



Building resilient communities: morning seminar

Welcome and introductions

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Part of the BRE Trust

BRE Centre for Resilience

- BRE Centre for Resilience is a research hub that will deliver research and innovation in partnership with government, the construction industry and the insurance sector
- Working together to provide a platform for all of BRE and partners resilience related expertise
- National and global resource for government, local authorities, environment agencies, industry and the public
- www.centre4resilience.org
- Twitter: @C4Resilience_

Resilience - definition

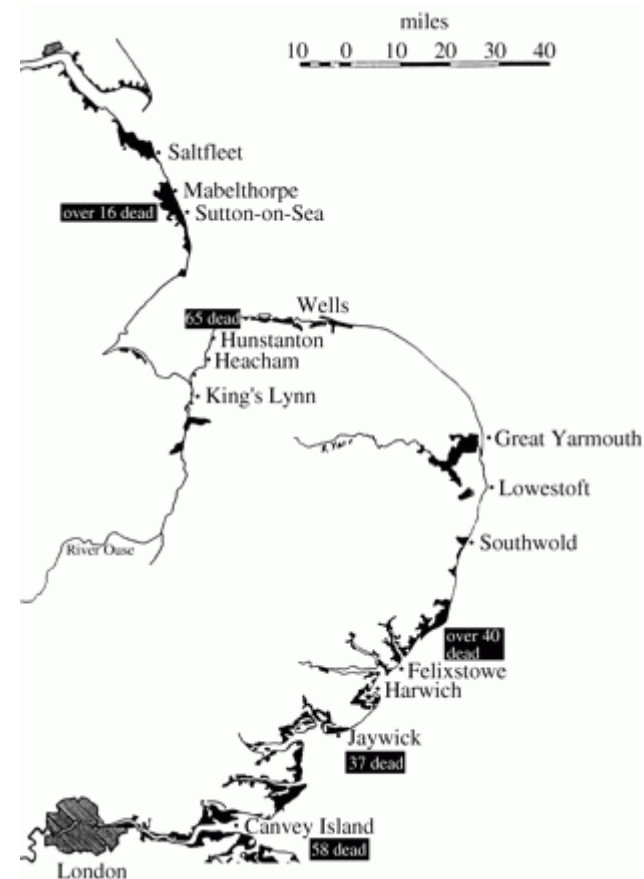
Cabinet Office - ‘the ability of assets, networks and systems to anticipate, absorb, adapt and / or rapidly recover from a disruptive event (*and longer term change*)’

- Refers to sudden shocks
- But - recognise long term changes that impact on resilience
- Emphasise systems and networks – built environment, infrastructure, etc



Climate change – East of England

- Water scarcity: only 70% of annual average
- Flooding: 250,000 properties at risk (8% of total); 55,200 at significant risk
- Sea level rise: possible 0.54 m rise by end of the century; low-lying area one fifth below sea level; fast eroding coastline
- Summer overheating: increase in premature deaths (580 – 5900 by 2050s)



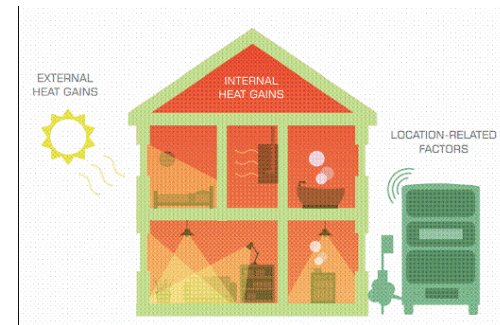
Climate change - threats

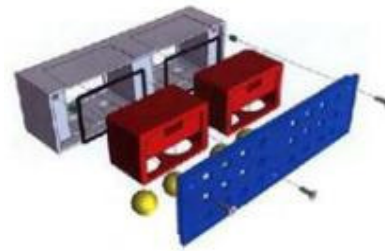
- Flooding: increased damage to fixed assets; loss of business continuity; increased insurance costs; more damage to buildings
- Sea level: increased infrastructure damage; attractions; historic monuments
- Warmer weather: increased energy costs for summer cooling; loss of productivity; impact of urban heat island



Climate change - opportunities

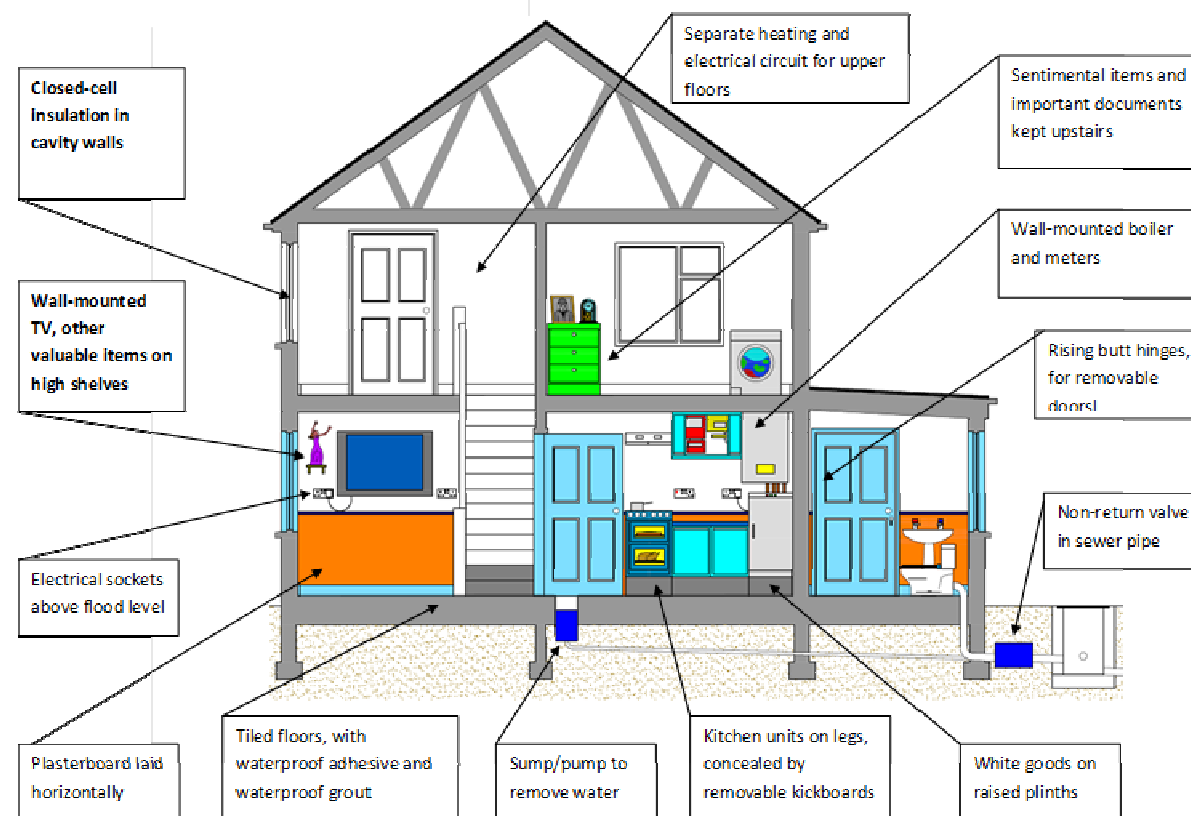
- Milder winters: reduce heating demand for public and business
- Milder winters: reduced weather related damage for buildings and infrastructure
- More sustainable building
- More adapted buildings – flood and heat resilient





Flood resilience (defra guidance on FR Grants, Jan 16)

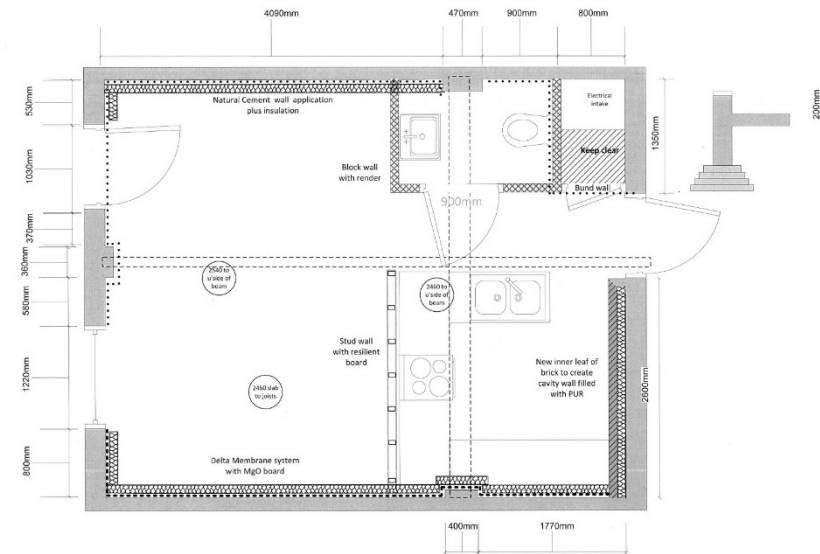
The Flood-Repairable House



Adapted from original image courtesy of the Eastern Solent Coastal Partnership (www.escp.org.uk)

Partnership (www.escp.org.uk)

FRR Demonstration – Victorian Terrace



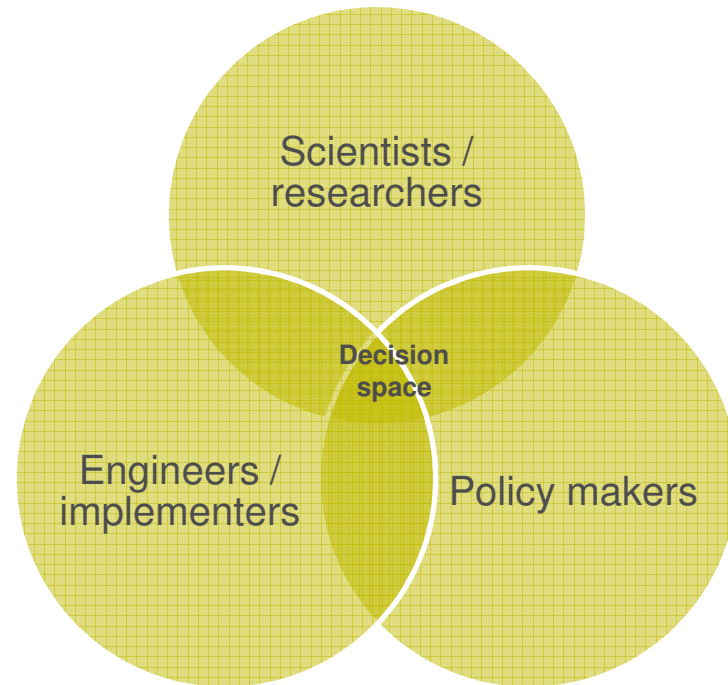
Overheating in property

- The research project is looking at the type of new build dwelling in which overheating appears to be most prevalent – i.e. flats in deep urban locations (especially those with single-aspect)
- Project outline:
 - Gain access to flats (existing & new-build)
 - Review designs
 - Assess construction practice & quality of finish
 - Undertake full assessment of the risk of overheating
 - Inspect and assess relevant building systems
 - Monitor building fabric and internal temperatures

BRE Trust supported project

Resilient urban systems: collaboration

- Uncertainty is part of the approach
 - climate change
- Don't focus on a single engineered solution
 - e.g. multiple types of flood risk, may require flood defence, SUDS, resilient property design, emergency response, etc....
- Stakeholder involvement.....



Collaboration in resilience



- “A strong partnership between insurers, surveyors, the legal profession, materials producers and the government, to encourage and enable the take up of flood resilient measures and more flood resilient behaviour by householders and small businesses; including preparation for future flood events”
- 5 year vision Awareness to Uptake.

Collaboration: public and private sector: flood

- Public
 - Flood infrastructure investment
 - Flood resilient repair grants
 - Support new standards, legislate for good practice
 - Specifications to include only certified products and people
 - Commit to research and innovation funding
- Private
 - Affordable flood insurance (FloodRe, and other)
 - Property flood resilience database (Innovate-UK supported)
 - Standards and certification for resilience
 - Take up good practice, drive out poor performers

Collaboration: public and private sector: overheating

- Public
- Commit to research and innovation funding
- Explore role of building regulation and standards in combating overheating
- Advice schemes for the public
- Private
- Low C technology development to manage overheating
- Good practice in design and construction
- Healthy retrofit solutions

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