

Wst05

Adaptation to climate change

Actions:

- i. Conduct a **climate change adaptation strategy** appraisal.
- ii. Develop **recommendations or solutions** based on the appraisal before or during **RIBA Stage 2**.
- iii. Demonstrate how the recommendations have been **implemented** during **RIBA Stage 4**.

i. Climate change adaptation strategy

A **systematic risk assessment** should be used to the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes:

Hazard identification

Review the evidence and information from relevant bodies and resources to identify and understand the expected impacts of increased extreme weather events and climate change on the building. Relevant bodies include, but are not limited to, the following:

- Local authorities
- Statutory bodies, e.g. Defra, Environment Agency, Northern Ireland Environment Agency (NIEA), Scottish Environment Protection Agency (SEPA) etc.
- Technical bodies, e.g. CIBSE, UK Climate Impacts Programme (UKCIP).

Consider the following impacts of climate change/extreme weather events and describe how the design mitigates them:

- Flooding
- Storms (including high winds)
- Cold events
- Heat waves (including temperature increases)
- Drought (including reduced summer rainfall)
- Milder winters
- Wetter winters (including increased moisture and driving rain)
- Warmer summers and increased solar radiation
- Temperature variation
- Precipitation, e.g. rain and snow
- Subsidence or ground movement.

Likely hazards should be identified.

Note: This document is intended as guidance only. Consult your BREEAM AP or Assessor to ensure compliance is achieved.

Hazard assessment

The **likelihood and the magnitude** or scale of the hazards should be identified. This includes climate change scenarios and their potential impact throughout the lifetime of different building elements.

Risk estimation

Identify the **risk presented** by these hazards to the building and the likely impact of the hazards considering the following aspects as a minimum:

- Structural stability
- Structural robustness
- Weather proofing and detailing
- Material durability
- Health and safety of building occupants and others
- Impacts on building contents and business continuity.

Risk evaluation

Evaluate the potential impact of these risks on the building and determine the tolerable risk threshold.

Check the **sensitivity of the risk assessment** and identify areas where the risks are unacceptable to health and safety, life cycle assessment and financial terms.

Risk management

Identify **risk reduction measures** and mitigate the hazards as far as is practically feasible.

Adapt the design and specification to incorporate the measures identified by the risk assessment in the final design.

ii. Recommendations

Develop recommendations or solutions based on the climate change adaptation strategy appraisal, **before or during RIBA Stage 2**, that aim to mitigate the identified impact.

iii. Demonstrate implementation

Provide an **update before the end of RIBA Stage 4** demonstrating how the recommendations or solutions proposed at **RIBA stage 2** have been implemented where practical and cost effective. Omissions need to be justified in writing by the assessor.

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