

Mainstreaming Climate Resilience: New Innovations, Disruptive Thinking & Future Policy

Chaired by Jo Hills – Associate Director, Disruptive Innovators Network

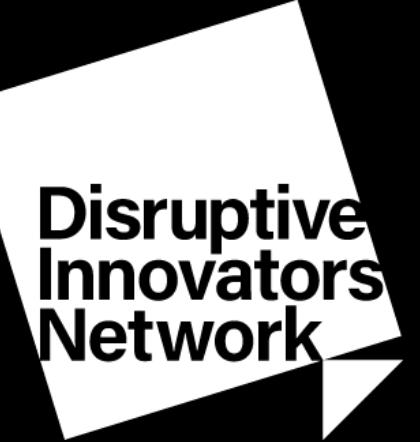
- Polly Turton – Head of Climate Action & Public Health, Shade the UK
- Vince House – Head of Sales and Development, Aereco
- Cat Moncrieff – Head of Policy & Engagement, CIWEM
- Becci Taylor – Director, Arup
- Elaine Toogood – Senior Director, The Concrete Centre





Welcome from session chair

Jo Hills – Associate Director,
Disruptive Innovators Network



The Climate Resilience Challenge

Shade - a good place to start

Polly Turton

Head of Climate Action and Public Health, Shade the UK

THE PROBLEM

Temperatures are rising in the UK because of climate change

Health and wellbeing is suffering and vulnerable people are dying

There isn't sufficient awareness of the harmful impacts from overheating in the UK.

We don't have the right existing physical infrastructure to protect vulnerable people during hot weather.

Public spaces are not safe nor accessible for all during heatwaves.

SHADE THE UK

HOW WE PLAN ON SOLVING IT

1 Create a knowledge hub containing resources and support for dealing with overheating



Intervene in the education system to prepare the next generation for a warmer climate.



Develop crisis response to provide aid during heatwaves

Capacity building i.e., develop a network of care workers, housing associations, teachers, etc., who are trained to support vulnerable groups during heatwaves

2 Fund, and enable funding for, sustainable retrofit projects for existing buildings and public spaces to adapt to climate change.



3 Drive effective policy change to protect the most vulnerable.



Existing buildings: Enable straightforward retrofit measures to be implemented



Public spaces: Enable measures to create safe, accessible, and shaded spaces for vulnerable people

THE OUTCOME

The UK has the knowledge and tools to deal with prolonged hot weather to protect themselves and others.



UK buildings do not dangerously overheat.

There are safe public spaces for all to equitably access and enjoy during hot weather.



Zero deaths from overheating in the UK

The health and wellbeing of vulnerable people is safeguarded during hot weather.

OUR THEORY OF CHANGE

© Shade the UK 2023

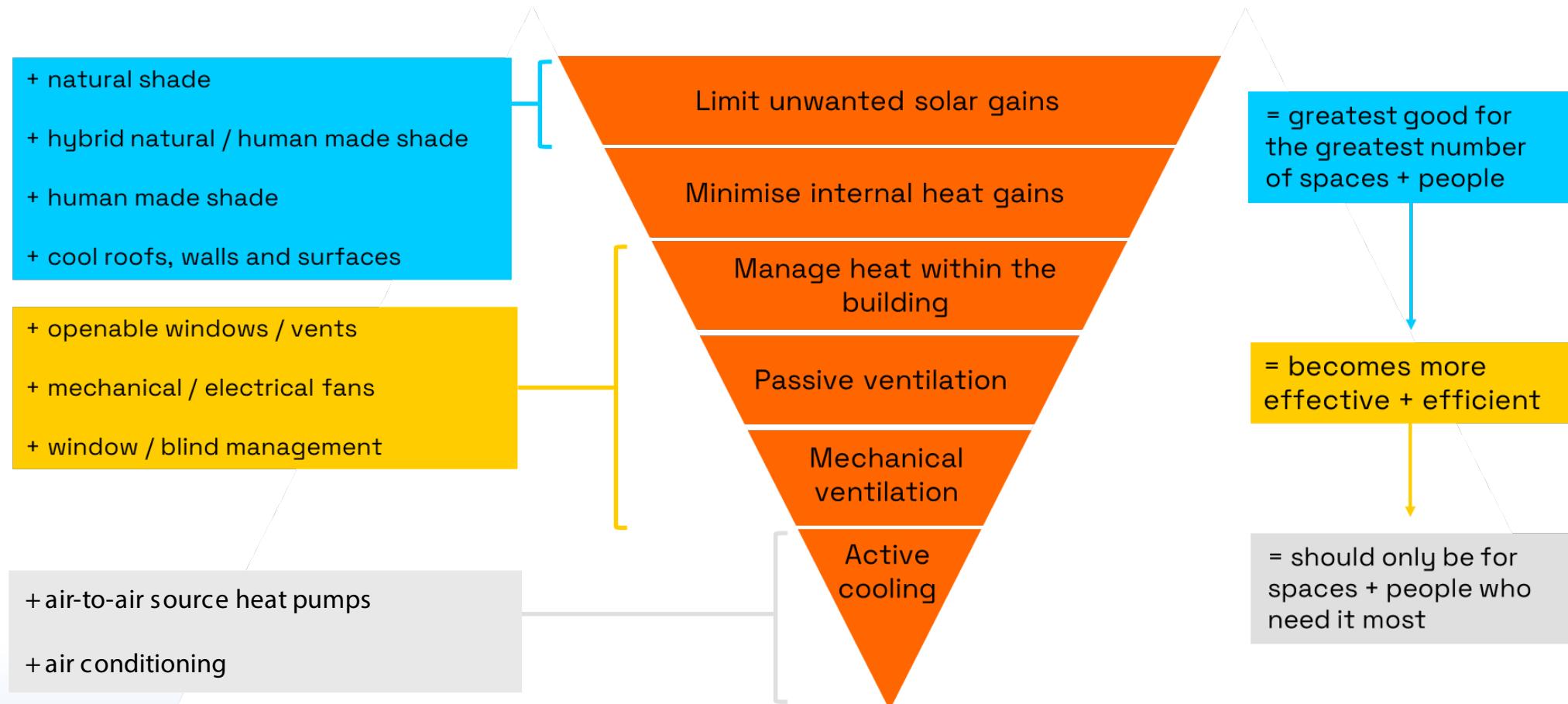


Good Homes - Beyond Net Zero, 28/01/2026, London

*"Shade was once a
staple of human
civilisation"*

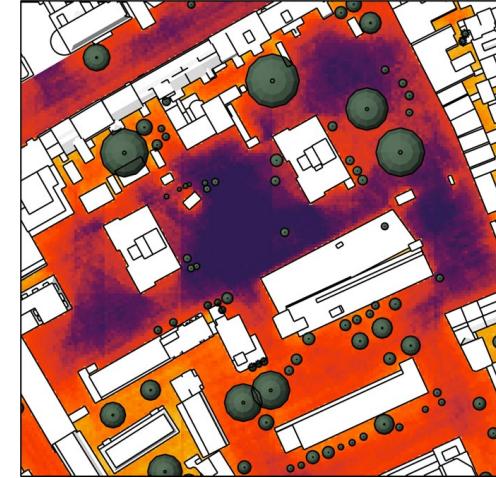
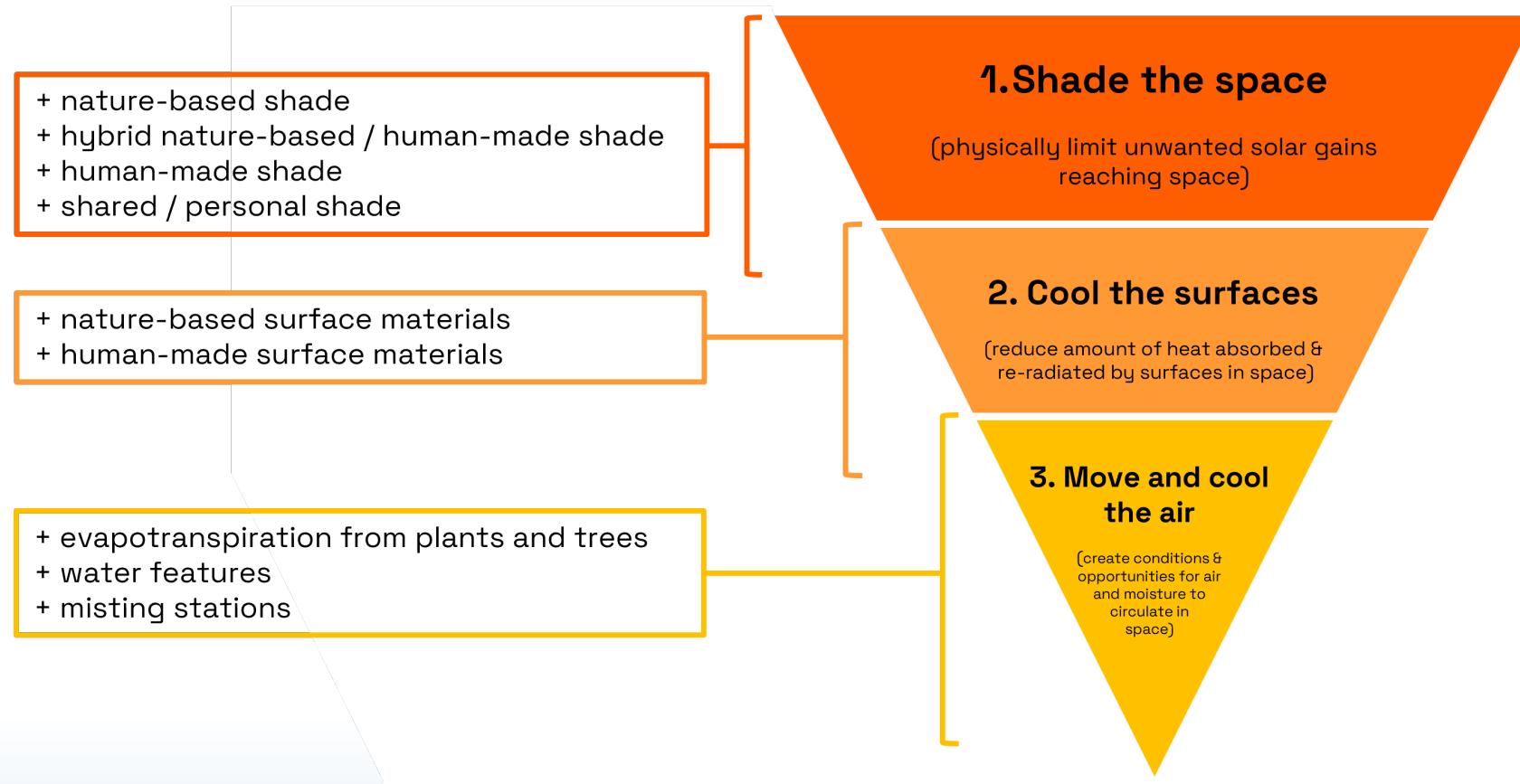
The Great Indoors

Cooling Hierarchy for Internal Spaces (London Plan)



The Great Outdoors

Thermal Comfort Hierarchy for External Spaces (Shade the UK)
Holborn Liveable Neighbourhood, Heat Resilience Study



UTCI temperature values within Tybald's Estate in 2020s.



UTCI temperature values if shade measures implemented within Tybald's Estate in 2020s plus potential building development.

Shading for housing

Design guide for a changing climate



Delivered by
Pollard Thomas Edwards with MAX FORDHAM, OXFORD BROOKES UNIVERSITY, M&M WORKS AHEAD, Good Homes Alliance
Commissioned by PBSA
Supported by ballymore, Guthrie Douglas, LOUVOLITE, CARIBBEAN BLINDS

SHADE THE UK British Red Cross



Overheating Adaptation Guide for Homes

Written by Shade the UK
Commissioned by the British Red Cross

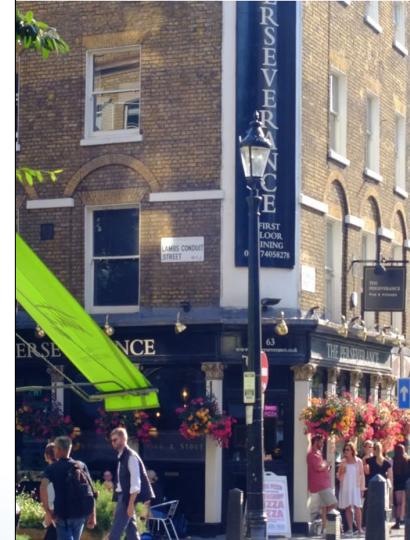
Householders' Guide to External Solar Shading

Householders' Guide to External Solar Shading



This guide provides information on external shading that can be readily installed in many historic homes.

RBKC Householder Greening Guides



Holborn Liveable Neighbourhood Heat Resilience Study

Designing public spaces for extreme heat

SHADE THE UK LOVE DES/GN STUDIO Camden HOLBORN LIVEABLE NEIGHBOURHOOD

Warm Homes (not Hot Homes)

Year-Round Comfort and Performance



The Future

- Building upgrades must deliver year-round comfort, not just winter warmth
- New methodology for assessing building fabric performance within Energy Performance Certificates (EPCs) to provide insight on overheating risk
- Embed appropriate and cost-effective passive cooling measures into funding schemes targeting low-income households and social housing
- Active cooling via air-to air heat pumps where and when needed

Call to Action

- Let's get on with it!
- More collaboration and implementation = the innovation and disruption needed
- More integration of nature-based solutions not just human-made solutions
- More consideration of the spaces outside our homes as well as inside our homes

Shade - a good place to end

polly.turton@shadetheuk.co.uk



Demand Controlled Ventilation

Vince House, Head of Sales & Operations, Aereco

Why do we need Ventilation?



We are making properties much more energy efficient, through legislation and retro-fit measures

Excess Moisture can lead to mould in our homes

We are spending on average 90% of our time in our homes

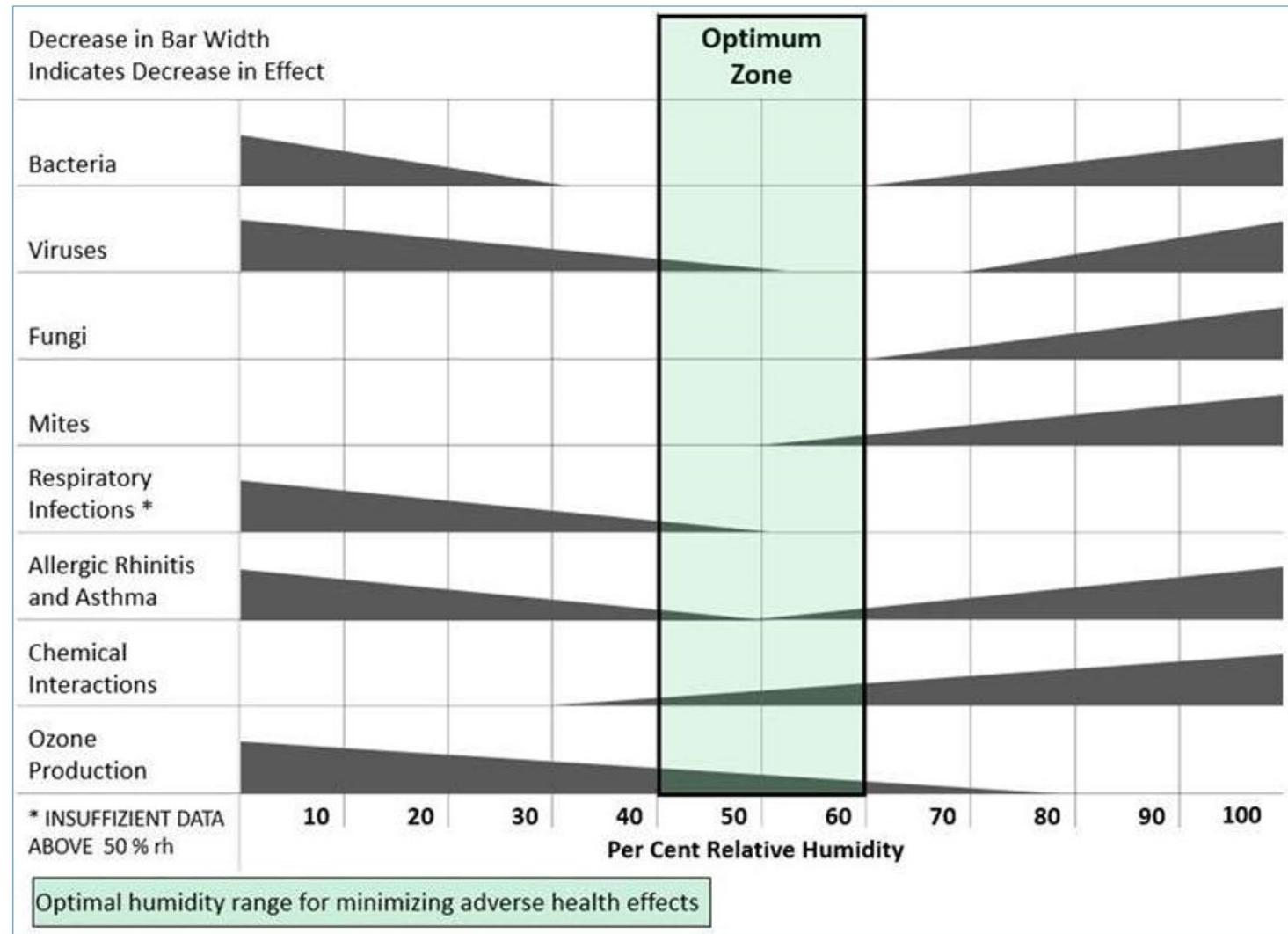
A family of 4 will typically produce 16 litres of moisture every day

The air inside our homes can be up to 5 times more polluting than the air outside

It is known to be a major risk factor for childhood asthma.

What does good look like?

- Healthy homes do not suffer with high levels of humidity – excess moisture
- Maintaining the optimum RH range is important for the health of occupants and the building
- Pro-longed periods of 65%+ RH will result in Mould growth and also an increase in Mite population



Criteria for Human Exposure to Humidity in Occupied Buildings – E.M. Sterling A.Arundel T.D.Sterling, Ph.D.

Demand Controlled Ventilation in action



- Energiesprong UK
- Nottingham Homes
- 10 Pilot Properties
- Hard to heat homes
- KPI's to be met for 30 Years
- Contractor (Melius Homes) responsible throughout
- Near Net Zero
- DCV used
- Studio Partington

Future of Ventilation

- Dynamic systems which can measure the need for ventilation and modulate airflows according to the needs of the building based on the activities of the occupants. Demand Controlled Ventilation.
- This provides energy savings when there is low occupancy in the property.
- It also means ventilation rates can be higher (exceeding Part F) when the requirement is necessary. Maintaining the correct moisture levels.
- IoT – Identifying issues, proving efficacy
- Integrated heat pumps for Hot Water Generation

Call to Action

- We are on a journey to Net Zero and carbon is the one focus which is being measured.
- In parallel to this we also need to make sure properties are Healthy for everyone who lives inside.
- At the moment there is no policy for IAQ and the NHS bear the brunt of this cost with Asthma and COPD cases.

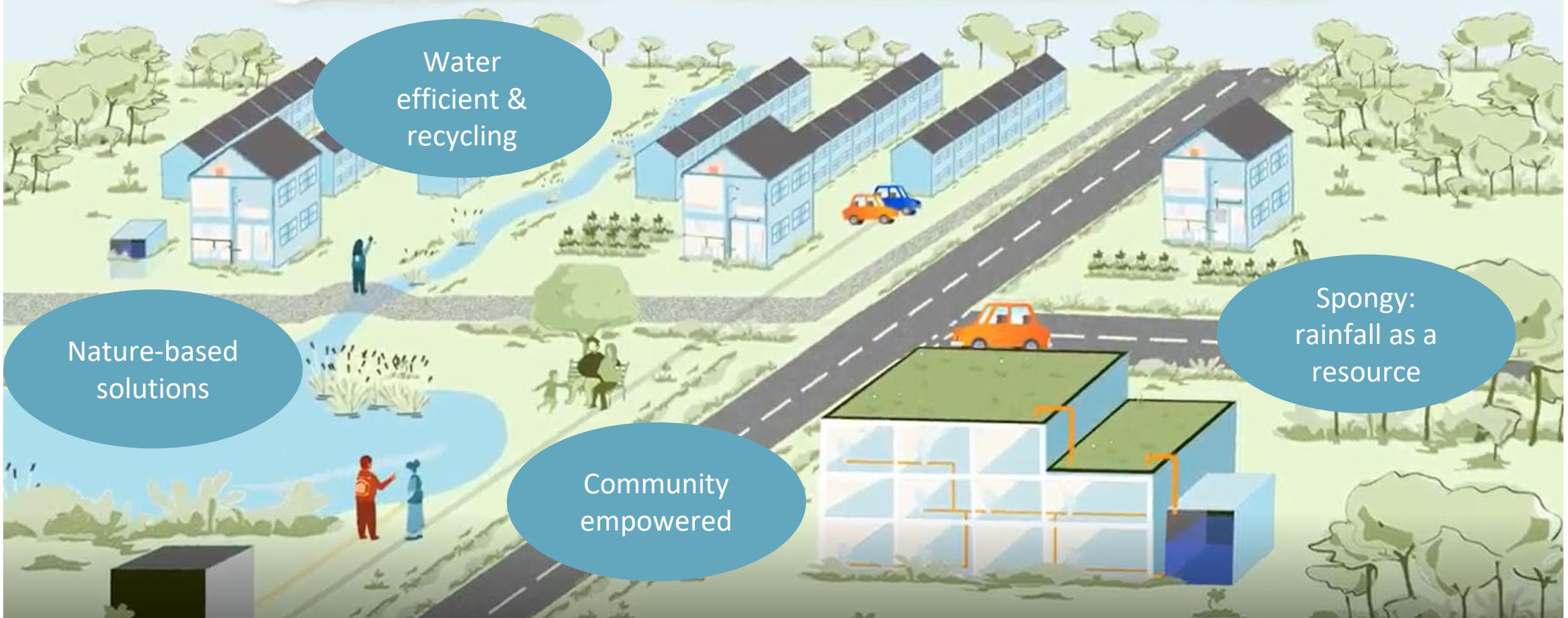


The case for 'water smart' homes

Cat Moncrieff
CIWEM and 'Enabling Water Smart Communities' project



Water smart communities manage water as an integrated system.



Why we need 'water smart' homes



Cambridge Water warned over city supply and demand



Flooding concerns over plans for 10,000 new homes



Thousands of Oxford homes face delay over sewage works



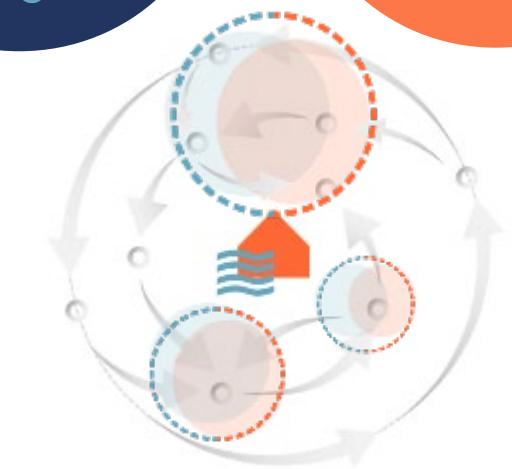
>60,000 homes could be delayed in south & east due water scarcity

8 million properties at risk of flooding by 2050 (1 in 4)

30,000 homes delayed by inadequate sewage infrast. (HBF)

>4.8 billion litres/day deficit by 2050

1.5 million new homes in this parliament



The benefits of water smart homes

Unlocking housing development

Building 'water smart' homes (30% more efficient) would help unlock housing delivery in water scarce areas



Developer benefits

'SuDS premium' of ~£4k per property, and premium associated with a climate-resilient garden £2-£10k

High quality SuDS have a reduced land take
Cost of community rainwater recycling ~£1.8k per plot

Social & environmental benefits

High quality SuDS deliver 6x the benefit over more conventional drainage

SuDS reduce flood risk AND provide an additional £247 million/year in amenity, air & water quality, and water resources benefits (1.3 million new homes)

Public attitudes

Public (& professional) support for alternative water systems

80% willing to use rainwater for WCs

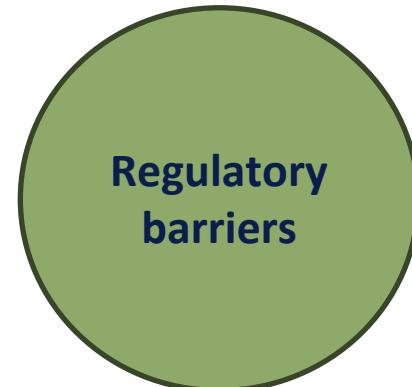
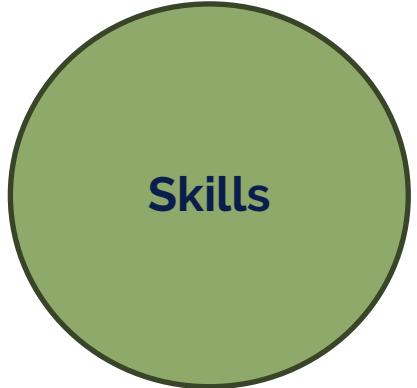
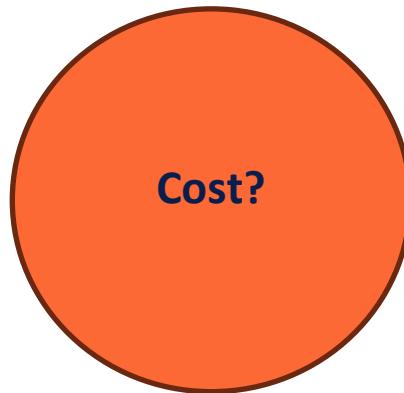
Public value green spaces and clean air & water very highly

63% of younger/future homebuyers would pay more to live in a development with SuDS.

The future: water smart homes are the norm



We're addressing the barriers....



EWSC: supporting the delivery of water smart homes...

The 'Enabling Water Smart Communities (EWSC) project has generated numerous outputs that support the delivery of water smart homes.

Tranche 1a		
Business Case for Water Reuse (Capex Only)	Complete & Comm'd	✓
Roadmap to Reuse	Complete & Comm'd	✓
Stewardship – Research & Blueprint	Complete & Comm'd	✓
Single Source of Truth	Complete & Comm'd	✓
Wholesome Water Consultation.	On Hold	II
Case Study Database	Complete & on website	✓
IWMS Report & Exemplar	Complete & comms in dev.	✓
Southbank Deep Dive – Lessons Learnt	In dev.	★
Tower Hamlets Deep Dive	Data collection in progress.	★
Anchor Institutes – Environmental Incentives	Complete & comms in dev.	✓

Tranche 1b		
Green Financing	Complete & Comm'd	✓
Skills Scoping Report	Complete & Comm'd	✓
GHA Guidance to Water Efficient Homes	Complete & Comm'd	✓
Reclaimed Water Safety Plan Template	On Hold (DWI)	II
Impact on Sewer Network	Complete & comm'd.	✓
Climate resilient Gardens	Complete & Comm'd.	✓
Economic Modelling & IWM Impact	Complete & Comm'd.	✓
Research Projects		
UoM – Understanding public and professional perspectives on the future of water and housing.	Complete & Comm'd	✓
UEA – Understanding how alternative water and sewer supply systems shape the meaning and value of water.	Complete & Comm'd	✓

Tranche 2		
Whole Life Costing (water reuse inc carbon)	In delivery	★
Environmental Incentives Pt2	Complete & comms in dev	✓
Cost Benefits Analysis of High Quality SuDS vs Traditional.	Complete & Comms in dev	✓
Establishing a case for High Quality SuDS	Complete & Comms in dev	✓
Stewardship 2.0	In delivery	★
Ledger Tech Pt 1	Complete & Comm'd	✓
Ledger Tech Pt 2 & 3	In delivery	★
Designing Low Demand Water Networks.	In delivery	★

“...the evidence gathered through the **Enabling Water Smart Communities** project is valuable in terms of demonstrating the need for water efficiency measures including on-site water reuse.” – Minister Emma Hardy (June '25)

Project cited within multiple publications:

GOVERNMENT & PUBLIC SECTOR JOURNAL

Utility Week

HOUSING TODAY

CONSTRUCTION MANAGEMENT
Brought to you by CIOB

The Environment
THE MAGAZINE FOR THE CHARTERED INSTITUTE OF WATER AND ENVIRONMENTAL MANAGEMENT

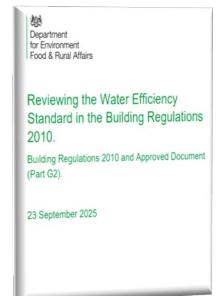
BusinessGreen

THE UK WATER REPORT
POLICY | REGULATION | FINANCE

ENDS REPORT

edie
driving sustainable business.

Smart Cities World



What needs to happen next?

Government:

Signal intent to progress reuse in homes
Fix 'wholesome water' rules
Establish clear mechanism for asset stewardship

Developers & Master Planners:

Recognise the benefit of water smart features
Consider integration from the start

Architects and designers:

Recognise place-making value of water smart design
Adopt 'water smart' approaches in design >> GHA guide

Water industry:

Standardise and promote environmental incentives

Water efficiency and reuse in housing
Design guide for a changing climate





ENABLING
WATER SMART
COMMUNITIES

Join the water smart community

Learn-share-progress

Project Delivery Team



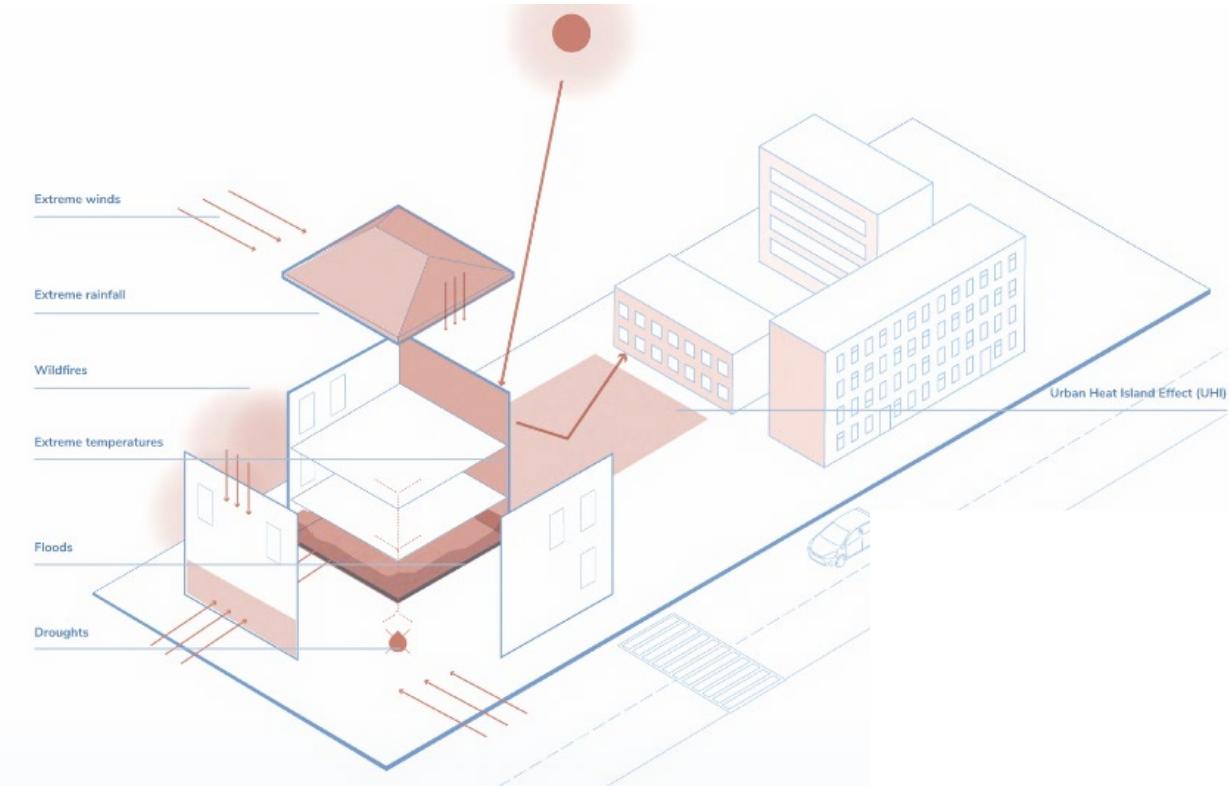
www.ewsc.org.uk

Independent Programme Board

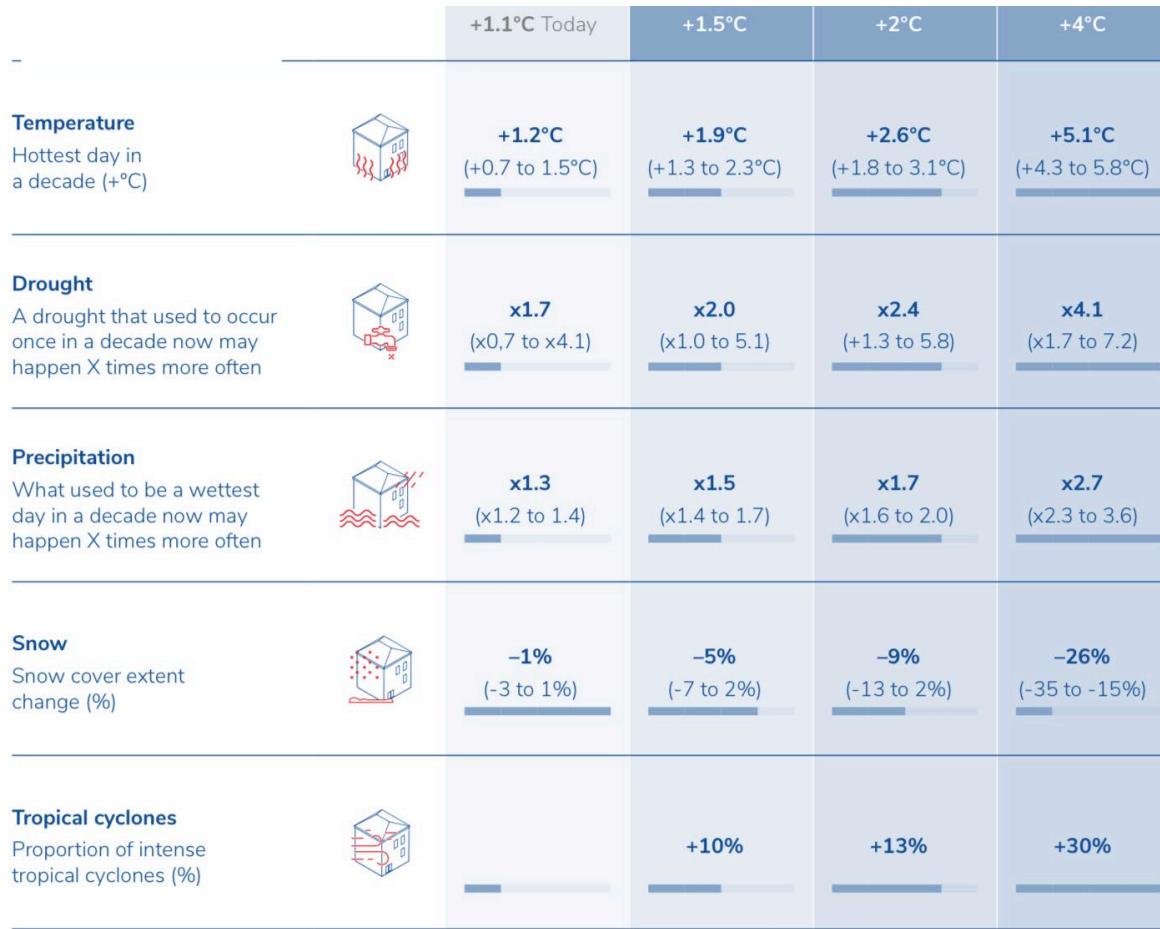


Retrofitting for Climate Resilience: A national mission

Becci Taylor, Director, Arup

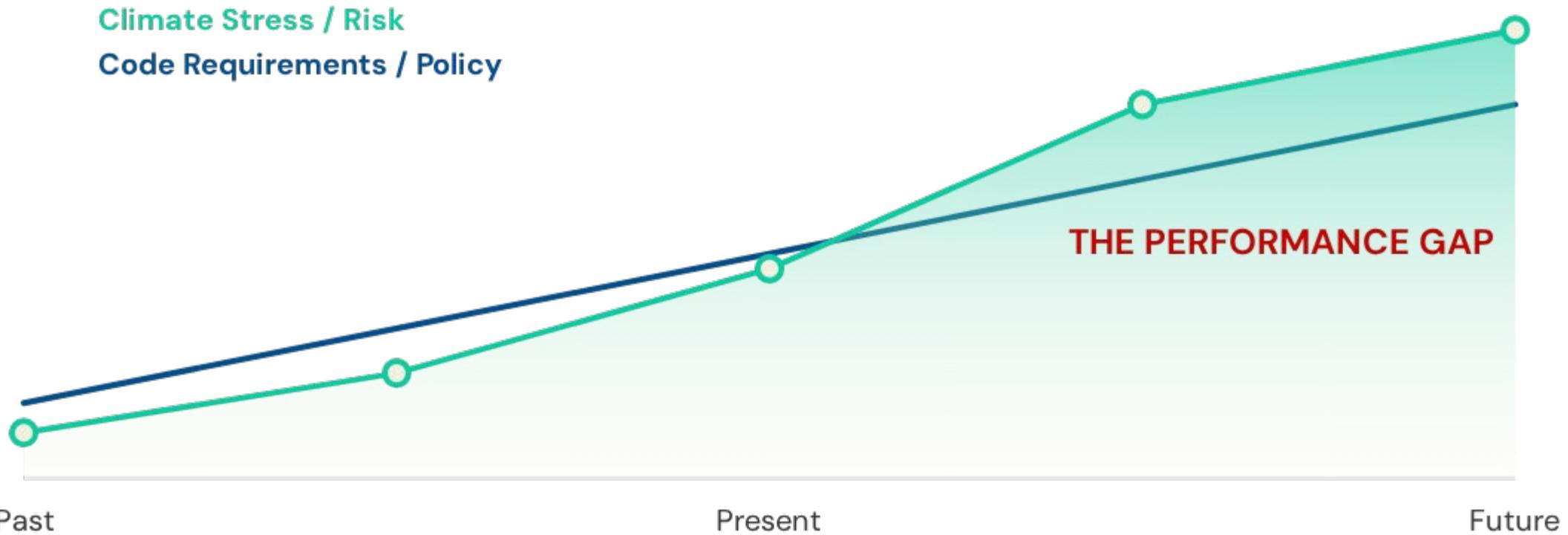


Why adaptation retrofit underpins resilience

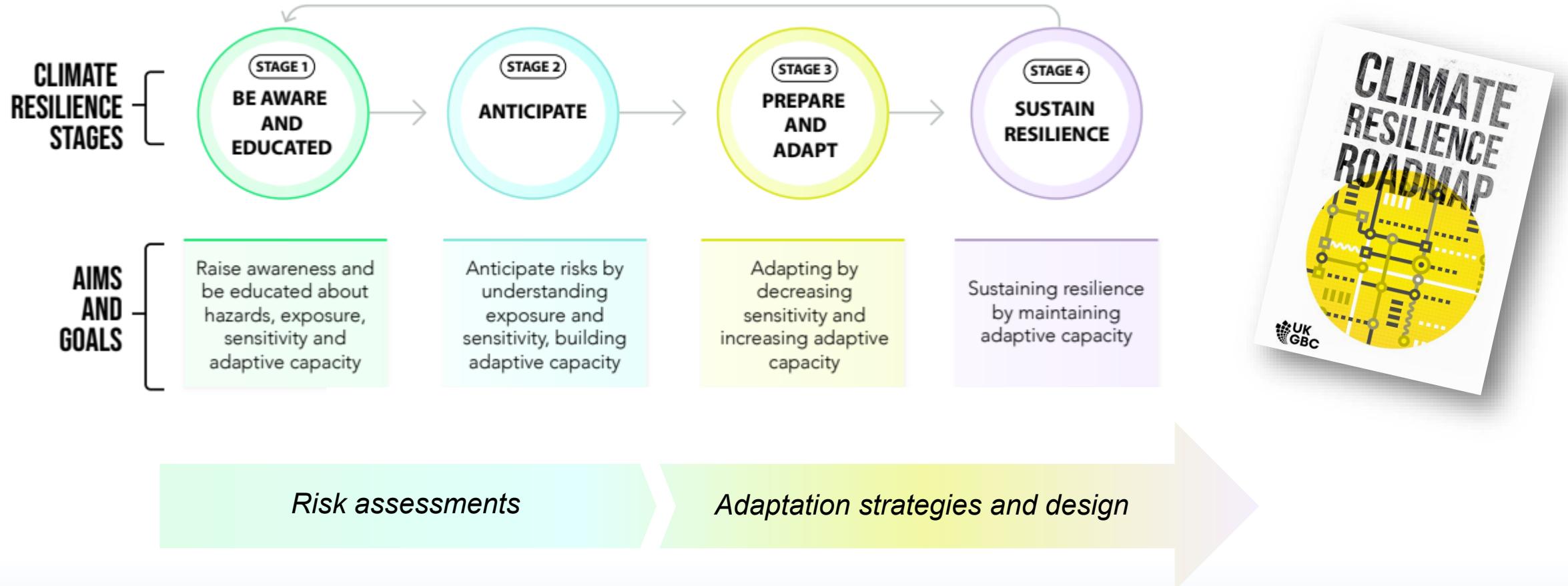


- Impact reduction
- Investment protection and risk transfer
- Regulatory readiness

Ahead of compliance...

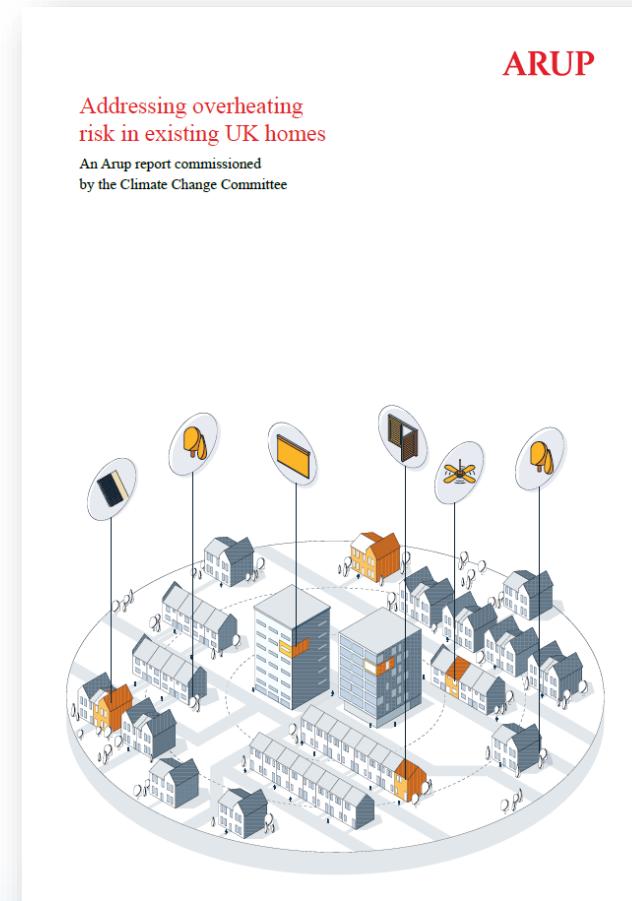


Climate-resilient retrofit must start with risk



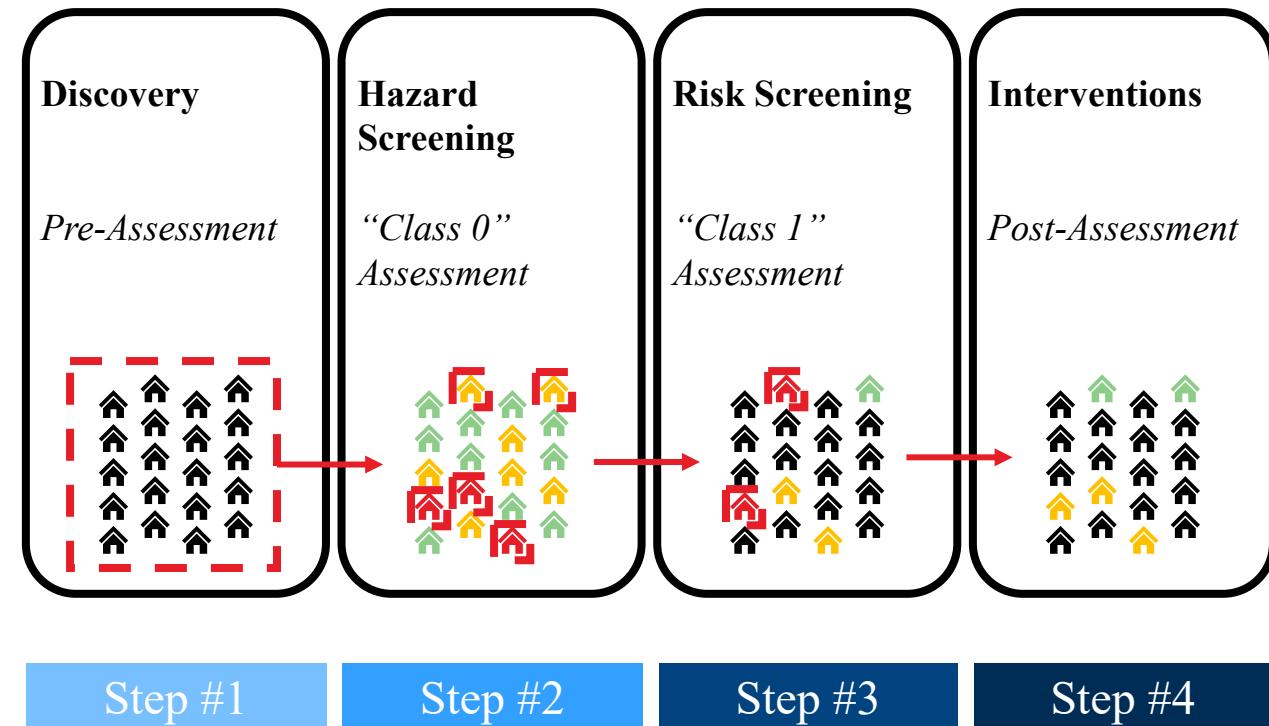
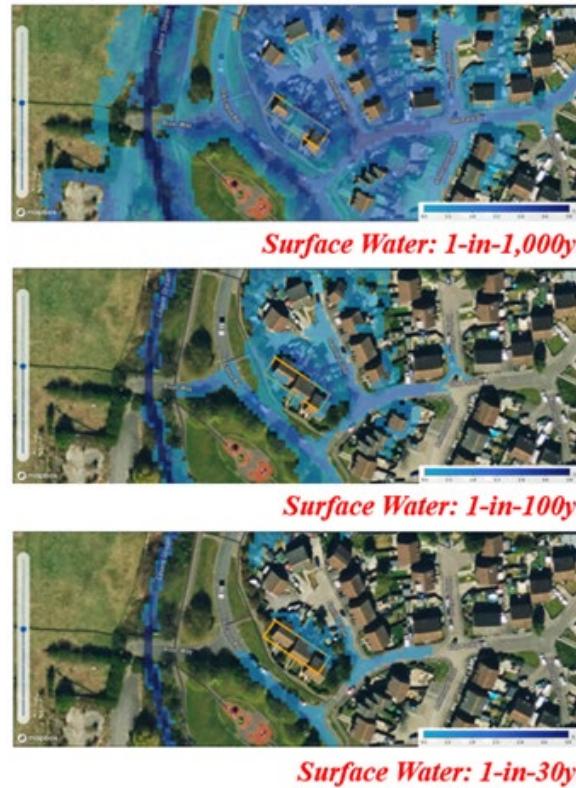
Heat risk at scale

Policy and planning



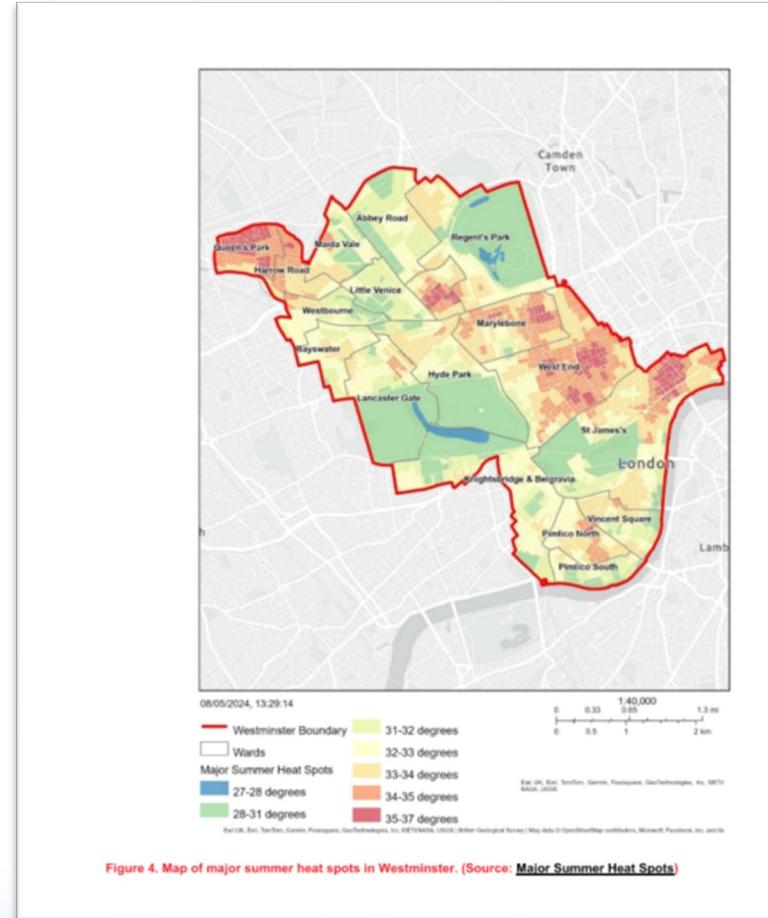
Housing Association

Scaling climate risk screening across 30,000 homes



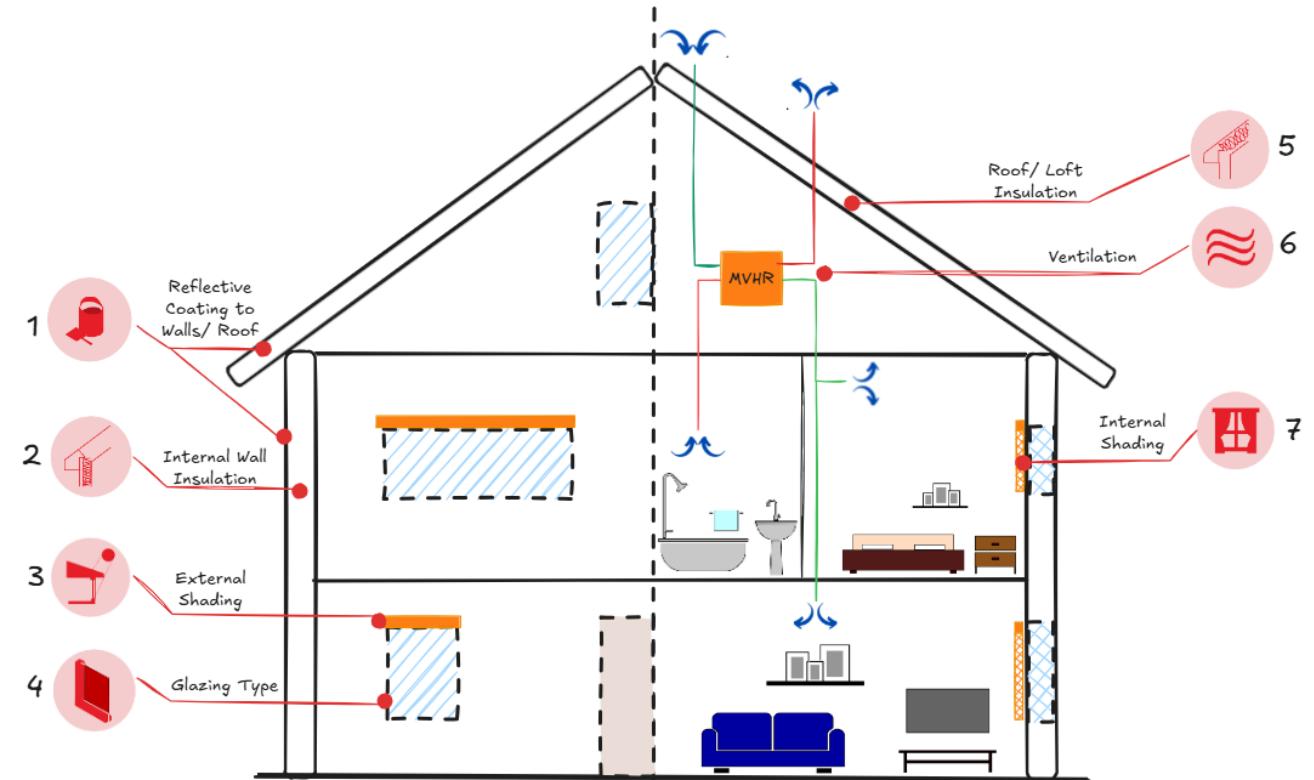
Westminster City Council

Embedding climate risk into Westminster's city planning



From risk to retrofit decisions

Embedding overheating risk into housing association retrofit decision-making



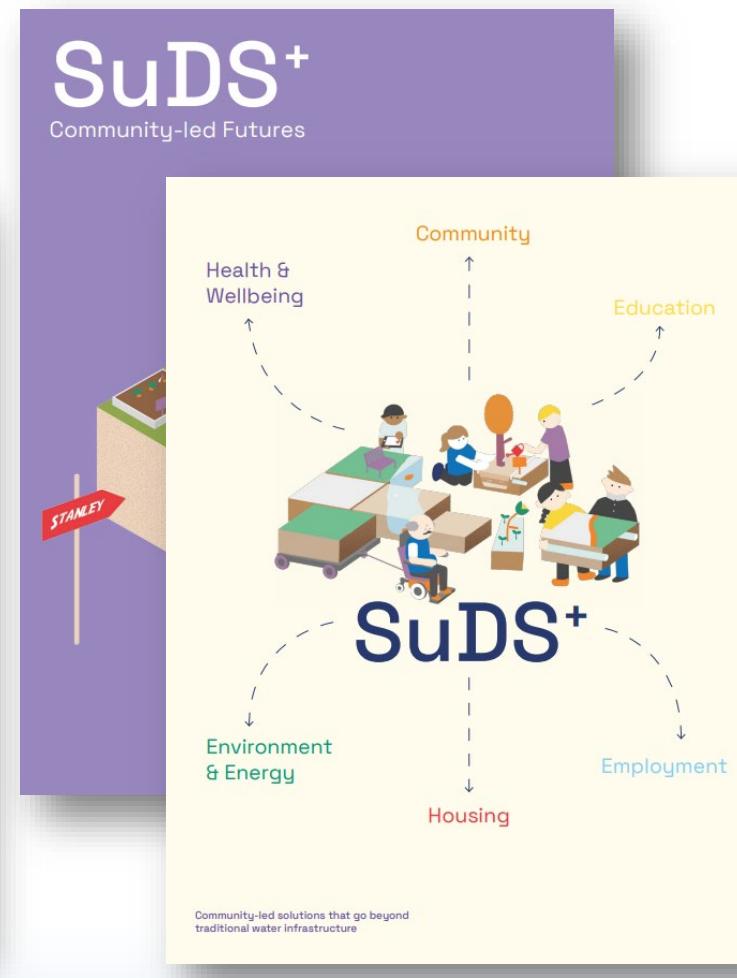
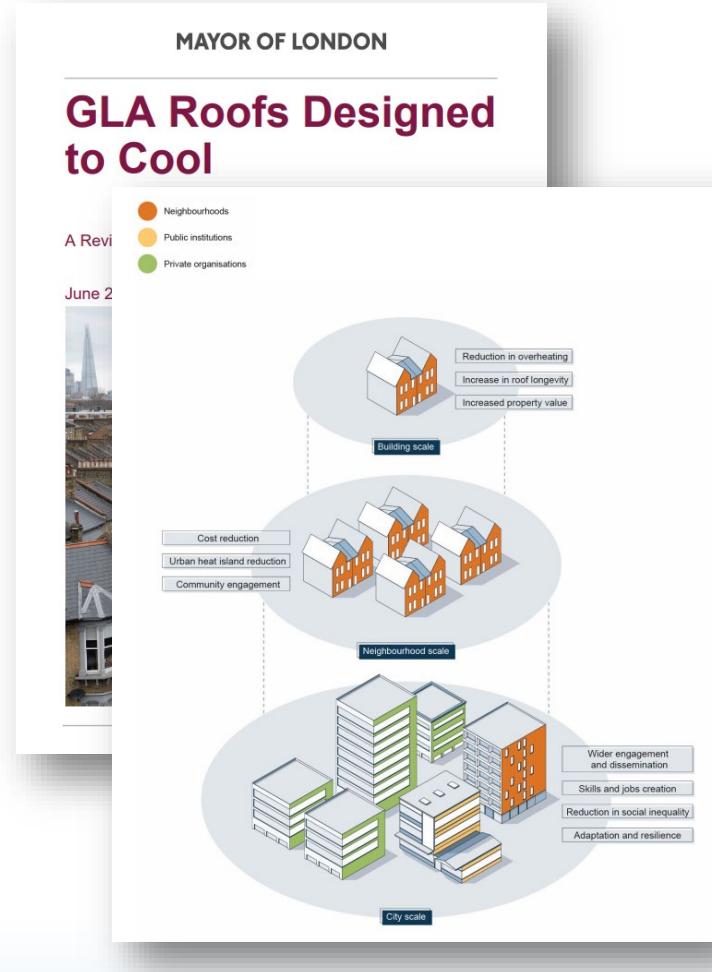
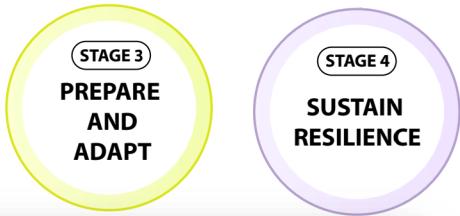
Building climate resilience in schools

GLA live programme



Good Homes - Beyond Net Zero, 28/01/2026, London

Neighbourhoods: where benefits compound



One retrofit agenda: mitigation, adaptation, health

Coherent, risk-based retrofit



Mitigation

Reducing impact on the environment
(net zero, nature- positive)

Sustainability



Adaptation

Withstanding physical climate stress
(heat, storms, flooding, water stress)

Resilience



Reconciliation

Delivering together

Health, safety

Up front (early stage) thinking

Elaine Toogood, Senior Director, Concrete, MPA

The Concrete Centre

“The evidence shows that we must do more to build climate change into any decisions that have long-term effects, such as in new housing or infrastructure, to avoid often costly remedial actions in the future.”

[UK Climate Change Risk Assessment 2022 - GOV.UK](#)

“The need to mitigate and adapt to climate change should also be considered in preparing and assessing planning applications, taking into account the full range of potential climate change impacts.”

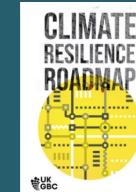
National Planning Policy Framework (NPPF) 2024

‘the total cost of climate change damages to the UK are projected to increase from 1.1% of GDP at present to 3.3% by 2050 and 7.4% by 2100’

[What will climate change cost the UK?](#)

The Grantham Research Institute on Climate Change and the Environment, 2022

- Climate change is already costing lives and more will be lost without urgent action
- Five major hazards threaten the UK and must be treated as a national emergency
- These hazards are interconnected and our response must match
- Buildings are our first line of defence
- Acting now is the only responsible choice



<https://ukgbc.org/our-work/topics/resilience-roadmap/>



Flooding: 'In England 6.3M buildings at risk of flooding. This could raise to 8M by 2050, that is 1 in 4 homes.'

(Env. Agency)

Overheating: 'Since 2016, approximately 570,000 new homes have been built in England without adequate adaptations to respond to increased temperatures.'

(TCPA, 2024)

Drought: 'If no action is taken by 2050, England's public water supply will face a shortfall of 5 billion litres of water every day.' (The London Climate Resilience review, 2024)

Storms: 'There is evidence that global warming is making the most powerful storms more intense' (UK and Global extreme events – Wind storms," Met Office)

Wildfires: 'The largest number of wildfire incidents in the UK do occur in close proximity to built-up areas.....they present a significant threat to life, health, buildings, and infrastructure' (UK Wildfires and their Climate Challenges, 2021)

'In the UK, the risk of a fire starting is projected to double with 2°C' (UK Climate Risk – Wild Fire briefings 2022)



Derwent Thorpe, Studio Partington,
Joseph Rowntree Housing Trust



Bridget Joyce Square, London.
Robert Bray Associates.

- Risks vary according to development type, local and wider context
- Strategic, site-specific, tailored solutions are essential based on many factors including consideration of microclimate, landscape orientation, flood risk, noise, air and pollution
- Nature-based solutions, spongier cities, SuDs. All with the opportunity to enhance site characteristics and potential co-benefits of flood resilience, shading, reduction in heat island effect, social amenity and support for biodiversity
- Wide range of permeable concrete paving, drainage and other SuDs products are part of the strategic solution



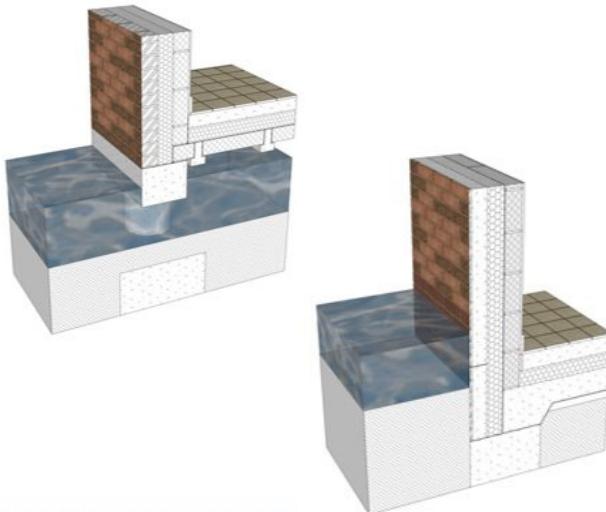


Nottingham Community Housing Association
/Moorbridge Developments Ltd.

Gas Street, Sandiacre – Property Level Flood Resilience in new build social housing

- 53 homes on a brownfield site, within Flood Zone 2.
- Fabric first approach, EPC A –rated using brick and block cavity walls.
- Flood resilience built into the design from the outset.
- This included raising floor levels, installing permeable paving self-closing air bricks
- The total cost of adding these PFR measures per plot was less than £1,200.
- These interventions are designed to enhance the resistance of properties to flooding and to support quicker recovery afterwards.

(Case study 2 : FloodReady, An action plan to build the resilience of people and properties, DEFRA, 2025)



- In BS 85500:2025 Flood resilient construction – improving the flood performance of buildings guide all recommended solutions for walls and floors are masonry or concrete (benefits includes structural integrity in and after flood events)
- Additional performance benefits of a concrete or masonry structure include:
 - Thermal mass – with night-time cooling can provide effective passive cooling
 - Non-combustibility

Robert Bray Associates.

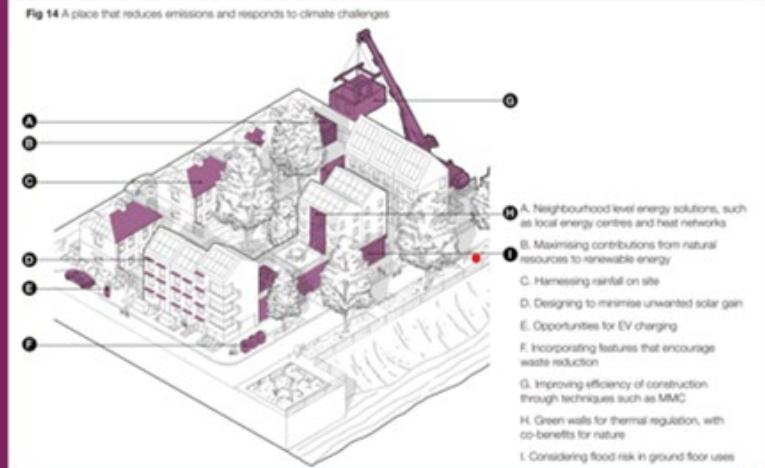
C3 Minimising climate risks

65. Liveable places are resilient to climate change by being prepared for current and future hazards, risks and impacts. Proposals for new development should address temperature extremes, increased flood and wildfire risks, and intense weather events such as rainstorms, droughts and heatwaves.

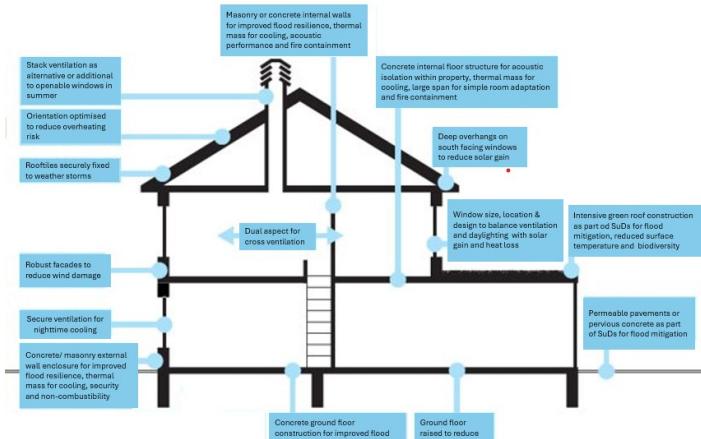
66. Buildings and infrastructure need to respond to current and forecast climate conditions by withstanding changes in climate and reducing harm from climate impacts to promote longevity in the built environment.

67. New development should be resilient to climate risks (for example extreme weather events) throughout its lifetime. Climate risk reduction measures should follow this hierarchy:

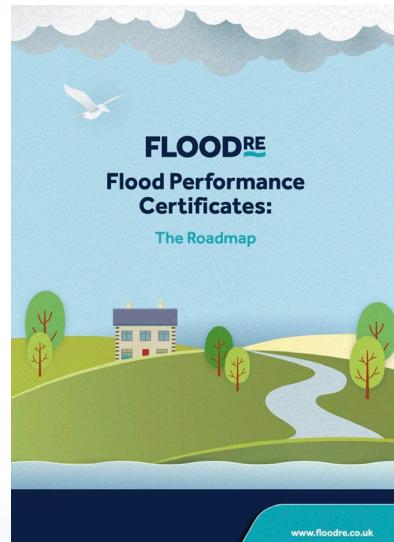
1. Avoid risk where possible.
2. Reduce risk if not.
3. Compensate as a last resort.



Draft Design and Placemaking Planning Practice Guidance, MHCLG Jan 2026



The Concrete Centre climate resilience house (WIP)



‘Research by the TCPA demonstrates that the planning system is not acting as an effective safeguard to secure flood resilience measures, which can ‘fall through the net’ of regulation due to procedural weaknesses and resource challenges’
The Climate Crisis: A guide for local authorities on planning for climate change (TCPA, 2023)

“The UK’s preparations for climate change are inadequate.”

“Delivery of effective adaptation remains limited”

“Planning for adaptation continues to be piecemeal and disjointed”

Progress in adapting to climate change – Climate Change Committee 2025 report to Parliament

- Flood and overheating performance certificates should help mainstream resilience
- Use of climate-resilient structures is essential to embed resilience and facilitate future adaptation

Mainstreaming Climate Resilience

Panel discussion

Chaired by Jo Hills – Associate Director, Disruptive Innovators Network

- Polly Turton – Head of Climate Action & Public Health, Shade the UK
- Vince House – Head of Sales and Development, Aereco
- Cat Moncrieff – Head of Policy & Engagement, CIWEM
- Becci Taylor – Director, Arup
- Elaine Toogood – Senior Director, The Concrete Centre



What do you need in order to implement climate resilient approaches/solutions at scale? For example guidance, training, funding, policy





Mid-afternoon break – please visit our event partners and exhibitors

Return for our next session at 15:30

Sponsored by



Data, AI and Building Performance

Chaired by Prof. Dave Glew – Leeds Beckett University

- Gwenaël Jerrett – Design Principal, London Legacy Development Corporation
- Barry Lynham – Managing Director, Knauf Energy Solutions
- Jenny Danson – Founder and CEO, Healthy Homes Hub
- Joseph Daniels – Co-Founder, Senze





CHOBHAM MANOR POE

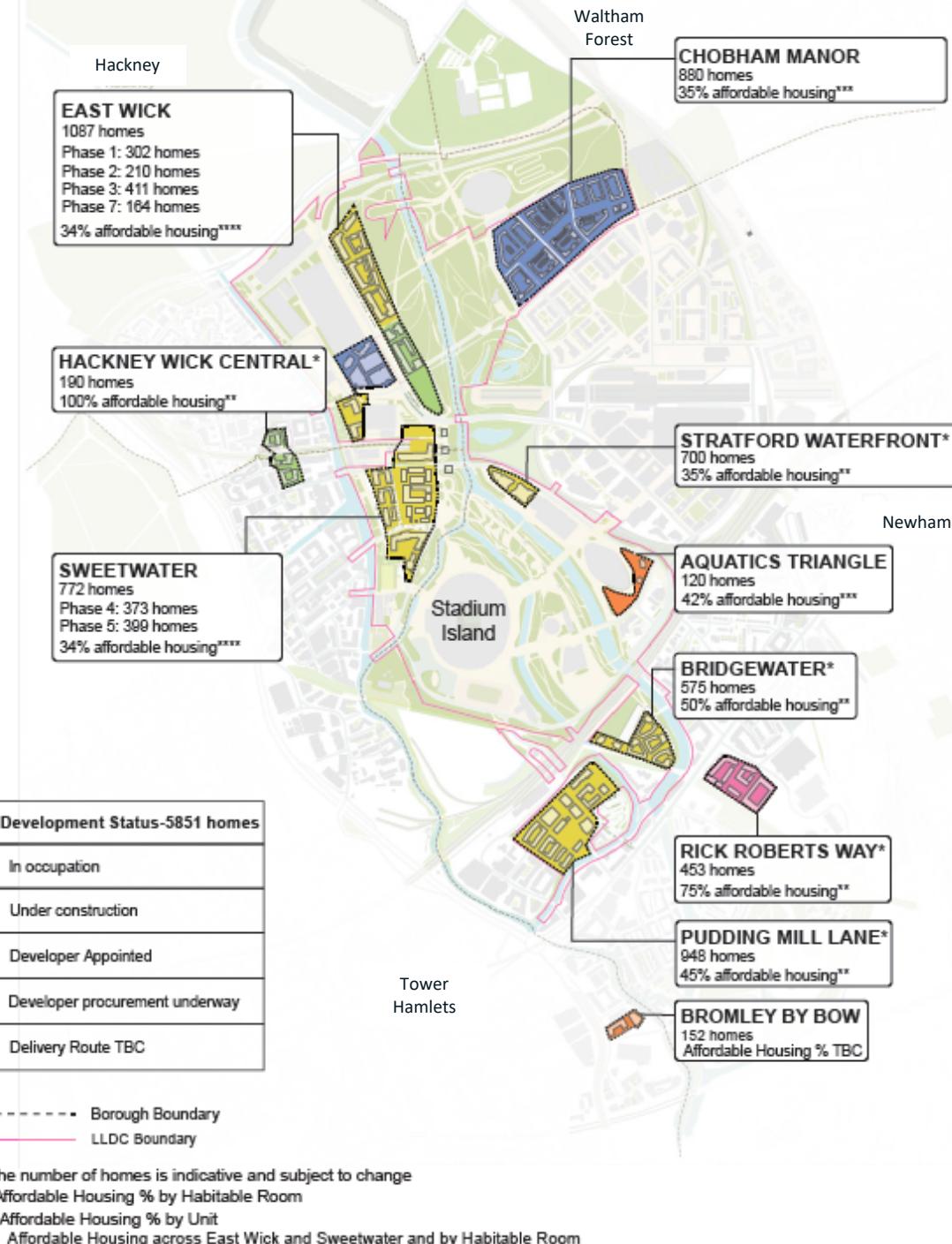
Gwenaël Jerrett, London Legacy Development Corporation

LLDC Housing Delivery

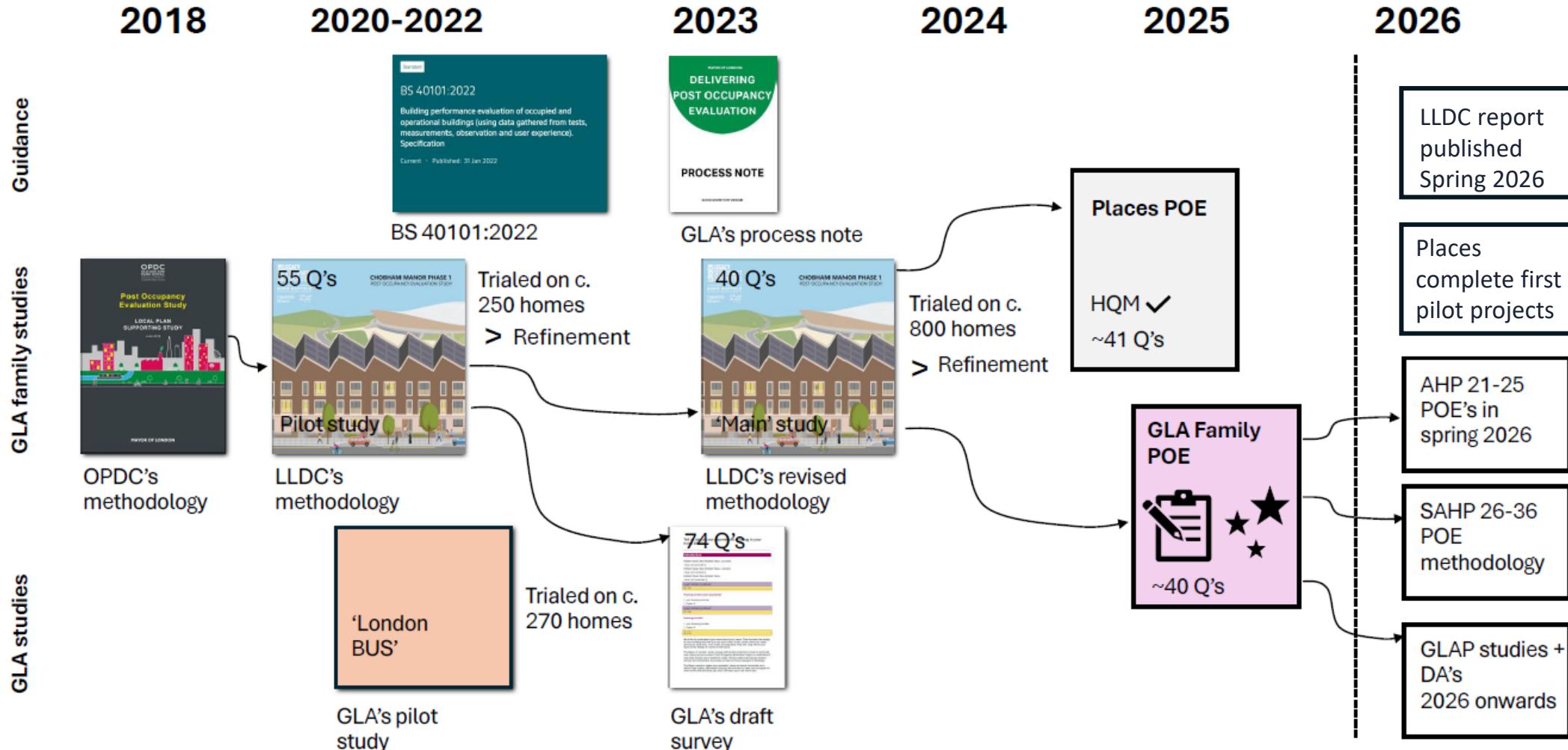
1,392 homes delivered at Chobham Manor + East Wick

190 homes under construction at Hackney Yards

Approximately 4,300 more homes in the pipeline



GLA group collaboration



Chobham Manor POE

- 880 homes (four phases)
- 300 surveys completed
- 52 one-to-one interviews
- 50 homes monitored including internal temperature, humidity + air quality; heat, energy + water use; thermography
- 12 focus groups



My neighbourhood



My block



My home



Chobham Manor Findings

High satisfaction and pride:

About 75% of respondents were satisfied with the neighbourhood, and 79% felt proud of their home

“Love the property I live in. It’s well designed, warm, lots of natural daylight. The local neighbourhood has lots of bars, eating places and sports facilities”

Modern architecture, generous public realm and well-planned layouts were highly valued, alongside proximity to schools, green spaces and transport.

“I love the neighbourhood. You can tell it has been carefully planned with wide pavements, lots of green space and bike paths. It’s very different to the rest of London in that it’s actually made for the residents.”



Chobham Manor Findings - comfort

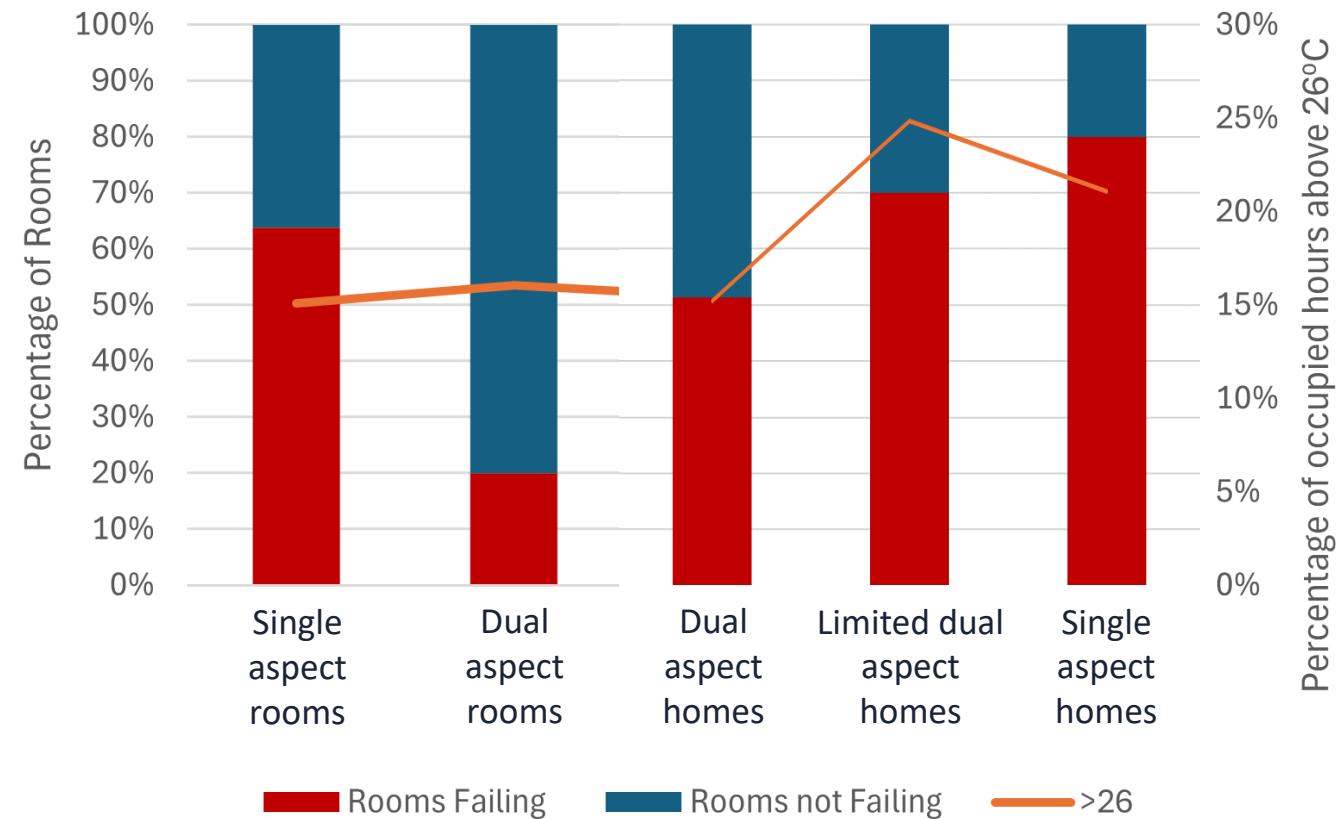
80% of residents satisfied with winter temperatures

Only 45% of residents satisfied with summer temperatures

"The living room kitchen windows do not open, and you have to open the whole double glazed door to get some fresh air... Same with [my] back bedroom. You can open the door but there is not a single window in this bedroom with in can be opened.

Why?"

"Fully glazed, no brise soleil, only doors so you can't ventilate at night, when not home, or when raining."



LLDC Post Occupancy Evaluation



Find out more:

<https://www.queenelizabetholympicpark.co.uk/about-us/how-we-work/designing-successful-neighbourhoods>

Learning from Legacy Neighbourhoods



LONDON LEGACY
DEVELOPMENT
CORPORATION

Post Occupancy Evaluation



Levitt Bernstein
People.Design



Pollard
Thomas
Edwards



Hawkins\\
Brown

PRP



Barry Lynham
Managing Director,
Knauf Energy Solutions





Your always in context
social housing expert

Its knowledge is relevant to your
business.

Partnered by the very best

Developed by



Healthy
Homes Hub

Legal Partner

**Anthony
Collins**

Powered by



Complying with Awaab's Law

Housing News Update Request

⋮

2024 UKUT 341 Case Summary

Fire Safety Policy Compliance Review

Court of Appeal Case Analysis

Court of Appeal Case Analysis

Building Safety Regulator Registration De...

Fire Safety Policy Compliance Review



Is there any housing news today that I need to be aware of?



I'd be happy to help you find the latest housing news. Let me search for recent housing-related news and updates for you. I'd be happy to help you find the latest housing news. Let me search for recent housing-related news and updates for you. Let me try a more specific search to find actual current news stories and updates: Let me try a more specific search to find actual current news stories and updates: I apologize, but I'm not able to access real-time news feeds or today's specific housing news stories through my available tools. The web search function is primarily designed to access regulatory and government websites rather than news outlets.

However, I can suggest some reliable sources where you can find current housing news:

Key Housing News Sources:**Inside Housing** - Leading UK housing sector publication**Housing Today** - Daily housing news and analysis**Social Housing** - News for social housing professionals**Housing Ombudsman Service** - For regulatory updates and new determinations**Regulator of Social Housing** - For regulatory news and consultations**Ministry of Housing, Communities & Local Government** - For policy announcements**What I CAN help with:**

Persona: Default

Normal

Deep Thinking

Web Search

Deep Thinking Tools

Policy Rating

Type your message here...





≡

BH Bens

Persona Management

[Add Persona](#)

ID	Name	Description	Actions
1	Asset & Compliance Lead	Focus on regulatory compliance, asset management standards, building safety requirements, and risk mitigation. Emphasize legal obligations and compliance frameworks.	Edit Delete
2	Customer Experience Lead	Focus on tenant satisfaction, communication strategies, complaint resolution, service improvement, and customer-centric policies. Emphasize accessibility and user experience.	Edit Delete
5	Customer Persona	Respond as if speaking to a tenant or resident. Use clear, accessible language. Focus on practical impacts, rights, and what this means for them personally. Avoid jargon and explain technical terms.	Edit Delete
3	Strategy & Transformation Lead	Focus on strategic implications, organizational change, long-term planning, innovation opportunities, and transformation roadmaps. Emphasize business objectives and strategic outcomes.	Edit Delete
4	Sustainability & Retrofit Lead	Focus on environmental sustainability, energy efficiency, retrofit programs, carbon reduction, green building standards, and sustainable housing practices.	Edit Delete

Policy Documents Overview

1

Total Documents

0

Completed

0

Processing

0

Failed

Search documents by na

All

Completed

Processing

Failed

fire-safety-policy-and-guidance.pdf ready PDF

/fire-safety-policy-and-guidance.pdf

Uploaded: 18 Dec 2025

29 days ago

606 KB



Enhancing not replacing!
Book your demo today



Joseph Michael Daniels
Co-Founder, Senze





Closing Remarks

- **Laura Broderick** – Programme Director, Good Homes Alliance
- **David Smith** – Director of Strategic Partnerships, South East Consortium



Image credit: Pollard Thomas Edwards Architects & Alison Brooks Architects

Sponsored by

