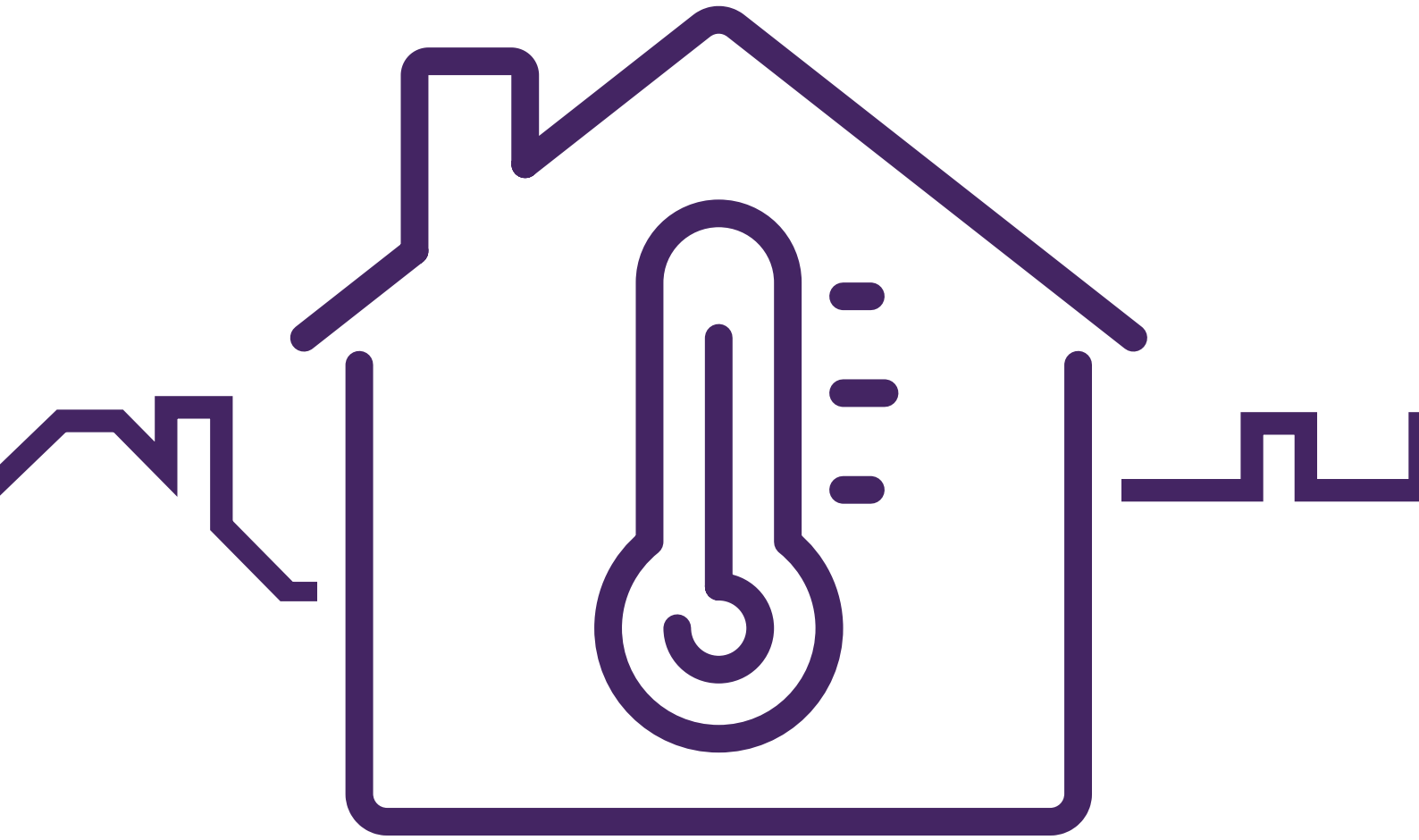
University of East London
Pioneering Futures since 1898

Chartered Institute of Housing

SRI
Sustainability Research Institute

HEAT ADAPTATION IN THE UK: POLICY BRIEF



Fatemeh Khosravi[a], Matthew Scott[b], Alan Chandler[a], Darren Sharpe[a]

[a]University of East London, Sustainability Research Institute, Docklands Campus, London, UK

[b]Chartered Institute of Housing, UK

OCTOBER 2025

Executive summary

Climate change is driving hotter summers across the UK, with 2025 reaching the hottest on record. Rising heat and more intense heatwaves are exposing critical weaknesses in building regulations, housing quality and public services. Over 3,000 heat related deaths in 2022 and extended recurring NHS winter pressures highlight the urgency of strengthening heat adaptation. A roundtable in July 2025, convening housing providers, practitioners, and researchers, identified urgent gaps in regulatory frameworks and highlighted the importance of supporting behavioural change.

Fragmented building regulation requirements, especially within Part O, fail to protect existing and vulnerable homes, with weak enforcement and a narrow focus on new-build homes. Simultaneously, behavioural and institutional barriers persist, heat risk communication remains generic and inaccessible, residents lack the ability to adapt, frontline workers face high heat exposure with limited protection, and health care systems have yet to embed heat planning into operational procedures. This policy brief presents two priorities areas to strengthen heat adaptation: 1. building design adaptation, and 2. behavioural adaptation to heat.

Introduction

Summer 2025 was the hottest on record, with a mean temperature of 16.1°C between 1 June and 31 August, 1.51°C above the long-term average (Met Office, 2025). Overheating is the new norm. UK-wide research shows that 82 per cent of UK households reported overheating in summer 2022, mainly due to existing building design and a lack of culture of heat where people are not aware of the severity of extreme heat impacts (Khosravi et al., 2025).

Part O of the UK building regulations was revised in 2022 to consider overheating through passive cooling strategies in new residential buildings. While passive cooling strategies are recognised as the first pillar of decarbonised cooling, residual demand needs to be met by active or mechanical solutions (Khosravi et al., 2023). Moreover, behavioural adaptation remains essential to protecting public health and wellbeing (Howarth et al., 2024). Without accounting for occupant behaviour, overheating assessments risk overlooking key social dimensions of vulnerability, particularly among older adults, renters, and those in institutional settings (Khosravi et al., 2025).

Method

In July 2025, the University of East London and the Chartered Institute of Housing co-hosted a roundtable on heat adaptation in the UK. The event brought together participants from academia, national and local government, the third sector, health agencies, and the built environment sector to discuss:

1. Building design challenges and heat adaptation
2. Public behaviour challenges and heat adaptation.

The roundtable began with an overview of overheating challenges currently faced by UK households during hot summers. This was followed by a facilitated discussion on the first theme, building design challenges to adaptation and possible solutions, then the discussion turned to the second theme, public behaviour challenges and possible solutions. All participants contributed to both themes, ensuring that insights reflected a mix of expert perspectives. This briefing summarises challenges and presents targeted recommendations for building design, behavioural adaptation, and policy recommendations discussed during the roundtable.

Key challenges

1. Regulatory gaps and fragmentation

- While Part O covers institutional residential settings such as care homes, the regulations are not sufficient to protect highly vulnerable populations from overheating in these settings.
- Regulations developed and enforced separately across Parts O (overheating), B (fire), L (energy efficiency), and F (ventilation), create conflicts and missed opportunities.
- Passive cooling strategies are not sufficient for some regions like London to prevent extreme overheating.
- Weak enforcement leads to a performance gap between design and real-world comfort.

2. Minimal compliance, not resilience

- There are no overheating considerations at the pre-planning stage. This means that opportunities for effective passive solutions, such as external shading or better orientation, are lost.
- Overheating assessments rely on mild weather scenarios, ignoring extreme heat and future climate projections.

3. Market incentives and social inequalities

- Energy efficiency funding excludes overheating, leaving landlords with little incentive to adapt.
- Renters and low-income residents lack agency to make changes (e.g. shading, ventilation).

4. Behavioural and institutional challenges

- There are gaps in heat communications. The Adverse Weather and Health Plan places emphasis on institutional readiness over direct public engagement, and heat alerts remain generic and inaccessible, with little actionable guidance.
- NHS and care providers have yet to embed heat planning into routine operations, leaving high-risk populations, in settings such as prisons, hospitals, and care homes more exposed.
- Low-risk perception, and cultural assumptions about the innocuousness of extreme heat, undermines public actions and efforts.
- There are evidence gaps, especially in institutional settings, and there is specifically little data on overheating in prisons, hospitals and care homes.
- Frontline workers face extreme heat with little training or appropriate personal protection, undermining their wellbeing to deliver safe care.

Recommendations for building design adaptation

UK cities, offices, and homes are designed for cold weather, leaving occupants vulnerable to extreme heat. Strengthening the resilience of the built environment is therefore essential. Insights from roundtable discussions highlight five key recommendations for building design adaptation.

1. Building regulations reform

- Expanded coverage: Extend building regulations to cover retrofits, and strengthen them in high-risk settings such as hospitals, care homes and prisons, where vulnerable populations are most exposed.
- Regulatory coordination: Align Parts O, B, L, and F to avoid conflicts such as insulation standards that can exacerbate overheating, and ensure co-benefits across ventilation, air quality, and thermal comfort.

2. Future-proof design

- Pre-planning overheating checks: Require early overheating assessments during the design stage to enable passive design strategies like effective ventilation, orientation and shading.
- Future-proof standards: Designers should assess overheating risks of homes under a range of future climate scenarios, not just modelling current baseline and mild weather scenarios.

3. Enforce compliance

The gap between design and actual building performance underscores the need for stronger oversight and post-construction checks.

- Post-build control: Resource building control teams to inspect overheating and ventilation strategies before and after construction.
- Stricter penalties: Introduce enforcement mechanisms to ensure compliance and protect occupants from overheating risk.

4. Finance adaptation

- Inclusive finance: Participants suggested integrating overheating adaptation into existing retrofit funding schemes, e.g. requiring shading and ventilation.
- Passive cooling incentives: Prioritise low-energy cooling strategies over air conditioning through planning and market levers.

5. Adaptation in rental and temporary homes

- Support for vulnerable housing: Provide guidance and support for the implementation of essential adaptations in rental, temporary, and low-quality housing, where occupants often lack the agency to make structural changes, such as installing shading to adapt to heat.

Recommendations to strengthen behavioural heat adaptation

Rising temperatures are forcing the public to adapt daily behaviours, yet communication, institutional support, and access to care remain fragmented. The roundtable discussion identified five key recommendations to enhance institutional and individual behavioural heat adaptation in the UK.

1. Tailored communication

- Clear guidance: Craft clear, practical heat guidance that moves beyond generic warnings.
- Communicate through trusted intermediaries: Deliver advice and guidance through trusted networks such as GPs, housing providers, and community organisations.
- Locally tailored tools: Support local authorities to develop heat risk assessments and action plans, with practical tools such as risk registers, intervention guides, and approved measurement procedures that households, property owners, and care workers can use to identify overheating and act accordingly.

2. Workforce resilience

- Workforce training: Equip staff with skills to identify, prevent and respond to overheating.
- Institutional integration: Require NHS and social care providers to integrate heat planning into operational procedures.

3. Protect the vulnerable

- Expand outreach: Reach marginalised groups who often lack access to primary and secondary care.
- Advocacy in constrained settings: In high-risk settings such as care homes, hospitals and prisons, residents often lack agency to adapt to extreme heat; therefore, communication must account for institutional constraints and advocate for protective measures.

4. Close evidence gaps

Robust data on heat risks in prisons, hospitals and social care remains limited, constraining tailored adaptation. Fund research and monitoring of heat risk in care homes, hospitals and prisons, to generate evidence that informs targeted adaptation measures.

5. Smart innovation

Smart technologies can support heat adaptation when paired with behavioural strategies. Deploying simple, accessible technologies (e.g. temperature sensors, alerts) linked to behavioural insights is recommended.

Conclusion and next steps

Heat risks in the UK are growing faster than current regulations and systems can manage. To protect public health and resilience, government must:

- Reform building regulations, close loopholes, strengthen enforcement, and require future proofing.
- Realign incentives and embed overheating into retrofit and housing programmes, supporting both landlords and tenants.
- Strengthen health and care readiness, train frontline staff, embed heat planning in NHS operations, and protect residents in care.
- Improve communication and evidence, deliver practical, localised guidance, and fill monitoring gaps in high-risk institutional settings.

References

C. Howarth, N. Pearson, G. Kyriacou. How is the UK responding to heatwave risk? Gratham Research Institute on Climate Change and The Environment. Available at: https://www.lse.ac.uk/granthaminstitute/explainers/how-is-the-uk-responding-to-heatwave-risk/ (2024)

F. Khosravi, C. Demski, L. King, L. Gross, M. Scott. A nation unprepared: Extreme heat and the need for adaptation in the United Kingdom. Energy Research & Social Science 124 (2025): 104065

F. Khosravi, R. Lowes, C.E. Ugalde-Loo. Cooling is hotting up in the UK. Energy Policy 174 (2023): 113456.

Hoare Lea. UK climate resilience roadmap (UKGBC). Overheating analysis. Sustainability technical report, revision 00-23.06.2025. Available at: TECHNICAL REPORT (2025)

Met Office. Summer 2025 is the warmest on record for the UK. Available at: https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2025/summer-2025-is-the-warmest-on-record-for-the-uk (2025)

T. Matthews, C. Raymond, J. Foster, J.W. Baldwin, C. Ivanovich, Q. Kong, P. Kinney, R.M. Horton. Mortality impacts of the most extreme heat events. Nature Reviews Earth & Environment 6, no. 3 (2025): 193-210.

Contact the authors of this briefing directly at

Dr Matthew Scott, CIH: matthew.scott@cih.org

Dr Fatemeh Khosravi, University of East London, Sustainability Research Institute: m.khosravi@uel.ac.uk