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Is it getting too hot in homes?
Case studies from around the UK

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About First Wessex

• Hampshire and Surrey based HA
• Formed 2005
• 20,000 existing homes
• Build around 300 new homes each year
• £35m pa RR&PM spend

• Reports of overheating by customers
  • Mainly relate to new builds
  • Frequency during summer 2014
Working with the Zero Carbon Hub

- Rowner research project
- 2016 demonstration project
- Allowable solutions
- FW Design Brief review
- Overheating study partner
Overheating issues

• Mainly in relation to flats
  • Highest stories worst affected
  • Communal heating systems!

• Ventilation
  • Windows on single aspect
  • Reduced window opening (safety)
  • Corridors
  • MVHR and summer bypass
  • Pollutants/window opening restrictions
Overheating issues cont’d…

• **Passive solar gain**
  - Fenestration without solar shading
  - Inadequate thought to site orientation

• **Thermal mass and insulation**
  - Lightweight v traditional
  - Positioning of insulation
  - More research required

• **Occupants**
  - Vulnerability
  - What to do e.g. blinds, night time purge etc
  - Internal gains?

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Communal heating - pipework insulation

- No insulation on the return pipe, but insulation on the flow.
- Loosely fitted insulation which allows great inefficiency.
- Pipes which are only part insulated (i.e. half insulated, half not insulated).
- No insulation on flow or return heating pipework in the bin stores adjacent to the plant room.
Ninth floor landing – summer 2014
Understanding the extent of the problem?

• Field data being gathered
  • Six sites with different house/flat types and construction methods

• Temperature sensors (internal and external)
  • Communal areas, living and bedrooms
  • Various elevations, storey levels etc

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Understanding the extent of the problem?

• Field data being gathered cont’d…
  • Data being gathered over 2 summer periods
  • Analysis by Zero Carbon Hub to feed into national overheating study
  • Survey questionnaire of occupants

• What is acceptable?
  • CIBSE Guide ‘A’ & TM52
Heronwood retrofit

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Dealing with overheating and the risks

- Response to customers/dealing with the vulnerable
- Legal requirements to act? – a responsibility under HHSRS
- Unsustainable new homes - our long term interest

- Retrofitting to alleviate
  - Passive v active approaches
  - Who pays?

- Existing homes and complaints
Dealing with overheating and the risks

- Getting design right first time for winter and summer
  - Affordable cooling needed
  - Knowledge of designers
  - Modelling

- The risks at large, my prediction
- Need more guidance urgently…
Thank you

Well this is embarrassing. It’s hotter in Mrs Smith’s living room!