data on energy consumption is not collected.
2	B	There is energy monitoring.
3	C	There is energy monitoring, comparisons with previous performance and internal reporting.
4	D	There is energy monitoring, comparisons with previous performance, reported internally and published externally.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1.	If the asset concerns a single home and privacy legislation prevents the monitoring of energy consumption for this home, this issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2.	Insight into energy consumption is classified in a meaningful way, for example by geographical location or type of home.	B, C and D
3.	If possible, the data will be compared with data from previous years. And the performance are compared with a benchmark, for example the national average.	C and D
4.	The measurement data is reported internally at an appropriate level within the organisational structure of the building owner/manager.	C and D
5.	The collected data is shared with the residents. The way in which the data is shared is up to the building owner/manager.	C and D

Specific notes

None.

Tables

None.

Methodology

None.

Energy consumption reporting

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3, 4 and 5	Energy use analysis data, such as spreadsheets, summary reports, etc.
2, 3, 4 and 5	Photos/documentation of internal reporting and if applicable how it has been shared with residents.

Definitions

None.

Additional information

Collecting consumption data from residents

Consumption data of residents must be done in accordance with the relevant privacy legislation.

This can be done in the following way:

- Permission from the tenants to collect their data.
- Retrieving usage data at postcode level.

References

None.

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Transport



Not part of Beheer.

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Water



SUMMARY

This category promotes sustainable drinking water use during the use phase of the asset and the associated outdoor spaces. Minimizing water loss due to leaks is also part of this, so that drinking water consumption is reduced throughout the life of the asset.

CONTEXT

Water efficiency is a key focus within the United Nations Sustainable Development Goals (SDGs). Goal 6, "clean water and sanitation", states that by 2030 we must increase the efficiency of water use in all sectors and ensure the sustainable extraction and supply of freshwater, to remedy water scarcity and significantly reduce the number of people affected by it.

Increasing population density and high water consumption is causing water shortages worldwide, which are expected to worsen further in the coming years. The demand for water will increase by 55% between 2000 and 2050. In addition, the energy required for the extraction, purification, supply, heating, cooling and disposal of water (and wastewater) contributes to climate change and deteriorated air quality. Using water more efficiently is therefore essential to meet future demand while combating climate change.

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Value of the issues

WAT 11	Water consumption	4 Credits
Aim	Ensuring that the building owner/manager is aware of the annual drinking water consumption.	
Value	Increases awareness about water consumption in the asset and encourages reducing consumption where possible, which also leads to lower costs.	

WAT 12	Water recycling	4 Credits
Aim	Encourage the use of alternative water sources to reduce the demand for drinking water.	
Value	Reduces drinking water consumption and associated energy consumption through the use of water-saving equipment and innovations.	

WAT 13	Water consumption reporting	3 Credits
Aim	The structured systematic provision of reports on water consumption, so that residents understand water-efficient measures.	
Value	Manages water consumption to reduce usage where possible and minimizes damage, costs and disruptions from leaks.	

WAT 14	Water strategy	6 Credits
Aim	Promoting lower drinking water consumption by promoting strategies aimed at efficient water use and limiting waste.	
Value	Raises awareness about water consumption and monitors large water consumers to promote efficient management and maintenance and reduce unnecessary consumption.	

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Water consumption

Ensuring that the building owner/manager is aware of the annual drinking water consumption.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: B for Apartments
Contains filter	: ✓
Minimum standard	: ✗

Question

What is the asset's annual water consumption from utility-supplied water?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	Water consumption is not measured.
2	B	Enter annual water consumption in m ³ of the common areas.
2	C	Enter annual water consumption in m ³ of the homes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	Where there is no water consumption in common areas this issue can be filtered out of the assessment.	B
2	If the asset concerns a single home and privacy legislation prevents the monitoring of water consumption for this home, this answer option can be filtered from the assessment	C
CRITERIA FOR QUESTION		
3	The annual water consumption should include the sum of the utility-supplied water used within the boundaries of the asset. This includes water consumption for any use over the course of the reporting period.	B and C
4	Any consumption data submitted must be in accordance with Validity of consumption data guidance stated in the Methodology below and additional information.	B and C

Specific notes

None.

Tables

None.

Methodology

Validity of consumption data

For the reliability of the data entered, the measurement period is one full year in the two years prior to the certification date.

Water consumption

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3 and 4	Copies of water bills or verified meter readings for the beginning and end of the reporting period.

Definitions

None.

Additional information

Collection of residents data

Data of residents should be collected in a way that is inline with the AVG (privacy laws). At this moment there are two possibilities to do:

- Get permission by the tenants to collect their data.
- Collect the data from the energy metering companies at a zipcode level.

References

None.

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Water recycling

Encourage the use of alternative water sources to reduce the demand for drinking water.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

What is the asset's annual water consumption from alternative supplies?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
1	A	Enter annual water consumption in m ³ .

Question 2

What is the percentage of the asset's annual water consumption from alternative supplies?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	B	<5%.
1	C	≥ 5% to < 15%.
3	D	≥ 15%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTIONS 1 AND 2		
1	Answer option B or C has been answered in Wat 11 Water consumption has been answered and all Assessment Criteria for the issue have been met.	A, B, C and D
2	The consumption data for the alternative supplies must be over the same reporting period and floor area as Wat 11 Water consumption.	A, B, C and D
3	Different water sources can be used to meet the aim of the credit as long as the alternative water supply is used to reduce demand of utility-supplied water for unregulated water uses.	A, B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Water recycling

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Meter readings for the alternative supplies.
2 and 3	Provision of robust estimates for annual water consumption from alternative supplies, if metered data/meter readings cannot be provided.

Definitions

Greywater

Slightly contaminated water from household activities (such as dishwasher, washing machine, sink, shower).

Rainwater

Rainwater or meltwater from ice, snow and hail that is captured and reused.

Additional information

None.

References

None.

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Water consumption reporting

The structured systematic provision of reports on water consumption, so that residents understand water-efficient measures.

Part	: Management
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

How is the collected water consumption data used?

CREDITS	ANSWER	SELECT ONE ANSWER OPTION
0	A	Filed away.
2	B	Compared against previous performance and reported on internally.
3	C	Compared against previous performance, reported on internally and shared with residents.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset concerns a single home and privacy legislation prevents the monitoring of water consumption for this home, this answer option can be filtered from the assessment.	A, B and C
CRITERIA FOR QUESTION		
2	Water consumption is classified in a meaningful way, for example by geographical location or type of home. If possible, the water consumption data will be compared with data from previous years. And the performance is compared with a benchmark, for example the national average.	B and C
3	The measurement data are reported internally at an appropriate level within the organizational structure of the building owner/manager.	B and C
4	The collected data is shared with the residents. The way in which the data is shared is up to the building owner/manager.	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Water consumption reporting

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	Records of water consumption analysis, such as spread sheets, summary reports etc.
2, 3 and 4	Photos/documentation of internal reporting and if applicable how it has been shared with residents.

Definitions

None.

Additional information

Collection of residents data

Data of residents should be collected in a way that is inline with the AVG (privacy laws). At this moment there are two possibilities to do:

- Get permission by the tenants to collect their data.
- Collect the data from the energy metering companies at a zipcode level.

References

None.

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Water strategy

Promoting lower drinking water consumption by promoting strategies aimed at efficient water use and limiting waste.

Part	: Management
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Is there a water strategy in place?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Question 2

What is part of the water strategy?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY IF ANSWER OPTION B IS SELECTED
0	C	None of the below.
2	D	The water strategy includes replacing water appliances and fittings with low water use equivalents during refurbishment and natural replacement moments.
2	E	The water strategy includes a proactive maintenance policy for installed water systems.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The scope of the water policy only concerns the water-using appliances and sanitary facilities that are under the management of the building manager or building owner, or that have been installed by them.	B
2	The strategy must have senior management approval.	B
CRITERIA FOR QUESTION 2		
3	As a minimum, the replacement section of the strategy should include: a) A replacement programme which replaces high water consuming equipment with low water consuming equivalents. b) A schedule of approved replacement appliances. The appliances listed in this schedule should be easy to identify to be of low water use by relevant labelling.	D
4	If all water appliances and fittings have already been replaced with low water use equivalents, a strategy should still be in place to ensure a continuation of good practice.	D and E

Specific notes

None.

Water strategy

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	The strategy document with relevant sections highlighted.
2	Confirmation that senior management has approved the water strategy.
3 and 4	(If applicable) Maintenance logs.

Definitions

Proactive maintenance strategy

A maintenance strategy to ensure that the reliability of the installed fittings and water systems is increased. These maintenance policies typically consist of two parts:

1. **Preventive maintenance:** maintenance, measurements, tests, parts replacement, etc. to prevent faults from occurring.
2. **Predictive maintenance:** techniques that are designed to help determine the condition of installed equipment in order to predict when maintenance should occur.

Additional information

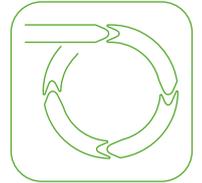
None.

References

None.

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Resources



SUMMARY

This category promotes the responsible and circular use of materials in the building, with the aim of improving value and sustainability performance, both during the use phase and at the end of its life cycle. This is achieved by gaining insight into the condition and value of the building, which contributes to maintaining and strengthening the building value and the optimal (re)use of building materials. In addition, the circular use of residual flows during the use phase is encouraged.

CONTEXT

The use phase has a significant share in the amount of materials used during the life cycle of the asset. In addition, many materials are released that reach the end of the life cycle. Many important materials are non-renewable and are becoming scarcer, more expensive and riskier to extract. In addition, the extraction and production of mainly raw materials leads to social and ecological degradation. One of the United Nations' 'sustainable development goals' includes 'responsible consumption and production' (SDG12). The goal is to achieve sustainable management and efficient use of natural resources. By 2030, waste streams must be significantly reduced through prevention, reduction, recycling and reuse. It is essential that the real estate industry does everything it can to highlight these challenges by:

1. Use existing buildings for as long as possible.
2. Maintain or increase the value of materials.
3. Facilitate the reuse or recycling of raw materials in existing buildings.
4. Enable users to maximize the reuse or recycling of waste.
5. Minimize the overall use of materials.
6. Choosing reused or recycled materials instead of primary materials.
7. Using raw materials that cause less harm to society and the environment.

Value of the issues

RSC 05	Sustainable Procurement	8 Credits + 1 Exemplary Performance
Aim	To recognise and encourage the procurement of more sustainable products and services.	
Value	Encourages economically, socially and environmentally responsible practices in the sourcing and production of materials, components and consumer goods. Promotes the application of circular economy principles throughout the procurement chain and supports the use of environmental management systems. Encourages the use of reliable guidelines to evaluate and improve responsible sourcing behaviors.	

RSC 06	Optimising resource use, reuse and recycling	6 Credits
Aim	Reducing the use of materials and facilitating the reuse, repurposing and recycling of residual flows from the asset.	
Value	Supports the achievement of corporate and legal recycling targets, reduces the ecological impact and processing costs of waste. Improves the quantity and quality of waste data, allowing for the measurement and comparison of reduction, reuse and recycling performance against targets. Increases collaboration between building users and awareness of the impact of waste, while promoting circular economy principles during the use phase of the asset.	

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Sustainable procurement

To recognise and encourage the procurement of more sustainable products and services.

Part	: Management
Available Credits	: 8
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Very Good
<i>At least 1 credit (answer B)</i>	

Question 1

Is a sustainable procurement policy in place?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There is no sustainable procurement policy.
1	B	Yes, facility management has a procurement policy and the purchase of legally felled and traded wood is part of the sustainable procurement policy for all wood products (and wood-based products).
1	C	Yes, and the sustainable purchasing policy is applied to maintenance, repairs, replacement work and renovation work.
1	D	Yes, and the sustainable procurement policy is applied when purchasing consumables and equipment.
1	E	Yes, and there is a procedure/policy in place to evaluate the effectiveness of the sustainable procurement policy annually and to evaluate and possibly adjust or tighten the goals for sustainable procurement.

Question 2

Who applies this sustainable procurement policy?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	F	There is no sustainable procurement policy.
2	G	The sustainable procurement policy is applied by the organisation managing the asset in purchasing decisions.
2	H	Contractors who undertake work on the asset are obliged to apply conditions from the sustainable procurement policy.
1 Exemplary Performance	I	The facility management has a certified environmental management system in accordance with ISO 14001 or equivalent, which includes the sustainable procurement policy.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The procurement of legally harvested and traded timber is part of the sustainable procurement policy for all timber products (and wood-based products) and must be endorsed by senior management.	B

Sustainable procurement

#	CRITERIA	APPLICABLE ON ANSWER
	The procurement policy gives preference to wood products (and wood-based products) that meet one of the following standards: <ul style="list-style-type: none"> • FSC certification • PEFC certification • SFI Certification Another type of certification system approved by the Timber Procurement Assessment Committee (TPAC).	
2	The purchasing policy includes at least: <ol style="list-style-type: none"> a) Sustainability goals to organize purchasing activities accordingly. b) The performance description of relevant indicators that are in line with the procurement-related activities (see additional information). c) The way in which choices between products are made. 	B, C and D
3	If the sustainable procurement policy applies to multiple assets or has been implemented at the organizational level. Then the processes from the ISO 20400:2017 must be followed. The senior management of the organisation managing the asset shall endorse the suitable procurement policy.	B, C and D
4	The senior management of the organisation managing the asset shall endorse the suitable procurement policy.	B, C and D
5	The procedure/policy for the evaluation of the procurement policy must focus on the effective implementation of the procurement policy and on the objectives set regarding the sustainability of procurement activities. The procedure/policy can be part of the purchasing policy. The evaluation is carried out annually in consultation with the senior management of the organisation managing the asset.	E
CRITERIA FOR QUESTION 2		
6	If contractors can guarantee that their own sustainable procurement policy meets the requirements of the facilities management's procurement policy, credits can be awarded for answer option H.	H
7	Answer option I can only be achieved if answer options B, C and D have been met.	I
8	The environmental management system has a valid certificate in accordance with ISO 14001 and is certified by a third party.	I

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The sustainable procurement policy.

Sustainable procurement

CRITERIA	EVIDENCE REQUIREMENT
1	Documentation/declaration of endorsement of sustainable purchasing policy with regard to wood products by senior management.
3	The sustainable procurement policy drawn up in line with processes from ISO 20400:2017.
4	Documentation/declaration of endorsement of sustainable procurement policy by management.
5	Procedure/policy regarding evaluation of the sustainable procurement policy or relevant documents in sustainable procurement policy highlighted.
6	Documentation and statement from the contractor justifying that their sustainable procurement policy is adequate.
8	ISO 14001 certificate.

Definitions

Consumables and equipment

Products that are used for the normal functioning of the asset and related services. This includes security, items for reception and concierge, IT equipment and office furnishings, cleaning products, waste bins and recycling bins, lamps and filters.

Contractors who undertake work at the asset

Organisations that are contracted by the organisation managing the asset to provide a service at the asset (e.g. cleaning, construction work, gardening, security).

CITES

The CITES (Convention on International Trade in endangered species of wild fauna and flora) agreement includes rules to protect animal and plant species.

Environmental management system

An environmental management system controls and improves the organization's environmental performance. It ensures a continuous cycle of policy-making, monitoring and improvement of environmental risks, compliance with environmental laws and regulations and environmental performance. The environmental management system is, preferably, part of the usual management system. Through an environmental management system, structural attention is paid to the environment in business operations, and environmental management is integrated into daily business operations.

Renewable raw materials

Raw material from a source that is grown, naturally replenished or naturally cleaned on a human timescale.

Secondary materials

Material from previous use or from residual flows from another product system, which replaces primary materials or other secondary materials.

Reused products

Products that are reused in the same function, with or without processing.

Environmental impact

Change in the environment, adverse or beneficial, resulting in whole or in part from an organization's activities or products.

Environmental performance

Performance with regard to environmental impacts and environmental aspects.

Sustainable procurement

Detachability

Detachability is the extent to which objects can be dismantled at all scales, without compromising the function of the object or the surrounding objects in order to protect the existing value.

Scarce raw materials

Limited availability, based on the size of the stock of a raw material or material, the extractability and the security of supply in the event of geopolitical or social changes.

Critical materials

Material with great economic importance and low security of supply.

Social Return on investment

Designation that is used in the broad sense for the social added value that you achieve with measures taken or to be taken. Think of better respect for fundamental rights and principles of equality and non-discrimination, and strengthening social cohesion and solidarity.

Additional information

Sustainable procurement policy indicators

- The share of renewable raw materials.
- The proportion of secondary materials.
- The proportion of reused products.
- The environmental performance of products and materials.
- The detachability of products and materials.
- Critical and scarce raw materials.
- Toxic substances.
- Extending the lifespan of products.
- The value retention of the lifespan of products.
- Social Return on Investment.
- Circular revenue models such as product-as-a-service, take-back systems (take-back by producer after use).
- Low energy consumption during the lifespan (based on the energy label, for example).

Equivalent standards

Standards equivalent to ISO 14001 The following standards are recognized as equivalent standards to ISO 14001:

EMAS – Eco-management and audit scheme

Legally harvested wood/timber

Legally harvested timber products (and wood-based products) come from a forest where the following criteria are met: The forest manager or owner has rights to legally manage the forest. Local and national regulations are complied with by the forest manager and contractors, including the relevant use criteria for:

- Forest management;
- Environment;
- Work and welfare;
- Health and safety;
- Term of office of other parties and rights of use;
- All relevant royalties and taxes have been paid;
- The criteria of CITES are fully met.

Sustainable procurement

Legally harvested and traded timber

Legally traded timber products (and timber-based products) are:

- Exported in accordance with the export country's legislation governing the export of timber and timber products, including the payment of export taxes, obligations or levies.
- Imported in accordance with the import country's legislation on the import of timber and timber products, including the payment of export taxes, obligations or levies.
- Traded in accordance with legislation on the Convention on International Trade in Endangered Species (CITES) where applicable.

References

- Lexicon circular Construction, CB'23 - Unambiguous terms and definitions, 2 July 2020 - <https://platformcb23.nl/aan-de-slag/2020>.
- A measurement method for detachability – Dutch Green Building Council 2021 - <https://www.dgbc.nl/circulair-losmaakbaarheid-196>.

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Optimising resource use, reuse and recycling

Reducing the use of materials and facilitating the reuse, repurposing and recycling of residual streams from the asset.

Part	: Management
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Has data been collected from the waste generated during the management of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Question 2

Is the reduction, reuse and recycling of waste from the asset being optimised through target setting, encouraging resident participation and the enforcement of local regulation?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	C	No.
2	D	Targets have been formulated for reducing waste generated from the asset, increasing reuse and recycling.
2	E	Residents are actively involved in waste reduction, reuse and recycling or there is a local scheme in place that encourages waste prevention of household waste.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The following data are recorded for each waste stream: a) Type of waste/waste stream; b) The weight or volume of the waste; c) The processing method. This data is included in the Assessment Tool.	B
2	The waste generated during the management of the asset may be tracked in combination with the residential waste, if there is no separate data available.	B
3	The data is shared annually with the asset's senior management.	B
CRITERIA FOR QUESTION 2		
4	Only if answer option B is achieved, answer options D and E can be achieved.	D and E
5	The senior management of the organisation managing the asset reviews and endorse annual targets for reducing waste generated from the asset and increasing reuse and recycling of waste from the asset.	D

Optimising resource use, reuse and recycling

#	CRITERIA	APPLICABLE ON ANSWER
6	At least 5 of the following measures will be communicated to the residents: a) Communication about the waste hierarchy and other relevant background information. b) Communication about how and why the waste of the asset is registered. c) Communication about the quantities and type of waste produced by the asset. d) Communication about the benefits of reducing, reusing and recycling waste from the asset. e) Highlighting relevant examples/case studies of the other assets f) Communication about the facilities available for reuse and recycling. g) Communication about how residents can gain more experience and explanation. h) Other appropriate measures to increase resident involvement.	E
7	The local scheme(s) must apply to all homes within the assessment and is a Diftar system and/or a reverse collection system.	E

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Documentation of the registered waste and the data is entered in the Assessment Tool.
3	Documentation showing that the waste registration data has been shared with senior management.
5	Documentation (e.g., confirmation, minutes, statement) showing what the goals are set and that senior management endorses the goals.
6	Documentation/photos of the measures that have been implemented.
7	If applicable, documentation of local schemes to which the asset aligns.

Definitions

European waste catalogue

European waste classification system according to the "European List of Waste (LoW)".

Additional information

Diftar

Diftar stands for differentiated rate of the municipal waste tax. With diftar, the tax is divided into two parts: a fixed tax and a variable tax. The fixed tax is for the management (facilities, collection logistics, sorting, processing) of recyclable waste. The variable rate is for residual waste. The variable rate can be levied on residual waste in various ways: for example, per opening of a collection container (underground or above-ground), per emptying of a mini-container (diftar frequency) with different rates for different sizes of containers

Optimising resource use, reuse and recycling

(volume diftar) or per weight of a mini-container offered for emptying. Less residual waste is collected in municipalities with diftar than in municipalities without diftar. This is because more raw materials are offered separately and because waste materials from companies are no longer offered via the domestic route.

Reverse collection

Reverse collection is also a method to improve the separate collection of waste. In reverse collection, separated waste materials (usable raw materials) are collected at home by the citizen, while residual waste must be disposed of by the citizen himself. In reverse collection, the emphasis is therefore on the collection of usable raw materials. The disposer therefore requires little effort to dispense with usable raw materials, in contrast to the delivery of residual waste. Good separation behaviour by citizens is rewarded and leads to less residual waste. Reverse collection can be an alternative to pay-as-you-go in some cases, but can also be used in combination with pay-as-you-go pay-as-you-go.

References

None.

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Resilience



SUMMARY

This category focuses on the protection of the asset, including against the effects of climate change. These include physical risks, such as flooding and the possible contamination of run-off water, but also damage to materials, physical safety, and social risks and opportunities. A proactive approach is encouraged to mitigate these risks, seize opportunities to strengthen the resilience of the asset and environment, and ensure a rapid recovery. In addition to risk management, the focus is also on disaster preparedness and response, as well as the factors that contribute to the broader resilience of both the asset and its immediate environment.

CONTEXT

The risk of flooding is a major concern, especially since many buildings are located in locations with an increased risk of flooding, which is increasing every year. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on promoting sustainable, safe and resilient cities. In the event of flooding, the consequences are far-reaching, with a major impact on business continuity. Cleaning, repairing and preparing buildings for reopening is time and cost intensive. The first step in managing flood risks is to gain insight into the specific risk to a building.

In addition, the runoff of rainwater can have serious consequences for water quality, public health and the local economy. However, controlling this run-off water offers opportunities for the asset and the environment, such as the reuse of rainwater, the construction of resilient infrastructure, the restoration of urban waterways and the introduction of more greenery to increase the quality of life. In addition to flooding, other natural disasters can also pose a threat to the asset and building users. Understanding the risks associated with such events helps develop strategies to protect both the users and the value of the asset.

The durability of the building itself also plays a role. Exposed parts of the building can suffer damage due to aging or wear and tear, leading to unnecessary use of materials and waste. This can be reduced by identifying, phasing out, and taking protection measures in place at risk.

Finally, safety is crucial for the well-being of building users. Fear of crime can affect the sense of security, affecting health and productivity. The presence of an alarm system contributes to the safety and comfort of users, and strengthens the overall resilience to such risks.

Value of the issues

RSL 06	Emergency plans	6 Credits
Aim	Encouraging the presence of emergency plans that protect the asset and the environment in addition to building users.	
Value	Ensures that the impact of calamities is minimised, with the aim of protecting building users and the environment during incidents, and protecting the asset and its value during the use phase.	
RSL 07	Transition plan	4 Credits
Aim	Stimulating the transition to a future-proof living environment with insight into the risks, opportunities and objectives.	
Value	Ensures that the transition to a low-carbon economy has minimal impact on the asset, reduces the risk of loss of value, and recognizes opportunities for the asset during this transition.	
RSL 08	Social value	3 Credits
Aim	Gaining insight into the social aspects of the community and contributing to it.	
Value	Ensures that the social risks and opportunities in the community are understood and stimulates projects to open up their buildings and integrate them better into the local environment.	
RSL 09	Fire risk management	3 Credits
Aim	Ensuring that there is a consistent baseline level of fire safety risk assessment.	
Value	Provides insight into fire risks to save lives and strives to protect the asset and its operational value.	
RSL 10	Security risk assessment	2 Credits + 1 Exemplary Performance
Aim	Ensuring that all building-related security issues are identified and addressed to prevent the risk of crime.	
Value	Reduces crime risks and insurance costs, increases the value of the building and protects both the building occupants and the asset.	

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Emergency plans

Encouraging the presence of emergency plans that protect the asset and the environment in addition to building users.

Part	: Management
Available Credits	: 6
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Is there an emergency plan in place and what is the scope of the emergency plan?

CREDITS	ANSWER	SELECT ALL ANSWER OPTIONS THAT APPLY
0	A	No, there is no emergency plan in place.
3	B	Yes, a contingency plan is in place and the contingency plan includes the protection of the asset.
3	C	Yes, an emergency plan is in place and the emergency plan includes the environmental impact on the immediate vicinity of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>The contingency plan is a coherent strategy, and at least takes into account all relevant climate-related physical risks and broader safety risks that apply to the asset and building users. The strategy includes how the asset and building users are protected from these identified risks.</p> <p>As a basis, a risk assessment must be made that shows which climate-related physical risks and safety risks apply to the asset and building users. If a risk assessment has been made for RSL 01 and RSL 09, it can be used here. An additional risk assessment must then be made for broader safety risks.</p> <p>The level of detail required will depend on the risks to which the site is exposed and the complexity of mitigating those risks.</p>	B and C
2	The emergency plan must be prepared by a competent person or organization.	B and C
3	The responsibility for the emergency plans is known to relevant employees within the manager's organization and/or to the building owner. This includes managing and updating the emergency plans. This has been communicated to the building users.	B and C
4	The emergency plan has been shared with the residents.	B and C

Specific notes

None.

Tables

None.

Methodology

Emergency plans

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation of the emergency plan.
2	Documentation of the competent person or organisation that carried out the assessment.
3 and 4	Documentation about the awareness of the emergency plan among the manager organization and/or building owner, and the communication of this to building users.

Definitions

Physical climate risks

Physical risks of climate change are risks arising from events, such as extreme weather events (floods, extreme heat), as well as longer-term shifts in climate patterns. Physical risks of climate change can be both acute, such as an increase in the severity of extreme weather events, or chronic such as sea level rise or chronic heat waves.

Security risks

Potential hazards or threats that may affect the safety of the building and people in or around a building. This includes various risks that can arise from various factors, such as construction defects, fire safety, natural disasters, crime, and exposure to harmful substances. The purpose of identifying these risks is to take appropriate measures to protect the building and users of the building.

Competent person or organization

An individual or organization (or individuals) with sufficient knowledge and experience:

Experienced in drawing up emergency plans

OR

Has knowledge of the building, is able to determine appropriate measures and is able to estimate the impact on the immediate surroundings.

Additional information

None.

References

None.

Transition plan

Stimulating the transition to a future-proof living environment with insight into the risks, opportunities and objectives.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has a transition plan been developed for the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, the organization developed a transition plan.
4	C	Yes, the organization developed a transition plan and includes how it responds to the additional risks and opportunities.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>The building owner and/or facility management has drawn up a transition plan for the asset or the asset is part of a transition plan at the organisational level.</p> <p>This plan describes the transition of the asset(s) to a future-proof built environment.</p> <p>For example, the transition plan can be in line with the transition to:</p> <ul style="list-style-type: none"> The Paris climate goals (climate neutral by 2050) 100% circular business operations Emission-free transport and transport <p>The transition plan may not reflect an interim goal, such as 50% circular or 50% emission-free.</p>	B and C
2	The transition plan has a clear end goal and focus points, contains a schedule for how to get there and describes how it will be monitored.	B and C
3	The transition plan provides insight into the risks and opportunities for achieving this final goal. This must be made transparent for both short-term and long-term transition risks and opportunities.	C

Specific notes

None.

Tables

None.

Transition plan

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	The transition plan, including a description of how the plan will be monitored.

Definitions

Transition plan

An action plan, roadmap, etc. that is drawn up by the building owner/manager with regard to a strategy that focuses on a transition to a future-proof built environment. Within this, the building owner/manager can focus on, for example, energy neutrality, circularity, emission-free transport, climate adaptive, etc.

Additional information

Transition risks and opportunities

Transition risks and opportunities can be political, legal and technological in nature, and can arise from market developments (not exhaustive). Think of government policy that sets requirements for the CO₂ emission reduction of buildings, innovations that make it possible to reuse more and subsidies that make it more or less attractive to drive on electricity/hydrogen.

Paris Climate Agreement

The Paris Climate Agreement is an international treaty to combat global warming. The agreement was presented on 12 December 2015 at the Paris climate conference. In it, 195 countries, including the Netherlands, have agreed to limit the increase in the average global temperature to well below 2 degrees Celsius, and if possible 1.5 degrees Celsius, by 2050. Part of the Climate Agreement is that the built environment will be completely climate neutral by 2050.

References

None.

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Social value

Gaining insight into the social aspects of the community and contributing to it.

Part	: Management
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Has the social aspects in the community been researched?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, a basic neighborhood analysis has been carried out.
2	C	Yes, an extensive neighborhood analysis has been carried out.

Question 2

Does the asset contribute to the social sustainability of the residents?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
1	E	Yes, either on location or digitally, a meeting place has been facilitated.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	<p>The basic environmental analysis must include at least:</p> <ul style="list-style-type: none"> a) Socio-economic characteristics of the community. b) SWOT analysis of strengths and weaknesses, as well as opportunities and threats in the community. c) Overview of stakeholders in the community. d) Based on the environmental analysis, actions have been determined to contribute to the community through the asset. <p>If an environmental analysis is already available, for example made by the developer, and it is not older than three years, it can be used as a basis.</p>	B
2	<p>The comprehensive environmental analysis must include at least:</p> <ul style="list-style-type: none"> a) Socio-economic characteristics of the community. b) SWOT analysis of strengths and weaknesses, as well as opportunities and threats in the community. c) Overview of stakeholders in the community. d) The social points of interest according to key figures in the community. e) Based on the environmental analysis, actions have been determined to contribute to the community through the asset. It also indicates how and when these actions are carried out, and how this added value/effectiveness is evaluated. f) The added value/effectiveness of the actions will be evaluated within three years. 	C

Social value

#	CRITERIA	APPLICABLE ON ANSWER
	The environmental analysis must have been carried out by someone who has experience in performing such analyses or has a background in sociology (or similar). If necessary, an external expert can be called in to guide the environmental analysis.	
CRITERIA FOR QUESTION 2		
3	The owner facilitates a meeting place for the residents and any local residents, either on location or digitally. If it is on location, the physical space is accessible to the residents free of charge.	D

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Report of the environmental analysis.
3	Documentation/ photos of the meeting place.

Definitions

Environmental analysis

Public data can be used as a basis for the environmental analysis. Examples of public databases are Statistics Netherlands (CBS) on Map, Atlas of the Region (PBL), the Liveability Meter, and the Social Map of the Netherlands.

Socio-economic characteristics

Relevant socio-economic characteristics include the age, origin and level of the incomes of the residents, the number of residents on benefits, the number of residents with and without children, the number of social facilities, the degree of activity, the accessibility to commercial facilities and social cohesion.

Stakeholders

A stakeholder is a person or party who is present or active in the community and has or can influence the social aspects of the community. Think of residents, local entrepreneurs, a healthcare institution, library, but also the municipality, and developers and (other) investors who have real estate in the community.

Key figures

A key figure is a stakeholder in the community, and is known for knowing what is going on in the community and what social concerns are. This can be a local entrepreneur, a resident, a volunteer at a social organization, or a municipality.

Additional information

Environmental analysis

An environmental analysis can lead to well-considered actions that make a positive contribution to the community in various ways.

Some examples of how the asset can contribute positively to the community (not exhaustive):

- Safety is a concern in the community. By means of outdoor lighting and a lively plinth, the asset contributes to greater safety.
- The community is very petrified and more greenery is therefore desired. By means of front gardens and a green façade, the asset contributes to the greening of the community.
- There is a strong degree of social cohesion in the community. Residents' initiatives are therefore actively facilitated and volunteer days are organized.

Meeting place

When facilitating a physical or digital meeting place, you can think of (not exhaustive):

- In addition to the asset, there is a part, green outdoor space that can also be used by local residents from the community.
- The asset offers a shared living room where residents can come together.
- The owner offers residents access to an app or digital platform, where they can easily find and help each other and any local residents.

References

None.

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Fire risk management

Ensuring that there is a consistent baseline level of fire safety risk assessment.

Part	: Management
Available Credits	: 3
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: Excellent
<i>At least 2 points (answer B)</i>	

Question

Has a fire safety risk assessment been carried out?

CREDITS	ANSWER	SELECT ALL ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	Yes, a risk assessment has been carried out.
1	C	There is a fire safety manager or other staff member who manages, monitors and initiates evaluations of the relevant outcomes from the risk assessment.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The risk assessment must be carried out for buildings in use. Risk assessments carried out during the design phase of new construction projects and risk assessments drawn up prior to commissioning are inadequate.	B
2	A fire safety risk assessment must be carried out by a competent person in line with, for example: <ul style="list-style-type: none"> BRL-K21016 Fire Safe Use of Buildings (BGB). NPR6059 (Fire Safety Practice Guideline) or NEN6059 (Assessment of Fire Safety Structures). Inspection in accordance with the BOEI RvB methodology of the Central Government Real Estate Agency. Or an equivalent guideline. 	B
3	The risk assessment is in line with the demarcation of the building or part of the building that is being certified. If applicable, the related access routes should also be included in the assessment.	B
4	The following is at least part of the risk assessment: <ol style="list-style-type: none"> The risk of starting, developing and spreading a fire in the building. The potential consequences in the event of a fire in the building. The translation of the results of the risk assessment into an action plan with appropriate measures to minimise the risk of fire and the consequences of fire. 	B
5	The results of the risk assessment must be reviewed every three years and when changes have been made to the asset.	B
6	A competent person has been made responsible for the management, monitoring and timeliness of the risk assessment.	C

Specific notes

None.

Fire risk management

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4, 5 and 6	The most recently carried out risk assessment.
2	Qualification of the person who carried out the risk assessment.
6	Documentation of direction/appointments with fire safety manager or other staff member.

Definitions

Competent person

In this context, competent means that the person has sufficient training, knowledge and/or experience to advise on the measures to be implemented on the basis of a safety chain-wide approach. For more complex assets, this role can be filled by a team.

Additional information

Risk assessment in the field of fire safety

A fire safety risk assessment is a systematised and structured assessment of the risks of fire in buildings. This maps out the current risks of fire, determines the extent to which the current fire prevention measures are adequate and determines whether any additional fire prevention measures are necessary and their nature. The necessary additional fire prevention measures have been translated into an action plan and are part of the archived risk assessment. The aim of the action plan is to develop measures to ensure that the level of risk is reduced, or maintained, to a permissible level. This ensures that the focus is on fire prevention measures, rather than just fire safety.

References

None.

Security risk assessment

Ensuring that all building-related security issues are identified and addressed to prevent the risk of crime.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has a safety risk assessment been carried out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	No.
2	B	Yes, a safety-risk assessment has been carried out.
1 Exemplary Performance	C	Certification has been carried out in accordance with a recognised assessment system in the field of (burglary) security.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	An competent person has drawn up a safety-risk assessment.	B and C
2	The assessment determines the risk profile based on the risk classes of the Improved Risk Class Classification (VRKI).	B and C
3	The assessment includes which security measures are in place to manage the identified security risks and agreements are made to keep the safety-risk assessment up to date.	B and C
4	One of the following certificates is present: <ul style="list-style-type: none"> BORG certificate or BORG Delivery Receipt; VEB; SABRE (www.bregroup.com/sabre). 	C

Specific notes

None.

Tables

None.

Methodology

None.

Security risk assessment

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The safety-risk assessment, drawn up by an expert person.
3	A certificate from a recognised security risk assessment system.

Definitions

Competent person

- The security advisor is independent and does not work for the company involved in the provision of security measures.
- The following persons can be considered experts:
 - Individuals with a Crime Prevention Through Environmental Design (CPTED) degree.
 - Persons with a post-HBO Security and Technology degree.
 - Persons with a Certified Protection Officer (CPO) diploma.
 - TBV diploma in combination with IRIS Security Management.
 - Qualified employee of a BORG or NBR certified security company.
 - Persons who are registered as 'SABRE Registered Professional' and who meet the 'Risk 1' criteria. An up-to-date list of SABRE Registered Professionals can be found on www.redbooklive.com.
 - An active security advisor or security head who meets the following requirements:
 - At least 3 years of relevant experience in the past 5 years and is affiliated with a professional institute and meets the requirements for registration at the time of carrying out the risk assessment.

Additional information

Recognized rating system in the field of (burglary) protection

Certification providers who have not been appointed but believe that their certification is equivalent to the named certifications can contact the DGBC.

References

None.

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Land Use and Ecology



SUMMARY

This category promotes awareness of strengthening the ecological value of the asset or plot. In addition, it provides insight into the impact that the asset has on the ecology during the use phase. With the help of this category, a long-term strategy can be developed that focuses on improving the ecological value of the asset.

CONTEXT

The conservation and creation of biodiversity and natural habitats are essential for life on land. Habitats support both the diversity of living organisms and the interdependence between them. Goal 15 of the United Nations Sustainable Development Goals (SDGs) focuses on 'life on land' and aims to integrate ecosystem and biodiversity values into national and local planning and strategies, including poverty reduction, by 2020.

The ecological value of an asset extends beyond the plot boundaries and can have a significant impact on the ecological value of the environment. It is therefore important to understand the existing values and characteristics of the plot, promote ecological facilities and increase biodiversity on the plot where possible.

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Value of the issues

LUE 03	Ecology report	4 Credits
Aim	Encourage organizations to identify and improve the environmental value within the asset's footprint, based on the recommendations of a qualified ecologist.	
Value	Identifies the ecological value within the footprint of the asset and the environment, so that negative effects on the ecology can be minimised and improvements in biodiversity can be achieved where possible.	

LUE 04	Biodiversity management plan	8 Credits
Aim	Encouraging organisations to develop a biodiversity management plan. In order to maintain and improve the ecological value of the site.	
Value	Ensures that the expected benefits are realized sustainably and efficiently during the use phase of the asset. Supports owners, managers and users in improving the ecology and biodiversity within the asset. Contributes to local, national and international initiatives to protect habitats and biodiversity.	

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Ecology report

Encourage organizations to identify and improve the environmental value within the asset's footprint, based on the recommendations of a qualified ecologist.

Part	: Management
Available Credits	: 4
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Has an ecological study been carried out in the past 3 years and have the recommendations been implemented?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Nope.
2	B	Yes, and at least 75% of the recommendations identified by a qualified ecologist have been implemented.
4	C	Yes, and all recommendations identified by a qualified ecologist have been implemented.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no outdoor spaces within the footprint of the asset under the management of the building manager or owner, and other possibilities to strengthen the ecology (such as green facades, green roofs, tile flipping, etc.) are explored. And if it can be demonstrated that such opportunities are not present, this issue can be filtered out of the assessment.	A, B and C
CRITERIA FOR QUESTION		
2	The ecological study must comply with the following: <ul style="list-style-type: none"> a) The ecological research was carried out by a qualified ecologist. b) The ecological study has been carried out or revised in the past three years. If changes have occurred in the meantime that may affect the results of the investigation, the investigation must also be revised. c) The content of the ecological study must at least comply with the components mentioned in the 'Methodology'. An ecological study/nature report drawn up for another BREEAM-NL guideline or previous certification is sufficient, if it meets the above requirements.	B and C
3	The ecological study and recommendations only include the area/facilities that are managed by the manager, such as community gardens, green facades, roofs, etc. Private outdoor spaces that are not managed by the manager do not have to be included (such as a private garden/terrace).	B and C

Specific notes

None.

Ecology report

Methodology

Ecological report

An ecological study must be carried out by a qualified ecologist to determine the ecological starting position, including:

- The current and potential environmental value and characteristics of the asset's footprint, and related areas within its sphere of influence.
- Direct and indirect risks to the current ecological value of the asset.
- The possibility and feasibility for enhancing the ecological value within the footprint of the asset and, if relevant, related areas within the sphere of influence.

The study and evaluation is carried out at an appropriate time of the year to assess the habitat and the expected presence of flora and fauna at the right time. Once the ecological starting position has been determined, the recommendations of the suitably qualified ecologist are based on this. The following components must be included at least for the examination:

- Determine the area affected by the asset's footprint, including adjacent areas and habitats.
- The current value and condition of the plot and the area affected by the asset's footprint, including:
 - Characteristics such as habitats, existing ecological facilities, size, quality, connectivity, fragmentation, 5 Rs. The recent and historical characteristics of the plot. Flora and fauna (both permanent and temporary species)
 - Benefits and opportunities for biodiversity and ecosystems.
 - Direct (e.g. due to human activities) and indirect (e.g. water, noise and light pollution) risks to the current ecological value. Considering vulnerable areas and facilities on or near the plot.
 - Existing levels and agreements for management and maintenance, and the impact of this on flora and fauna.
 - Existing ecological initiatives within the sphere of influence.
 - Identification and consultation of relevant stakeholders (where necessary according to the ecologist), who have an impact on or are affected by the plot.
 - Local knowledge or sources of information.

Evaluation (for the recommendations):

- Possibilities and feasibility to strengthen the ecological value.
- Overview of the recommendations made by the accredited ecologist, and which ones have and/or have not been implemented, including substantiation.
- Restoration of habitat(s) and the potential for new habitats.
- Possible future developments (renovation, expansion, etc.) that have a negative impact on the flora and fauna.

Tables

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	The ecological report/study.
2	Proof that the ecological survey has been carried out by a suitably qualified ecologist, for example by a copy of relevant documents, qualifications, CV or membership.
1 and 2	Evidence showing that the recommendations for protecting or enhancing ecological value have been implemented, such as photographs, inspections, or implementation plans for specific key ecological areas on the plot.

Ecology report

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

(Suitably) qualified ecologist (SQE)

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Zone affected by the asset's footprint/scope

The plot to be assessed can affect soil, water and air. These can also be areas outside of the asset's footprint, such as adjacent areas or areas that depend on the location but are not physically connected to it. Areas within the sphere of influence may be negatively impacted by changes at an assessment site, but they also provide further opportunities to maximise improvement activities.

Asset footprint

The surface area within the demarcation of the asset, i.e. building or building part including any outdoor space. The surface is the surface as projected on the earth, not, for example, the GFA.

For buildings without outdoor space:

The asset is a stand-alone building, with no corresponding surface area within the asset's footprint (e.g. an office building in the city centre).

For buildings with outdoor space:

The asset footprint boundary should be defined as:

Responsibility of the ownership or management of the plot changes

OR

If there are several buildings on one plot and there is a clear demarcation between the space around the buildings, this must be used as the boundary of the asset's footprint.

OR

If there are several buildings of the same owner on one plot, the total green area of the entire plot may be calculated and allocated to all individual buildings on the plot.

References

- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>.

Biodiversity management plan

Encouraging organisations to develop a biodiversity management plan. In order to maintain and improve the ecological value of the site.

Part	: Management
Available Credits	: 8
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question 1

Has a biodiversity management plan been drawn up with specific goals to maintain the ecological value of the site?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, a management plan has been drawn up to manage and maintain existing ecological facilities.
4	C	Yes, a management plan has been drawn up with the aim of improving the ecological value and biodiversity on the plot, including management, maintenance and monitoring of the existing ecological facilities.

Question 2

Is the management plan based on the recommendations of a qualified ecologist and in line with regional and national biodiversity policy plans?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	D	No.
1	E	Yes, the management plan is based on the recommendations of a qualified ecologist.
1	F	Yes, the management plan is in line with local, regional and national biodiversity policy plans.

Question 3

Are the residents involved in managing and improving the ecological value of the site?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	G	No.
1	H	Yes, residents are informed about how they can increase biodiversity and protect the existing ecology.
1	I	Yes, residents are actively encouraged to apply ecological facilities and green areas and to maintain them.

Biodiversity management plan

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The management plan serves as a manual for the maintenance and management of the applied ecological facilities. The plan includes (but is not limited to): a) Overview of applied green and ecological facilities and their desired condition. b) Actions and responsibilities for the management of ecological facilities and green spaces. c) No harmful and/or artificial means are used for the management of green areas and ecological facilities.	B
2	The management plan must be kept up to date and is evaluated and revised every three years.	B and C
3	In addition to criterion 1, the management plan also includes objectives to maintain and increase the ecological value of the asset for the next three years.	C
4	Monitoring of the ecological facilities is part of the management plan to safeguard the ecological value. The Monitoring Recommendation makes clear (see also additional information): a) The recommended monitoring for a period of three years. b) What the expectations and objectives of the facilities are. c) For which species they are intended. d) How good management and maintenance can support the objectives. e) How the findings of monitoring affect management and maintenance.	C
CRITERIA FOR QUESTION 2		
5	If credits have been awarded for LUE 03, the management plan is based on the findings and recommendations from the ecological study of the qualified ecologist.	E
6	If local, regional and national guidelines are prescribed, they are followed. This ensures that the management plan contributes to the objectives set in the field of biodiversity. For example, it may happen that a municipality has a guideline to improve regional biodiversity through certain measures. The management plan must be in line.	F
CRITERIA FOR QUESTION 3		
7	Residents are informed about how they can design their own outdoor space or shared green spaces in an ecologically responsible way. This can take place by, but is not limited to: • Issuing leaflets. • Information evening in collaboration with a suitably qualified ecologist or ecological garden designer.	H
8	Residents are actively encouraged to design their own outdoor space (e.g. garden, patio or balcony) or shared green areas in an ecologically responsible way. Stimulation of this can take place by, but is not limited to: • Draw up a garden design with a suitably qualified ecologist or ecological garden designer. • Make a budget available for ecological facilities, for example the issuance of vouchers for a nesting box, (native) plants, etc. • Organizing garden days or 'tile flipping' together.	I

Specific notes

None.

Methodology

None.

Tables

None.

Biodiversity management plan

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2,3 and 4	Documentation of the management plan.
5	Proof that the ecological survey has been carried out by a qualified ecologist, for example by a copy of relevant documents, qualifications, CV or membership.
7 and 8	Photos/documentation about resident involvement.

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

Suitably qualified ecologist (SQE)

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Citizen science

With citizen science, citizens actively contribute to the monitoring of plant and animal species. For example, many types of group organizations, such as RAVON, SOVON, etc., use counts by volunteers to describe trends.

Tile flipping

Removing tiles in the garden and replacing them with plants, trees, shrubs or other ecological facilities

Additional information

Application of ecological facilities

For the application of ecological facilities, it is important that the facilities are applied/installed in the right way (preferably as prescribed by a manufacturer, ecologist or nature organization). In this way, it can be prevented that the facility is applied in an incorrect way, and its purpose is lost. For example, a south-facing nest box will usually get too hot, and the animals will not use it.

Local, regional, and national guidelines

It is important that projects find out which local, regional and national guidelines are prescribed. To ensure that the ecological facilities and habitats in place contribute to local biodiversity objectives. For example, it may happen that the municipality has a guideline regarding biodiversity that deals with certain species that occur in the vicinity of the building with an endangered status. It is then recommended to apply ecological facilities for these types.

Biodiversity management plan

Monitoring

Monitoring of plant and animal species takes place to protect or preserve added natural values. It also provides insight into whether the ecological facilities are functioning properly and where adjustments can be made if necessary. Monitoring can be applied in different ways, for example:

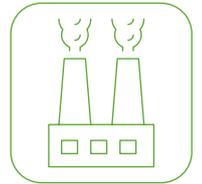
- A certified ecologist engaged for this purpose is responsible for monitoring and carrying out any improvements to the existing ecological facilities.
- Monitoring takes place as part of, for example, a citizen science project at the location, coordinated by a responsible authority, municipality or organisation. Participants are actively involved in the monitoring, guided and feedback takes place.

References

- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>.
- Citizen science for nature - <https://www.clo.nl/indicatoren/nl062501-citizen-science-voor-natuur>.

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Pollution



SUMMARY

This category focuses on preventing and controlling pollution related to the location and use of the asset. The aim is to reduce the impact on the surrounding neighbourhood and ecology, for example by reducing flooding and emissions to air, land and water. In this way, a healthy environment is created that is accessible to all demographic and economic groups, including vulnerable and disadvantaged populations.

CONTEXT

The United Nations has set "Good Health and Well-being" as one of its Sustainable Development Goals, with the sub-goal of significantly reducing deaths and illnesses from hazardous chemicals and pollution of air, water, and soil by 2030. BREEAM-NL contributes to this goal by reducing emissions from buildings, which improves air quality.

Air quality

Poor air quality has harmful effects on the health of humans and other organisms, especially in poor countries. Substances such as nitrogen oxides (NOx) react with other substances in the air, leading to dangerous compounds that irritate the respiratory tract, worsen allergies and can cause heart disease.

Refrigerants

Refrigerants in refrigeration systems have a much greater impact on climate change than CO₂. Although they are released in smaller quantities, they contribute greatly to global warming. The use of harmful refrigerants, such as CFCs and HCFCs, has now largely been phased out by global agreements, but HFCs are still used. These have a much greater warming capacity than CO₂ and are slowly being phased out worldwide.

It is crucial to effectively dispose of refrigerants at the end of the equipment lifecycle. BREEAM-NL supports this by prescribing systems that detect and control refrigerant leaks, which minimizes environmental impact, controls operational costs and extends the life of equipment.

Value of the issues

POL 06	Reduction of nighttime light pollution	2 Credits + 1 Exemplary Performance
Aim	Ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution and nuisance to residents and neighbouring assets.	
Value	Minimizes light nuisance for adjacent plots and provides adequate safety and security lighting. Reduces energy consumption by applying appropriate control systems.	

POL 07	Maintenance of watercourse pollution prevention features	2 Credits
Aim	Maintaining the effectiveness of installed facilities to prevent pollution of watercourses.	
Value	Reduces the risk of damage to local watercourses and environmental legislation, as well as the risk of clogged pipes on the plot and in the sewer.	

POL 08	Refrigerant replacement	2 Credits
Aim	Reducing the environmental impact of refrigerants.	
Value	Reduces the contribution to climate change and lowers compliance costs by promoting proactive and continuous maintenance.	

POL 09	Contamination from invasive plant species	2 Credits
Aim	Ensure that there are no invasive plant species on the asset's site.	
Value	Reduces the risk of soil contamination from the asset's activities and protects human health and the environment.	

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Reduction of nighttime light pollution

Ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution and nuisance to residents and neighbouring assets.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 1
Applicable to	: All projects
Contains filter	: X
Minimum standard	: X

Question

Has there been a review that shows that outdoor lighting at night does not lead to light pollution?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	There is no outdoor lighting, and this is not required from a safety point of view.
2	C	Yes, a qualitative audit has been carried out.
2 + 1 Exemplary Performance	D	Yes, a quantitative audit has been carried out by a lighting expert.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	It must be confirmed that there is no outdoor lighting (this also includes lighting installed indoors to illuminate the exterior or outdoor areas). In addition, it must be demonstrated that the safety and security of the plot and the safety of the residents are guaranteed.	B
2	The qualitative audit where outdoor lighting is present applies: <ul style="list-style-type: none"> a) All outdoor lighting is directed downwards, to prevent illumination of the sky. b) There is no outdoor lighting directed towards adjacent buildings or open spaces. Or screens or partitions have been placed to prevent light from spreading to those places. c) There are no illuminated signs. d) The lighting is automatically adjusted to be switched off or dimmed between 23:00 and 07:00. 	C
3	For the quantitative audit where outdoor lighting is present, a lighting expert confirms that it has been carried out in accordance with the NSVV's light nuisance guideline or at least the following must be met: <ul style="list-style-type: none"> a) All outdoor lighting (except safety and security lighting) complies with Table POL06.1 and can be switched off automatically between 23:00 and 07:00. b) Illuminated signs, if present, comply with the maximum brightness (cd/m²) set out in Table POL06.1. c) If safety or security lighting is installed and used between 23:00 – 07:00, then this meets the requirements set out in Table POL06.1 (e.g. by using an automatic switch to reduce the lighting levels from 23:00 or earlier). d) If lighting is required for other than safety purposes between 23:00 and 07:00 (e.g. in buildings that are open during these times), the system can automatically switch to night-time lighting levels. 	D
4	The assessment of illuminance is not required if all luminaires are equipped with cut-off measures and positioned in such a way that potential light pollution is blocked. Assessment of the upward light ratio is not required if all luminaires are equipped with cut-off measures that only provide downward light.	C and D

Reduction of nighttime light pollution

#	CRITERIA	APPLICABLE ON ANSWER
5	All types of illuminated signs must meet the criteria requirements, both self-lit and illuminated by reflection from other sources.	C and D
6	No distinction is made between lighting installed indoors and outdoors. If the purpose of these lights is to illuminate the exterior or outdoor areas, they are part of this credit and should be included in the assessment.	C and D
7	If light fixtures are specified with specific safety standards that do not meet the set criteria, they may be disregarded. However, this must be demonstrated by evidence that the specific safety standards apply to the project in question. An example is safety lighting that is incorporated into the road surface for demarcation of the road (active lighting).	C and D

Specific notes

None.

Tables

Table POL 06.1 Luminous pollution limitations of outdoor lighting and illuminated signs

ZONE (TABLE POL06. 2)	MAXIMUM LUMINAIRE UPWARD LIGHT RATIO (ULR)/ %	MAXIMUM ILLUMINANCE (EV) IN LUX ON RELEVANT FAÇADE PART OR WINDOW OPENING		MAXIMUM LUMINAIRE (I) IN CD		MAXIMUM AVERAGE SURFACE AREA LUMINANCE FAÇADE (L)* / CD/M ²	MAXIMUM AVERAGE SURFACE AREA LUMINANCE FAÇADE (L)* / CD/M ²
		Day and evening 07:00-23:00	Night 23:00-07:00	Day and evening 07:00-23:00	Night 23:00-07:00		
E0	0	0	0	0	0	<0.1	<0.1
E1	0	2	0#	2,500	0	<0.1	50
E2	2.5	5	1	7,500	500	5	400
E3	5.0	10	2	10,000	1,000	10	800
E4	15	25	5	20,000	2,500	25	1000

*The values apply to both day and night, with the exception of zones E0 and E1, where the limits are 0 at night. The values for signs do not apply to traffic signs.

Maximum 1 lux for public road lighting.

Table POL 06.2 Lighting Areas Zones

ZONE	TYPE OF AREAS	SURROUNDINGS	EXAMPLES
E0	Intrinsically dark	Protected	UNESCO Starlight Reserves, IDA Areas of Darkness
E1	Very low ambient brightness	Natural	General nature reserves and rural areas far from residential areas
E2	Low ambient brightness	Nationwide	Outside urban and rural (residential) areas
E3	Average ambient brightness	Urban residential areas	Urban residential areas
E4	High ambient brightness	Urban residential areas with nighttime activities	Urban residential areas such as entertainment centers and industrial areas

Reduction of nighttime light pollution

Methodology

Audit by lighting expert

The direct measurement of the upward light ratio (ULR), vertical illuminance and brightness is not possible in some situations due to limited access to luminaires or adjacent properties. If this is the case, the lighting expert should use his/her professional judgment to determine whether the requirements in POL06.1 are met. This can be done, for example, by visual inspection to estimate the proportion of ULR. Is access to sensitive receptors not possible? Then an Assessor can carry out light intensity measurements (or have them carried out) from accessible locations in the direction of the view of luminaires, as seen from sensitive receptors. When lighting design documentation is available (from the time the lighting is installed), an administrator can use it to demonstrate that the criteria are met.

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2,3,4,5,6 and 7	Report on lighting levels at night or other relevant surveys or documentation.
2, 3 and 4	Photos confirming that the outdoor lighting fixtures are designed to reduce upward directed light and light wastage.
3 and 4	Confirmation that the lighting will be switched off within the required times.

Definitions

Lighting expert

A lighting expert has proven experience in reducing light pollution in the last three years or is a member of IALD or ELE or equivalent.

Additional information

None.

References

None.

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Maintenance of watercourse pollution prevention features

Maintaining the effectiveness of installed facilities to prevent pollution of watercourses.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Are bunded areas and light-liquid separators effectively maintained?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, the maintenance policy/plan includes the inspection and maintenance of bunded areas
1	C	Yes, the maintenance policy/plan includes the inspection and maintenance of light-liquid separators.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no chemicals are stored in the asset, the answer option can be filtered out of the assessment.	B
2	If there are no possible sources of contamination present, an light-liquid separators is not required and the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
3	A maintenance policy/plan has been drawn up in which the scope of the inspection and maintenance is included.	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Maintenance of watercourse pollution prevention features

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Documentation of the maintenance policy/plan in which the relevant chapters are highlighted.
3	If available, copy of the logbook or inspection schedule.

Definitions

Bund (fixed drip trays)

A structure made of a liquid repellent material, which forms a barrier to retain liquids.

Light-liquid separators (oil separators)

A part of the surface water drainage system into which potentially polluted wastewater flows. And where light floating liquids (such as oil) are separated from the wastewater by means of gravity and/or clumping and are retained.

Additional information

None.

References

None.

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Refrigerant replacement

Reducing the environmental impact of refrigerants.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Is there a strategy/policy in place to replace refrigerants with low environmental impact alternatives?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	No, all refrigerants already have a low impact on the greenhouse effect (GWP ≤ 10).
2	C	Yes, there is a strategy/policy in place to replace all refrigerants with alternatives with a low impact on global warming (GWP ≤ 10).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no refrigerants are used in the asset, or only small hermetically sealed systems (refrigerant charge in each system is $\leq 5\text{kg}$), this issue can be filtered out of the assessment.	A, B and C
CRITERIA FOR QUESTION		
2	The refrigerants present have a GWP of ≤ 10 .	B
3	The strategy/policy includes: <ul style="list-style-type: none"> a) Equipment with refrigerants, which need to be replaced. b) Which alternative with low environmental impact replaces the existing refrigerant. c) A schedule when the replacement will be implemented. 	C
4	This issue only applies to the refrigerants used in the installations installed in or on the asset, in particular for comfort cooling and heating (such as heat pumps).	C

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Refrigerant replacement

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2	Confirmation or documentation that the refrigerants present meet the requirements.
3 and 4	Documentation on the refrigerant replacement strategy/policy.

Definitions

None.

Additional information

IPCC report

For the current list of common refrigerants with a GWP value over 100 years, the most recent IPCC report can be used (see reference).

References

- IPCC AR6 synthesis report – 2023.

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Contamination from invasive plant species

Ensure that there are no invasive plant species on the asset's site.

Part	: Management
Available Credits	: 2
Exemplary Performance	: 0
Applicable to	: All projects
Contains filter	: ✓
Minimum standard	: ✗

Question

Are there invasive exotic plant species growing on the site?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Yes.
2	B	No.
2	C	Yes, and mitigating measures have been taken to control the spread or remove the species.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset has no outdoor spaces, the issue can be filtered out of the assessment.	A, B and C
CRITERIA FOR QUESTION		
2	A recognized ecologist has carried out an 'ecological study' for the site. The report categorizes the vegetation on the site and confirms whether invasive exotic plant species are present.	B and C
3	There are invasive exotic plant species present on the site. Mitigation measures have been taken to control or remove the species, as advised by the ecologist who carried out the 'ecological research'.	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Contamination from invasive plant species

Evidence

CRITERIA	EVIDENCE REQUIREMENT
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Documentation of the certified Ecologist's report.
2 and 3	Proof that the ecological survey has been carried out by a licensed ecologist, for example by a copy of relevant documents, qualifications, CV or membership.
2 and 3	Written confirmation from the owner of the asset or site, that further investigations and remedial work are planned, if applicable.

Definitions

A Licensed Ecologist

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network (netwerk groene bureaus)

Invasive plant species

These are species that do not occur naturally in the Netherlands and whose presence causes ecological and/or economic damage. A licensed ecologist is needed to confirm which plant species are considered 'invasive exotic plant species'. The Union list of the European Union following the European Exotic Species Regulation must be considered. However, the Union List does not include every exotic species that is harmful to the Netherlands.

Native plants

Native plants are plants that occur naturally in the Netherlands. The origin of plantings is important for biodiversity in the Netherlands. It is assumed that the planting occurs naturally in the Netherlands before 1500. These are originally native species (archaeophytes). In the Standard List of Dutch Flora 2020, the individuality and origin of the native species can be checked.

Alien species often have a different flowering time that does not correspond to the period when many insects need food. Or the trees or plants are not recognized by insects as a food source, and are not visited. This is not the case with native plants. These are usually insect-attracting plants.

Additional information

None.

References

None.

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