

Appendix 3 - Policy X C – Climate-adapted Design and Construction

3.1 Adapting to and mitigating against the effects of climate change is crucial, particularly as climate change impacts worsen with more extreme and variable temperatures and weather. The need for climate-adapted design and construction for new development is key for current and future occupant comfort and safety, as well as making the built environment more resilient and future-proofed.

Policy X C - Climate-adapted Design and Construction

- 1) All new residential and non-residential development should mitigate against climate change and adapt to climate change by employing sustainable design and construction principles.
- 2) Applicants are expected to demonstrate that the following elements have been considered, and evidenced where appropriate by the corresponding assessment methodology, in an Energy Statement.

C1 – BREEAM

- 3) New non-residential developments with over 1000sqm of floorspace should achieve the BREEAM 'Excellent' certification, including full water credits for category Wat 01 (water efficiency).

C2 – Sustainable Construction

- 4) All new developments must minimise their carbon footprint and energy impact through sustainable design and construction practices. Proposals should demonstrate efforts to reduce greenhouse gas emissions by considering factors such as site location, building orientation, design, landscaping, and planting strategies, while prioritising a "fabric-first" approach.
- 5) All new developments should be designed to enhance resilience to the anticipated effects of climate change. Proposals must incorporate measures to adapt to changing climate conditions, including resilience to extreme weather events, rising temperatures, stronger winds, droughts, heavy rainfall, and snow. Water conservation and storage measures should also be integrated into designs, taking into account best practices and future climate projections.
- 6) All development should demonstrate consideration to reducing carbon emissions and waste through construction. Where development impacts existing buildings, proposals should also comply with Policy XE on 'Reducing Carbon Emissions in Existing Buildings'.

C3 – Cooling Hierarchy

- 7) Development proposals should show how designs have optimised the internal and solar heat gains to balance the need to minimise space heating demand with the need to passively maintain comfortable temperatures during hot summers. This

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should be shown by demonstrating that overheating risk measures have been incorporated in accordance with the cooling hierarchy which prioritises measures, as follows:

- Minimise internal heat generation through energy-efficient design and equipment selection
- Reduce and manage the amount of heat entering the building in summer using:
 - Building orientation
 - Shading
 - Albedo
 - Fenestration
 - Insulation
- Manage heat within the building through exposed internal thermal mass and high ceilings
- Passive ventilation, including cross ventilation through a building wherever possible. Passive stack and wind-driven ventilation, night purging and designing windows to allow effective and secure ventilation. Single aspect developments are discouraged
- Natural cooling measures including green and blue infrastructure
- Use of mixed-mode cooling such as low-energy mechanical cooling (fan-powered ventilation)
- Mechanical ventilation (which, if it has a heat recovery function, should also have a summer bypass mode)

C4 – Overheating Assessment

- 8) All major residential developments should complete *CIBSE TM59* overheating assessment (or future equivalent assessment methodology) as their route to compliance with Building Regulations Part O. The simplified Part O route will not be considered acceptable.
- 9) All major non-residential developments should complete *CIBSE TM52* overheating assessment (or future equivalent assessment methodology).

C5 – Resilience to Climate Change

- 10) All development should incorporate measures that increase resilience to extreme weather events and a changing climate, including increasing temperatures and frequency and intensity of rainfall. All developments should:
 - Reduce the risk of flooding and conserve water
 - Employ sustainable urban drainage
- 11) Development proposals should reduce the 'heat island' effect through the use of cool materials and green and blue infrastructure within the development.

Reasoned Justification:

3.2 The NPPF requires the planning system to take full account of the long-term implications of climate change including the risk of overheating and the need to mitigate and adapt to climate change. It also sets out that policies should support appropriate measures to ensure the future health and resilience of communities and infrastructure to climate change impacts.

3.3 This policy addresses the critical need to mitigate the risks associated with overheating and climate vulnerability. Without effective design, factors such as building orientation and glazing ratios could increase the risk of overheating. To respond to this, this policy includes sections on the cooling hierarchy and overheating assessments, which ensure that new developments do not contribute to unacceptable levels of overheating risk. The cooling hierarchy prioritises passive design measures reduces the need for air conditioning and other energy-intensive systems, reducing cost, energy reliance and providing improved thermal comfort throughout the year.

3.4 This policy also recognises the increasing pressure on water resources. For non-residential buildings, water use limits aligned with BREEAM Wat 01 credits promote efficient water consumption.

3.5 The comprehensive approach to climate change adaption and mitigation set out in this policy not only reduces the likelihood of future retrofitting (which can be disruptive and costly) but also promotes future-proofing of new developments, ensuring long-term sustainability and occupant well-being. The policy is also linked to other Local Plan policies through the integration of green and blue infrastructure as well as reducing flood risk by employing measures such as sustainable urban drainage.

3.6 To ensure that buildings are not at risk of overheating, applicants are required to demonstrate compliance with additional assessments beyond the standard requirements set by Building Regulations. C4 of the policy mandates that all major residential developments complete a CIBSE TM59 overheating assessment to assess and mitigate overheating risk, in addition to the basic compliance with Building Regulations Part O (or its future equivalent). For major non-residential developments, a CIBSE TM52 overheating assessment must be completed, or the future equivalent. These additional assessments go beyond the standard regulatory checks to ensure that the building design considers factors such as internal heat generation, ventilation, and shading to avoid uncomfortable indoor temperatures during hot summer months.

3.7 The Energy Statement should include the relevant overheating assessment reports, demonstrating that the design of the building effectively addresses overheating risk and includes measures to minimise it.

3.8 For BREEAM, applicants are expected to submit a BREEAM pre-assessment to demonstrate that the relevant BREEAM level has been designed into the scheme, and that more than the minimum WAT 01 credits (for the respective certification level targeted) will be achieved. A condition upon any grant of planning permission is expected to ensure that the development is completed in accordance with the BREEAM pre-assessment and that the BREEAM certification is provided once the building is completed.

3.9 It is accepted that the level of detail provided by applicants may be lower for householder and minor applications, particularly in relation to the cooling hierarchy.