

# TACKLING OVERHEATING IN HOMES

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Incentivising action

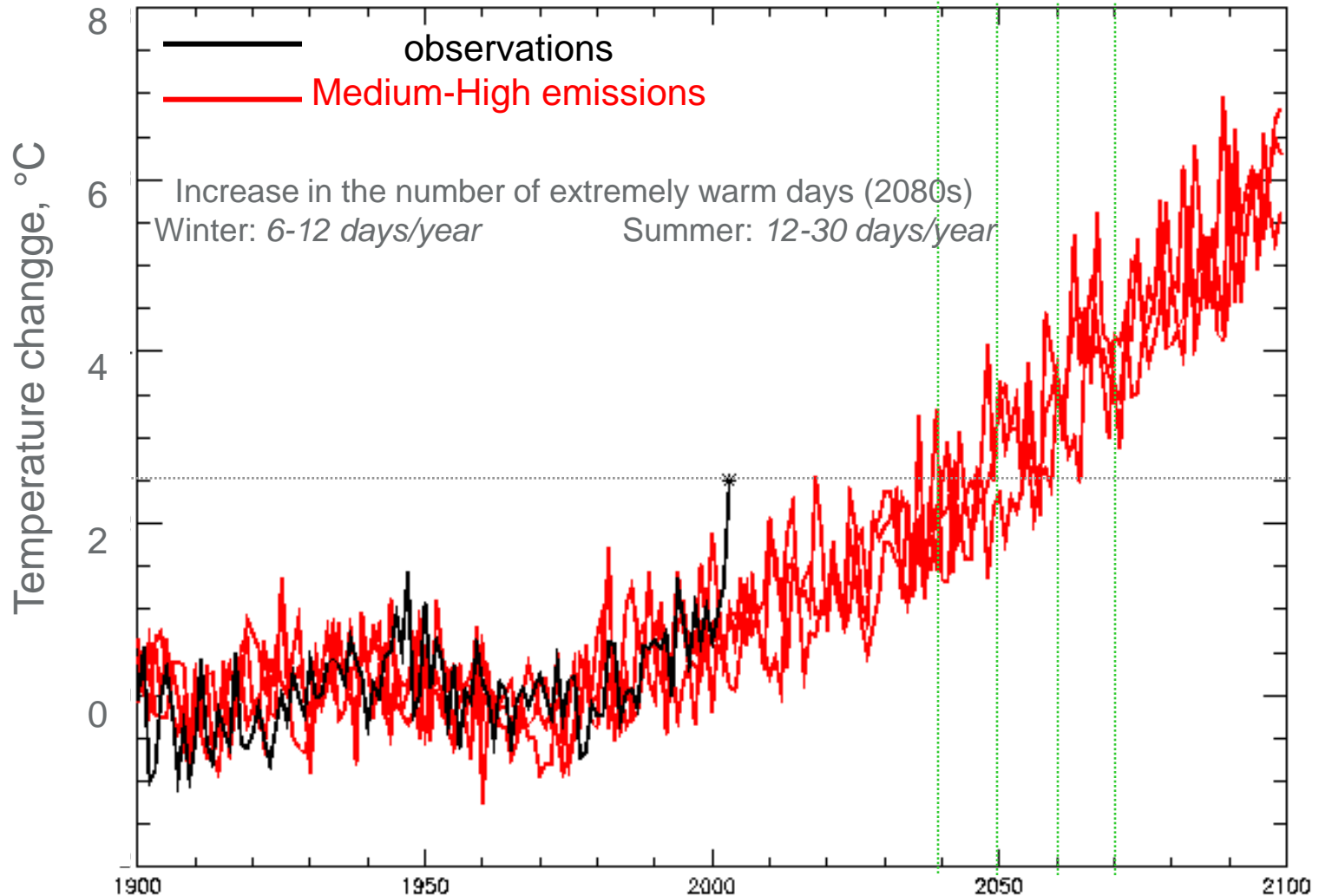
*Rob Pannell, Zero Carbon Hub*



# WHY TACKLE OVERHEATING?



# THE EFFECTS OF CLIMATE CHANGE



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# The outlook

- Overheating in homes is **happening now**.
- The **health impacts** can be very serious.
- There could be **three-fold increase** in heat-related mortality by the 2050s from a baseline of around 1,100 annually – mainly among the elderly in poor health.
- Cold related deaths are projected to reduce by 30%** from a baseline of 26,000 – 57,000 currently.
- For every heat-related death, **100 more are hospitalised**.

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# The challenge for the sector (industry and government)

**We must consistency provide homes which are warm and cosy in the winter, and also cool and comfortable in the summer**

- The technical solutions exist to do both – we can be clever – but needs thought
- Lack of incentives (carrots or sticks) and lack of awareness

## **Incentives – what would motivate you?**

- Occupants expecting healthy homes?
- Recognition in industry sustainability benchmarks?
- Avoiding health issues and costly medical care?
- Avoid costly remedial works if things go wrong?
- The threat of legal action?
- Avoiding unnecessary energy use for cooling?
- Mandatory legislation?

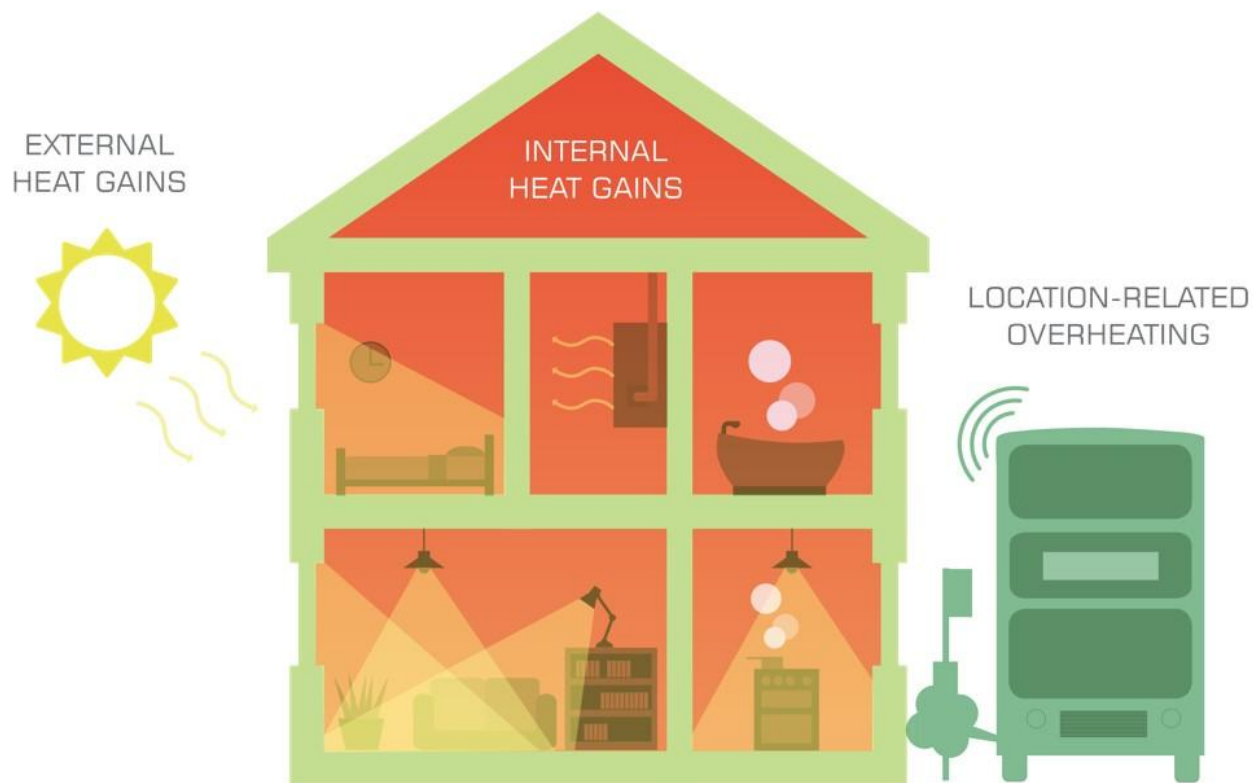
# ZCH OVERHEATING PROJECT



# HOW BAD IS THE PROBLEM OF OVERHEATING

- Current experiences?
- Which buildings most at risk?
- Where?
- Who?
- Why?
- Impacts?
- Governance?
- Future risk?
- Other countries?

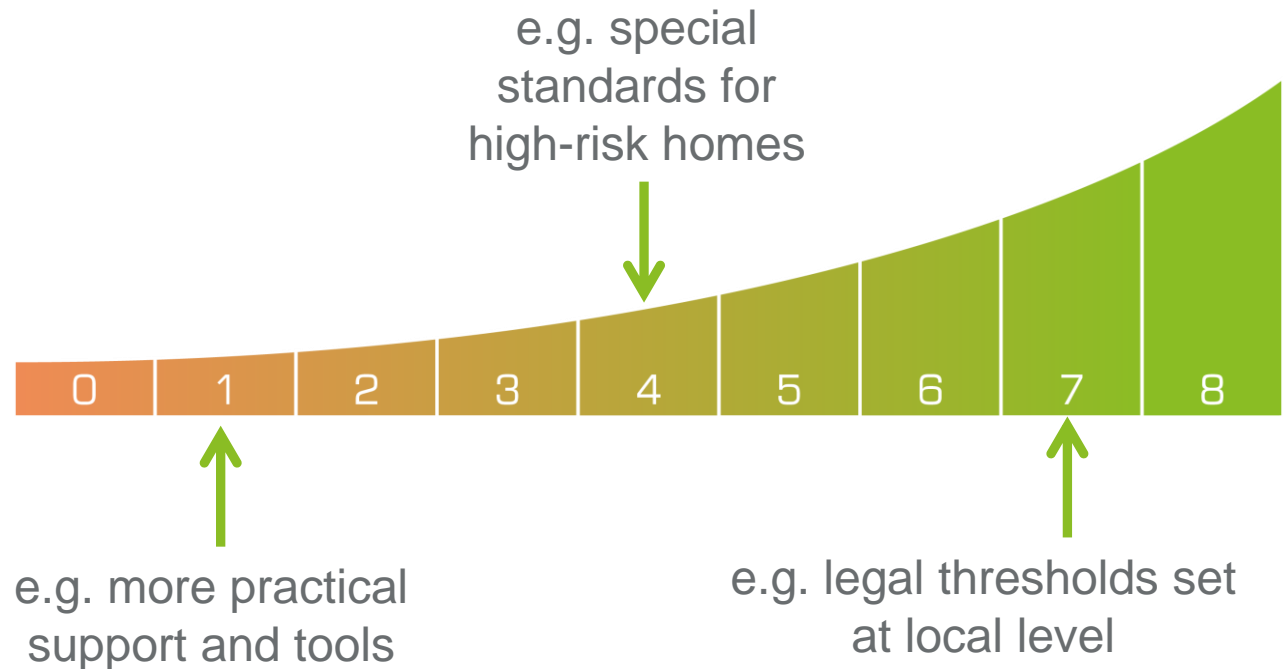
**Objective 1** – We will review research and work with experts to provide an overarching ‘statement’ on the extent, severity, and impact of overheating in homes now, and how this could change over time. This includes assessing our level of ‘preparedness’. This will help us understand the scale of the problem and the possible impacts of ‘business as usual’.



# OPTIONS FOR INCENTIVISING ACTION

- Imagine ourselves in a policymaker or industry body's shoes
- What are our options for incentivising action?
- Imagine implementing them – do they work?
- What evidence would be needed?
- Are they deliverable?
- Are they cost-effective?
- What difference do they make to people's lives?

**Objective 2** - We will analyse in detail a set of approximately eight hypothetical options/scenarios for incentivising action to prevent or treat overheating in homes. This is intended to assist decision-makers with the difficult job of deciding how to respond to the problem.



*Scenarios go from light-touch through to mandatory options.  
Options to be determined in consultation with government and industry.*



# HYPOTHETICAL OPTION

- Examples of considerations
- 20-30 page report (quant and qual)
- Thinking through the practicalities, costs and benefits
- Industry and government
- New build and existing
- We can make useful and sensible observations across the scenarios to guide decision-makers

## Hypothetical Option 4 – Set special new standards for high-risk homes (rather than all homes)

Describe the proposed approach in detail

Issue 1: How to define which properties are most at risk (and why)?

Issue 2: How to locate existing high-risk homes?

Issue 3: How does a house builder/building manager know if homes are high risk?

Issue 4: Who sets the standard or the requirements?

Issue 5: What types of action would be required – how prescriptive?

Issue 6: Demonstrate action taken to avoid overheating or require checks?

Issue 7: What are the additional costs to industry/avoided costs?

Issue 8: What difference could this approach make for occupants?

# DISSEMINATION AND AWARENESS RAISING

- Motivate
- Practical support
- Show case best practice
- Summarise technical info
- Tailor information for professions
- Support organisations
- Links to specialist resources
- Other countries
- Using existing networks

**Objective 3** – We will help to support and motivate industry to take action to prevent and manage overheating by creating and disseminating tailored messages, research summaries, factsheets, and by showcasing existing guidance and best practice.



# Evidence gathering



Review  
literature and  
gather expert  
opinion

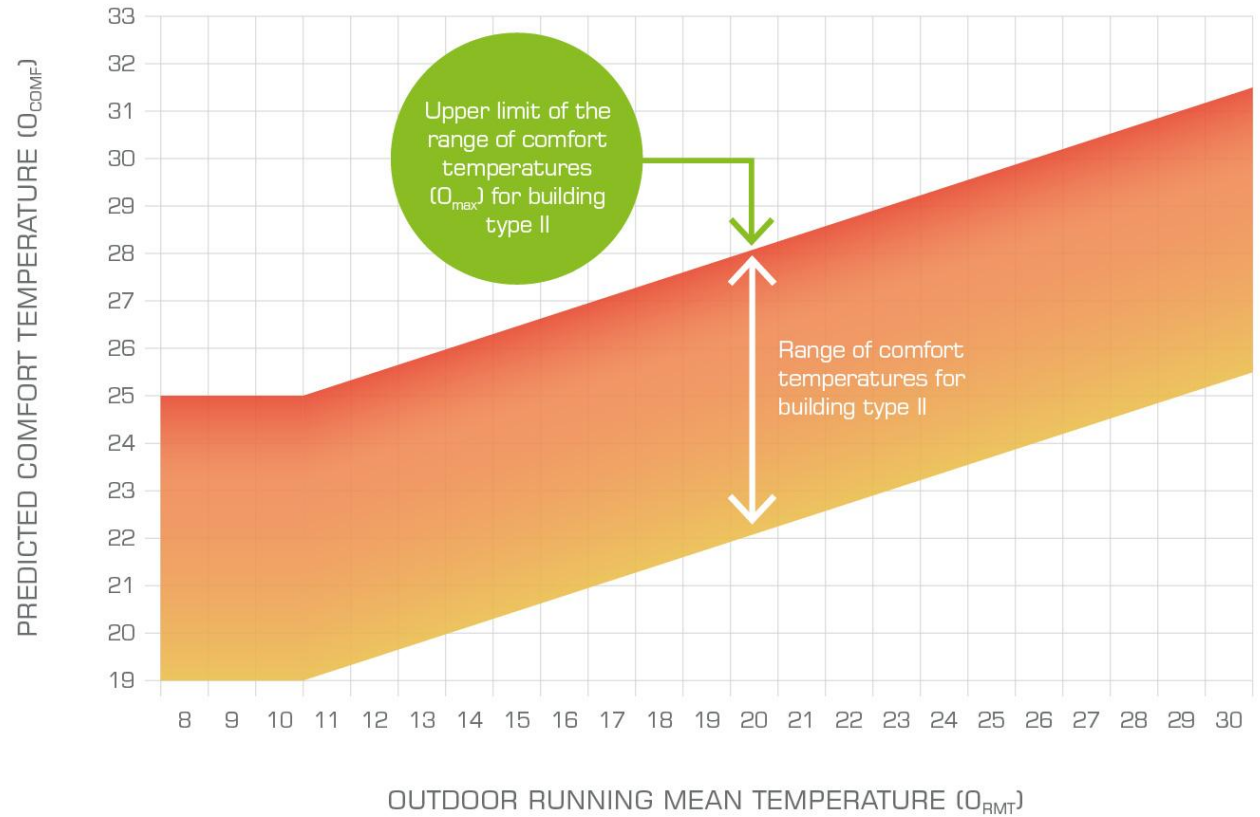
Detailed  
reviews e.g.  
definitions

New  
monitoring  
and testing  
data

# EXAMPLE OF A DETAILED REVIEW

- Complicated
- Temperatures reached
- Duration
- Humidity
- Susceptibility
- Subjective
- Expert technical assistance
- Feeds into projects objectives e.g. how to set and enforce a threshold/target

## Defining overheating and the limits of thermal comfort



Source: Adapted from CIBSE's TM52: The limits of thermal comfort



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# Summary of high-level outputs

Description	Timing
<b>Baseline</b> – how bad is the overheating problem	By spring 2015
<b>Options appraisal</b> – what can realistically be done	By end of 2015
<b>Dissemination</b> – raising awareness and capacity to act	Ongoing

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Thank you

