HEALTH + COMFORT + EFFICIENCY = IMPOSSIBLE DREAM

Low Energy
‘Know How’
ROLE OF THE ZERO CARBON HUB

PURPOSE AND STRATEGIC OBJECTIVES

Facilitate the mainstream delivery of low and zero carbon homes

- Provide leadership and create confidence
- Reduce risk and clear obstacles
- Disseminate information
Moving forward to 2016
Research and Knowledge Sharing
HEALTH

ZCH

OVERHEATING PROJECT
OAPs 'could die in Green Deal homes':
Energy saving scheme could leave homes dangerously overheated

Temperatures could reach dangerous levels in some homes fitted with energy-saving measures like insulation, installed under Green Deal scheme.

Point of scheme was to save winter fuel bills and protect the environment.

But experts are warning that heat that builds up in the day does not easily dissipate at night and leads to poor air quality, which could kill.

The elderly and infirm as well as people living on the top floor of 1960s tower blocks and modern detached houses are most at risk.
Risks related research
Overheating

Purpose
- Specific research - How bad is the problem of overheating in new homes
- Dissemination and awareness raising

Deliverable
- Report
  - Understanding occupants expectations that their homes will be healthy environments to live in
  - Recognition of good practice industry benchmarks
  - Avoiding costly remedial works if things go wrong
  - Understanding the threat of legal action
  - Avoiding unnecessary energy use for cooling
HEALTH

Ventilation
Ventilation – A ‘Walk Through’ approach

68% of new homes have ventilation rates below the minimum design value

Purpose

- Assess ventilation systems designed flow rate & energy performance
- Inspect 20 new build sites in England and Wales.
- Assess needs for improving the design, installation, commissioning & handover of ventilation systems.
- DECC & DCLG: recommendations and response will be reviewed for possible regulation reviews.

Deliverables

- A feedback report
- Recommendations to government & industry to inform regulations
The Consumer
Helping the Consumer make a home (not a science laboratory)

Do our customers like their Low Energy Homes?

Are they comfortable?

Are the controls easy to use?
Efficiency

The Performance Gap
The 2020 Ambition

“From 2020, to be able to demonstrate that at least 90% of all new homes meet or perform better than the designed energy/carbon performance”
The Journey so far
CONCEPT DESIGN & PLANNING
Limited understanding of impact of early design decisions on energy performance

DETAILED DESIGN
D1 Inadequate understanding and knowledge within detailed design team
D2 Lack of integrated design between fabric, services & renewables
EM8 Issues around use of U-value and thermal bridging calculation procedures
EM7 Concern over competency of SAP assessors

PROCUREMENT
PR2 Inadequate consideration of skills and competency at labour procurement

CONSTRUCTION & COMMISSIONING
C5 Product substitution on site without consideration of energy performance
C15 Poor installation of fabric
C9 Poor installation or commissioning of services
C13 Lack of site team energy performance knowledge & skills
C6 Lack of adequate energy performance related QA on site

VERIFICATION & TESTING
T3 Concern over consistency of some test methodologies & interpretation of data
EM4 As-Built SAP not reflective of actual build
V2 Lack of robust energy performance verification, reliance on third party information
V5 Lack of clarity over documentary evidence for Part L & Part F compliance