RsI 02 Adaption to climate change

(All buildings)

Aim

To recognize and encourage measures taken to mitigate the impact of extreme weather conditions arising from climate change over the lifespan of the building.

Overview

Assessment type	Available credits	Applicable assessment criteria
Fully fitted	1+1 exemplary	All
Shell and core	1+1 exemplary	All
Shell only	1+1 exemplary	All
Residential: Fully fitted	1+1 exemplary	All
Residential: Partially fitted	1+1 exemplary	All
EU Taxonomy		Criterion 3 (See Ref 3.0)

Minimum standards

Rating level	Criteria
-	None

Assessment type specific notes

Reference	Assessment type specific note
-	None

Building type specific notes

Reference	Building type specific note
-	None

Issue specific notes

Reference	Issue specific note
3.0	**For EU taxonomy** A2-7.1-SC 2 and A2-7.2-SC 2 - The significant physical climate risks have been identified, analysed and addressed. The above EU Taxonomy requirements are fulfilled by complying with the exemplary credit on this issue. A1-7.1-DNSH 2 and A1-7.2-DNSH 2 - The significant physical climate risks have been identified. The above EU Taxonomy requirements are fulfilled by complying with the first credit on this issue.

Assessment criteria

This issue is split into two parts:

- Adaption to climate change – one credit
- Exemplary credit – Measures for adaptation to climate change

Adaption to climate change – one credit

1 A climate risk and vulnerability analysis has been conducted in the project. The analysis is performed by the end of Concept Design stage (Programhandlingsskede) (or equivalent) in accordance with the following method:
- 1.a Assessment of the physical climate risks from Table 42 that may affect the building with risk of exposure during its projected life cycle, and a rating of each risk of exposure as low, medium or high, see M1
- 1.b Assessment of the estimated risk of vulnerability for the significant physical climate risks with high risk of exposure for the building.
- 1.c Development of proposals for adaptation solutions that can reduce the physical climate risks identified as high risk of exposure and high risk of vulnerability, see M2.

Exemplary credit – Measures for adaptation to climate change

2 Criterion 1 has been achieved.
3 The adaptation solutions identified in criterion 1 have been applied.

Checklists and tables

Table 42: Physical climate risks

	Temperature related	Wind related	Water related	Solid mass related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and precipitation types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Variations in precipitation or hydrology	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Thawing permafrost		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave / frost	Storm (including blizzards, dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flooding (coastal water, fluvial, pluvial, groundwater)	Subsidence
			Glacial lake outburst	

Methodology

M1: Climate risk and vulnerability analysis

M1.1: Time period

Climate risk and vulnerability analysis shall be carried out using climate projections with the highest available resolution for a range of existing future scenarios of at least 10–30 years.

M1.2: Climate projections data

The climate risk and vulnerability analysis is based on climate projections that are consistent with the expected lifetime of the building (at least 50 years) and with climate projection scenarios of at least 30 years.

M1.2.1: Climate projection scenarios

The climate risk and vulnerability analysis should be based on two scenarios for Representative Concentration Pathways (RCP) according to IPCC.

- RCP 4,5 - relevant for projects where it is practically possible to increase climate resilience during the project lifetime, if needed
  AND
- RCP 8,5 – worst case scenario

M2: Adaption solutions

The adaptation solutions must fulfil the following:

1 The adaptation solutions do not adversely affect adaptation efforts or the level of resistance to physical climate risks of other people, of nature, of cultural heritage, of assets, buildings or other economic activities
2 The adaption solutions favour nature-based solutions or rely on blue or green infrastructure to the extent possible
3 The adaption solutions are consistent with local, sectoral, regional or national adaptation plans and adaptation strategies
4 The adaptation solutions are monitored and measured continuously during the service life of the solution and remedial actions are considered where those indicators are not met
5 The adaptation solution must not violate any Do No Significant Harm (DNSH) criteria in the EU taxonomy's regulations.

Compliance notes

Reference	Terms	Description
Adaptation to climate change		
CN1	Data for analysis	If the first (Thermal modelling) and second (Adaptability) scores under Hea04 and/or the first (Flood risk) score under Pol03 have been determined for the project, those analyses can form the basis for the analysis in this indicator.
CN2	Existing physical adaptation solutions	If the area where the building is erected has existing physical adaptation solutions, the project shall produce a plan for how these solutions will be developed in order to reduce the physical climate risks. The plan may extend over a maximum of 5 years.
CN3	Project with low or medium high risk	Where the assessment of the physical climate risk according to criterion 1 only indicates a low or medium risk of exposure and/or vulnerability, the first credit can be awarded by reporting that an assessment has been carried out according to criteria 1a and 1b. Medium-risk projects can achieve the exemplary credit by demonstrating that criteria 1-3 are fulfilled and that the identified medium-risks no longer pose a risk to the project. Low-risk projects cannot achieve the exemplary credit on this issue.

Evidence

Criteria	Interim design stage	Post construction stage
Adaption to climate change		
1	A copy of the climate risk and vulnerability analysis	Same as in the design stage. The BREEAM-SE assessor's inspection report and photo evidence.
Measures for adaptation to climate change		
2–3	Information about what measures have been taken and that the adaptation solutions fulfill M2	Same as in the design stage. The BREEAM-SE assessor's inspection report and photo evidence.

Definitions

IPCC

Intergovernmental Panel on Climate Change. The UN’s agencies for summarizing and assessing science related to global warming. The panel regularly compiles research reports on global warming, consequences, vulnerabilities and possible solutions.

Climate projections

Climate projections are simulations of the Earth's climate for the coming decades. Climate projections are assumed scenarios for the concentration of greenhouse gases, aerosols and other factors that affect the balance of the earth.

Additional information

None