

Welcome

Cliff Fudge – Chair



#housingsummit2018

The Economy

Graeme Chaplin

Bank of England



BANK OF ENGLAND

Housing Summit – Economic Update

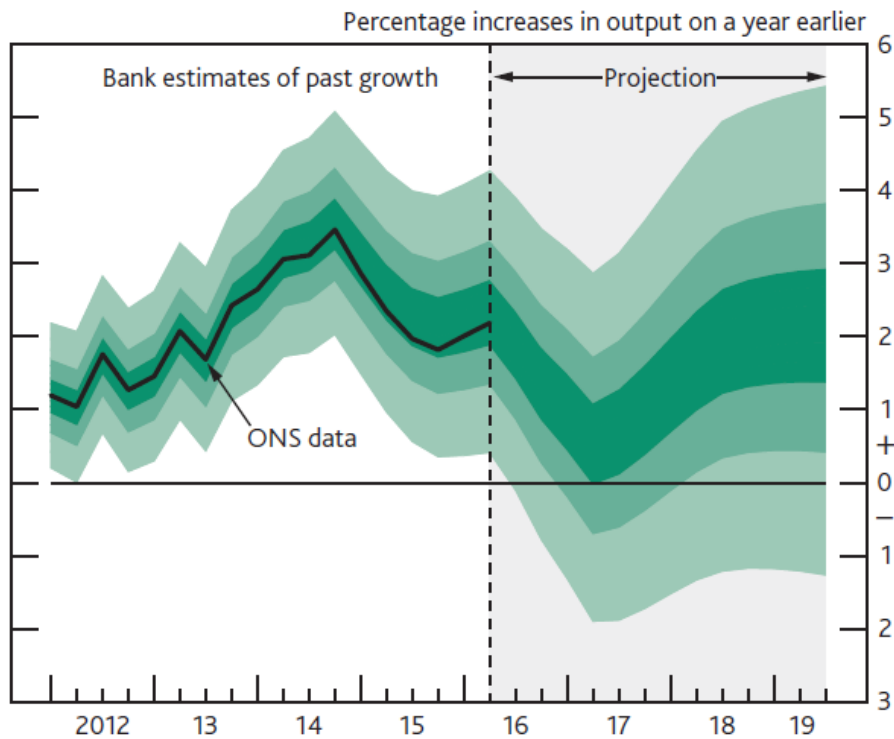
Graeme Chaplin
Agency for the West Midlands

12th October 2018

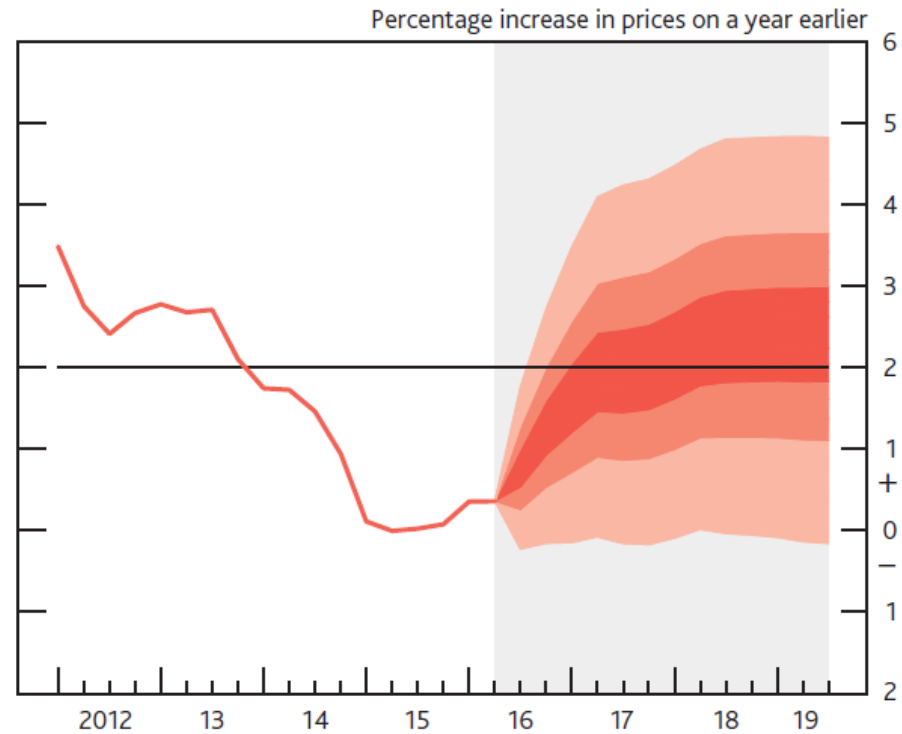


August 2016 projections

GDP

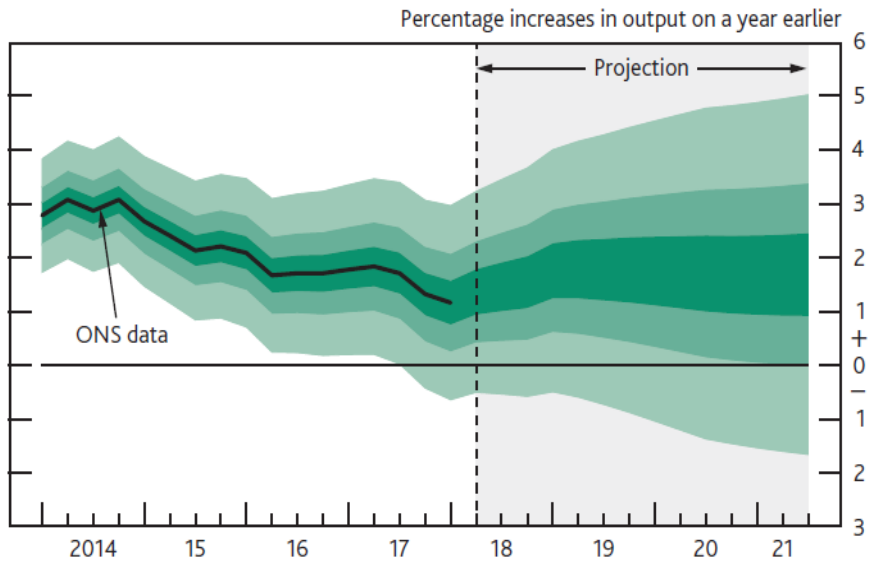


CPI

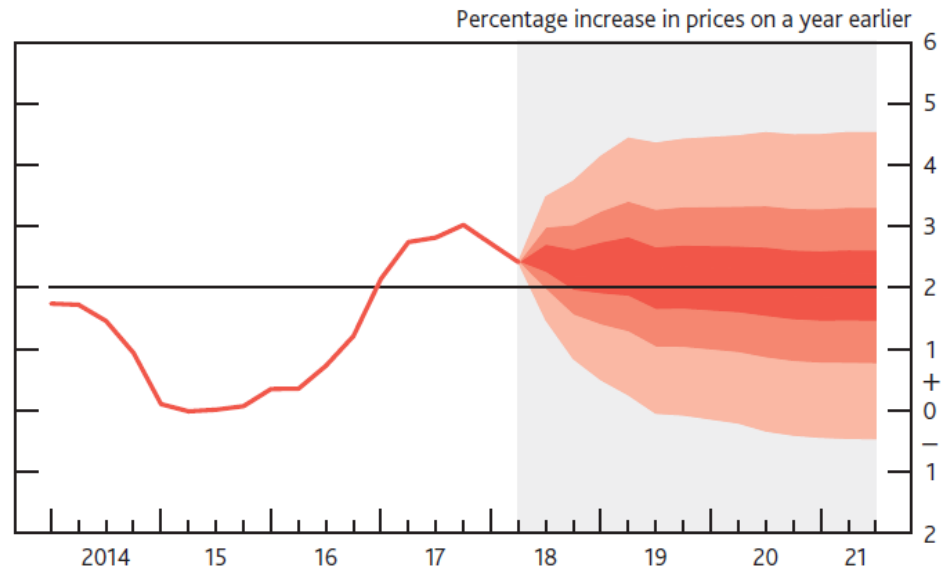


August 2018 projections

GDP



CPI



Based on market interest rate expectations, other policy measures as announced



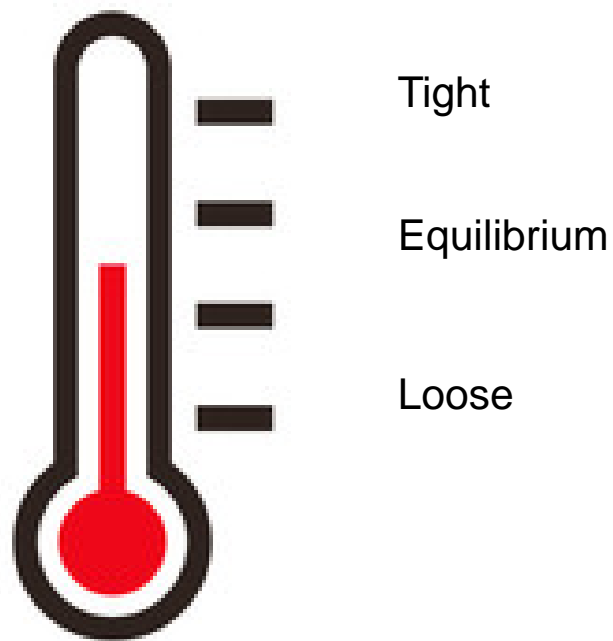
Brexit is affecting the economic outlook

Our forecast assumes a relatively smooth transition to an average range of outcomes

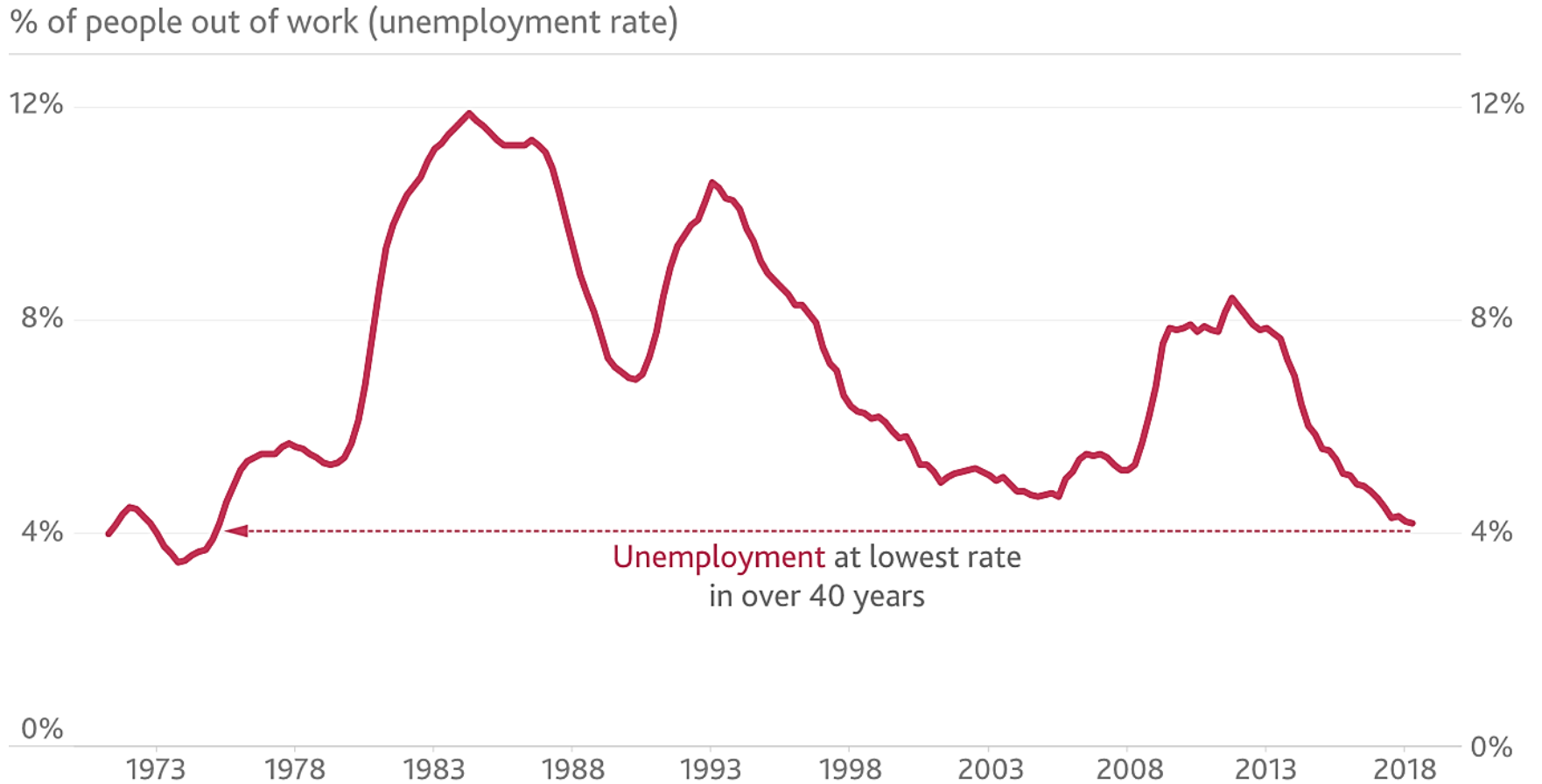


The equilibrium interest rate

The Monetary Policy Thermometer



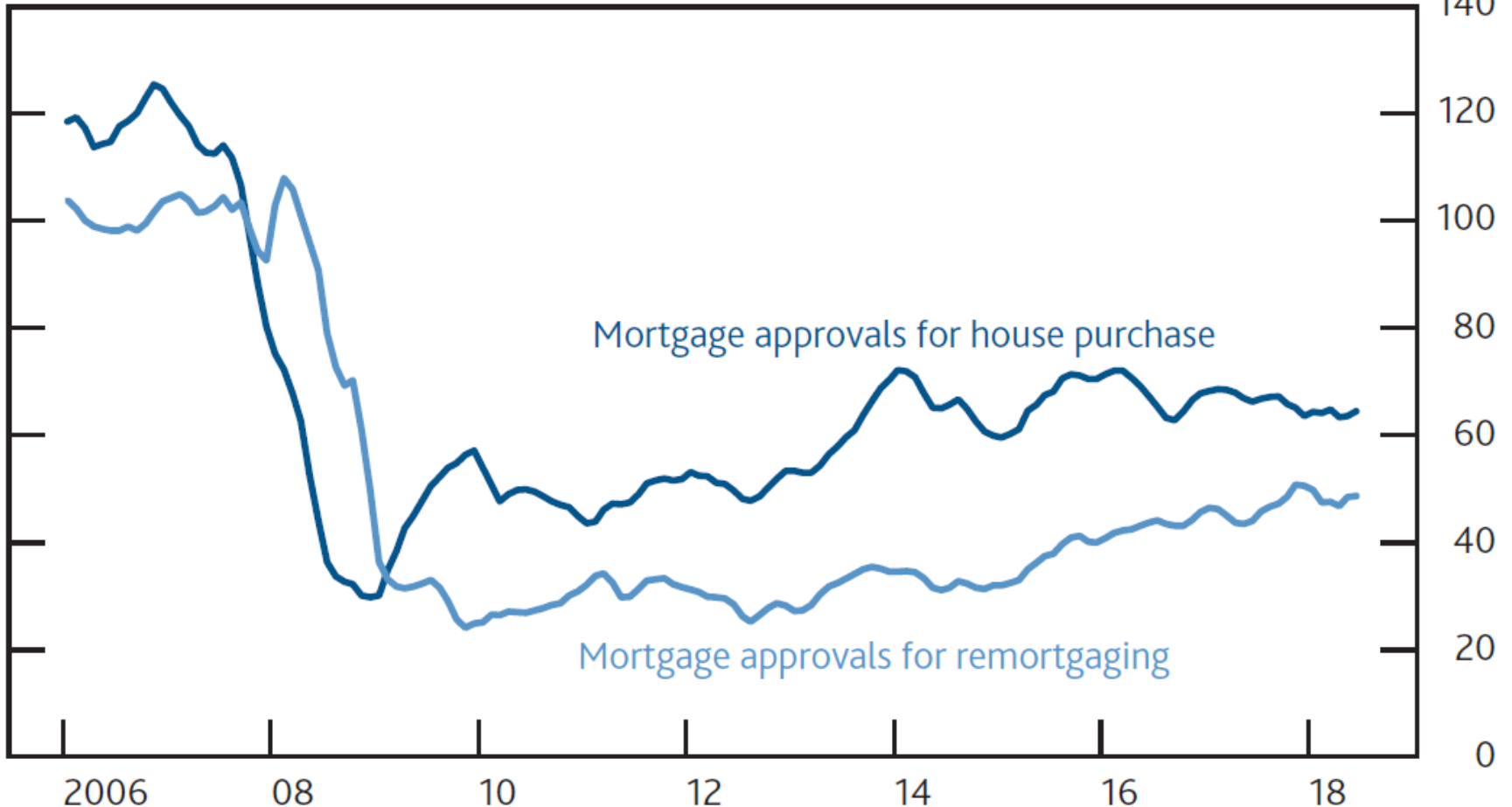
There is a very limited degree of slack remaining in the economy



Mortgage approvals for house purchase have been stable but subdued

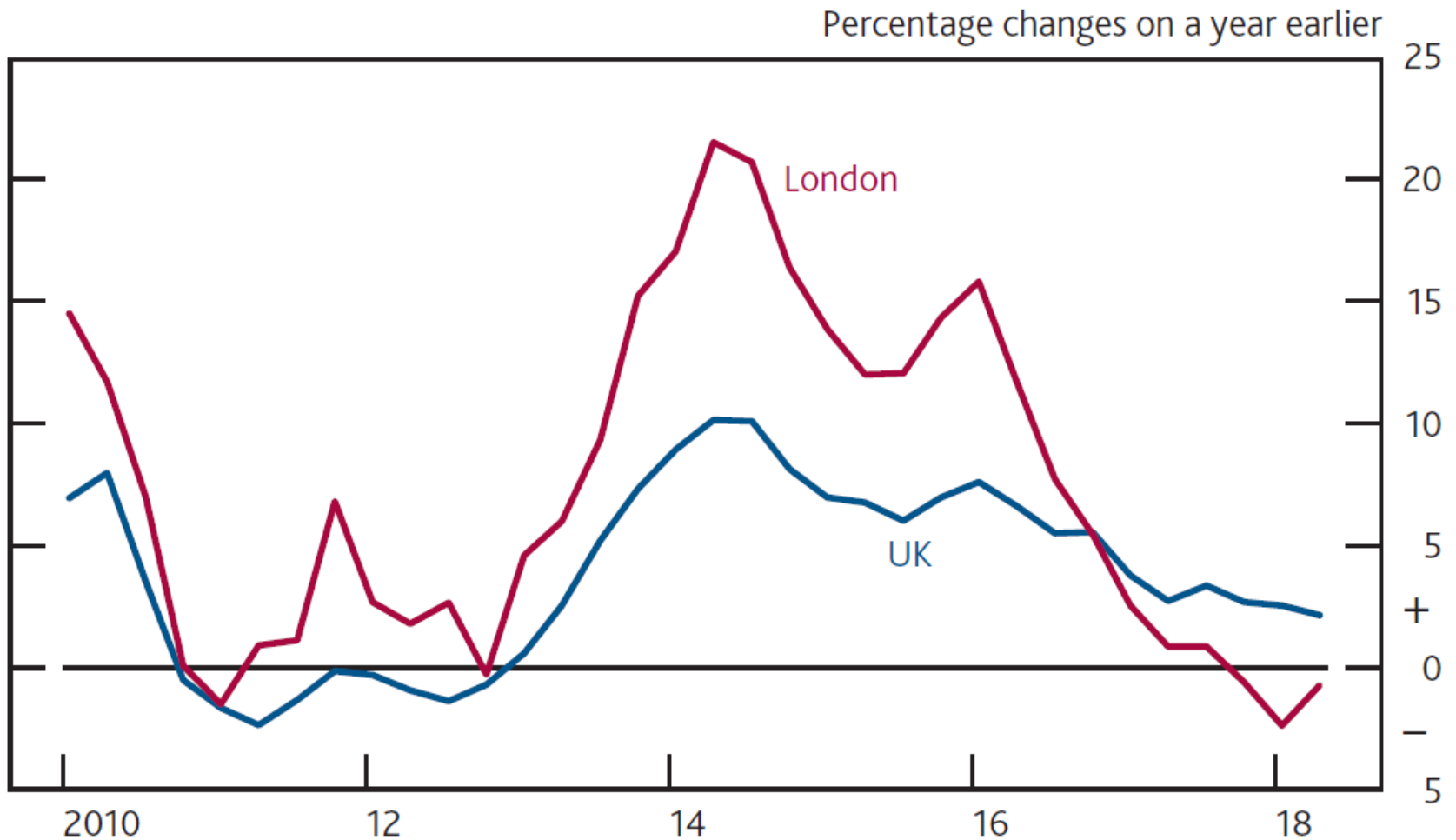
Mortgage approvals

Three-month moving averages (thousands)



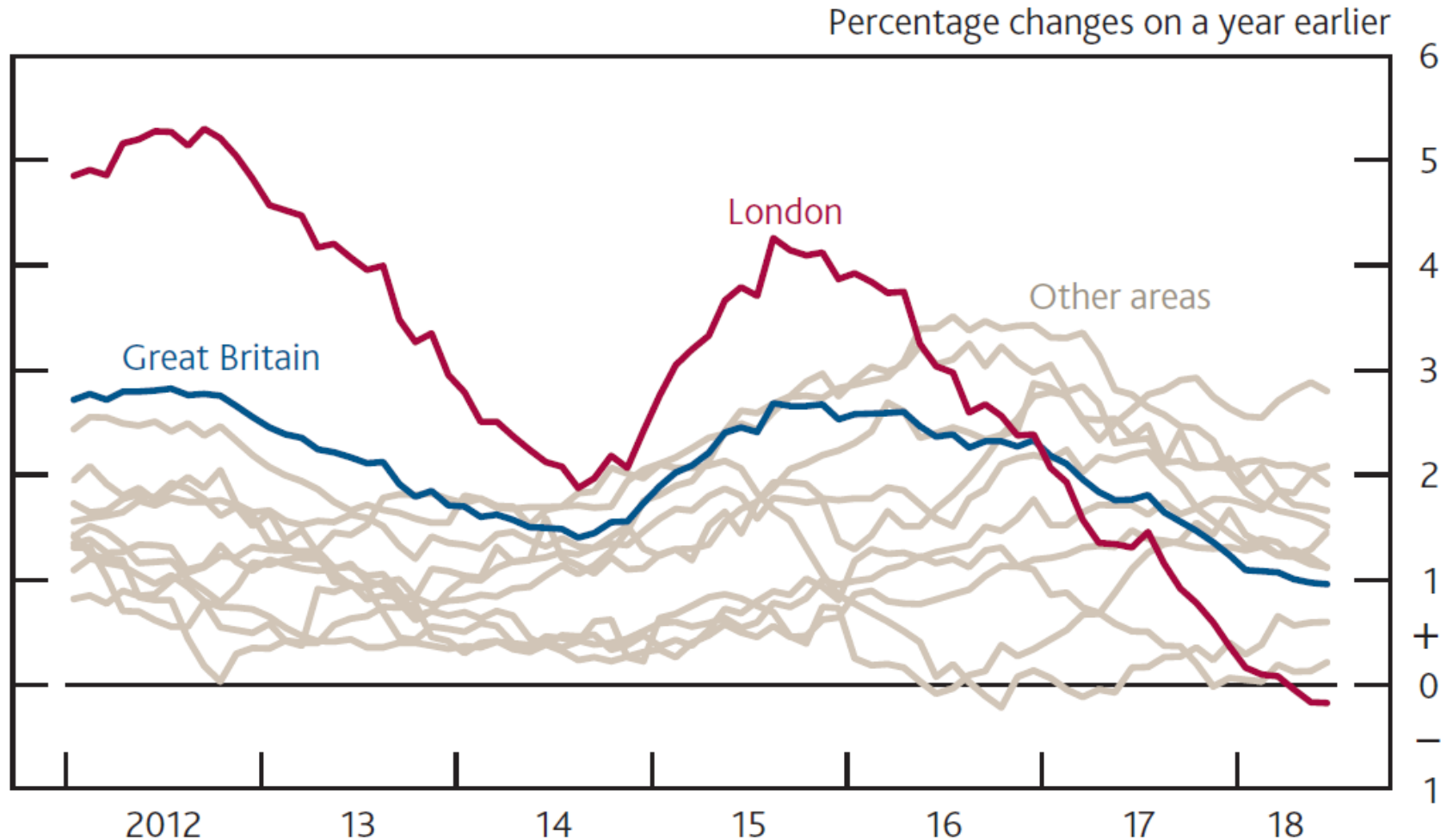
House price inflation has slowed particularly sharply in London

House prices



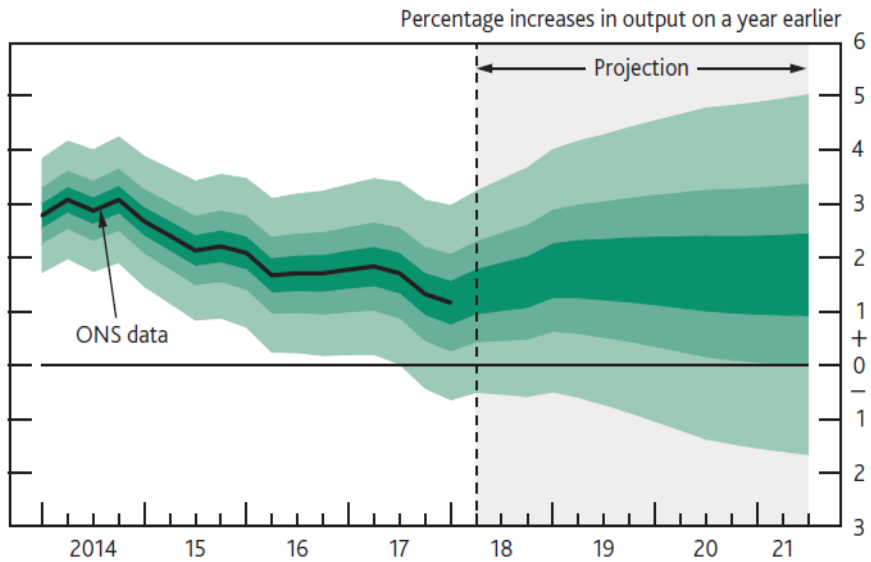
Slowing rent inflation has been largely concentrated in London

Private housing rent

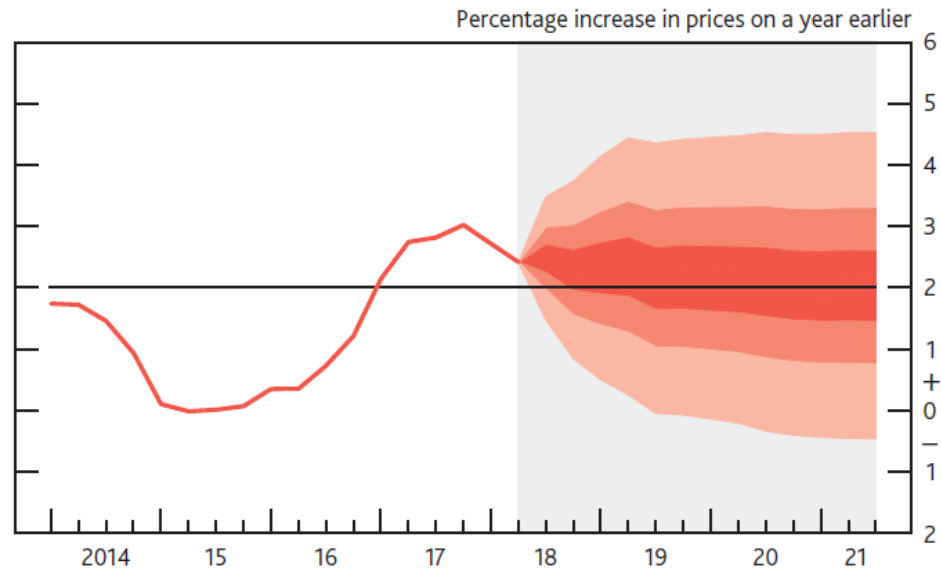


August projections

GDP



CPI



Based on market interest rate expectations, other policy measures as announced



www.bankofengland.co.uk



@BoEWestMids



BANK OF ENGLAND

West Midlands Agency

Housing Market

Lucy Greenwood

Savills

Housing market update

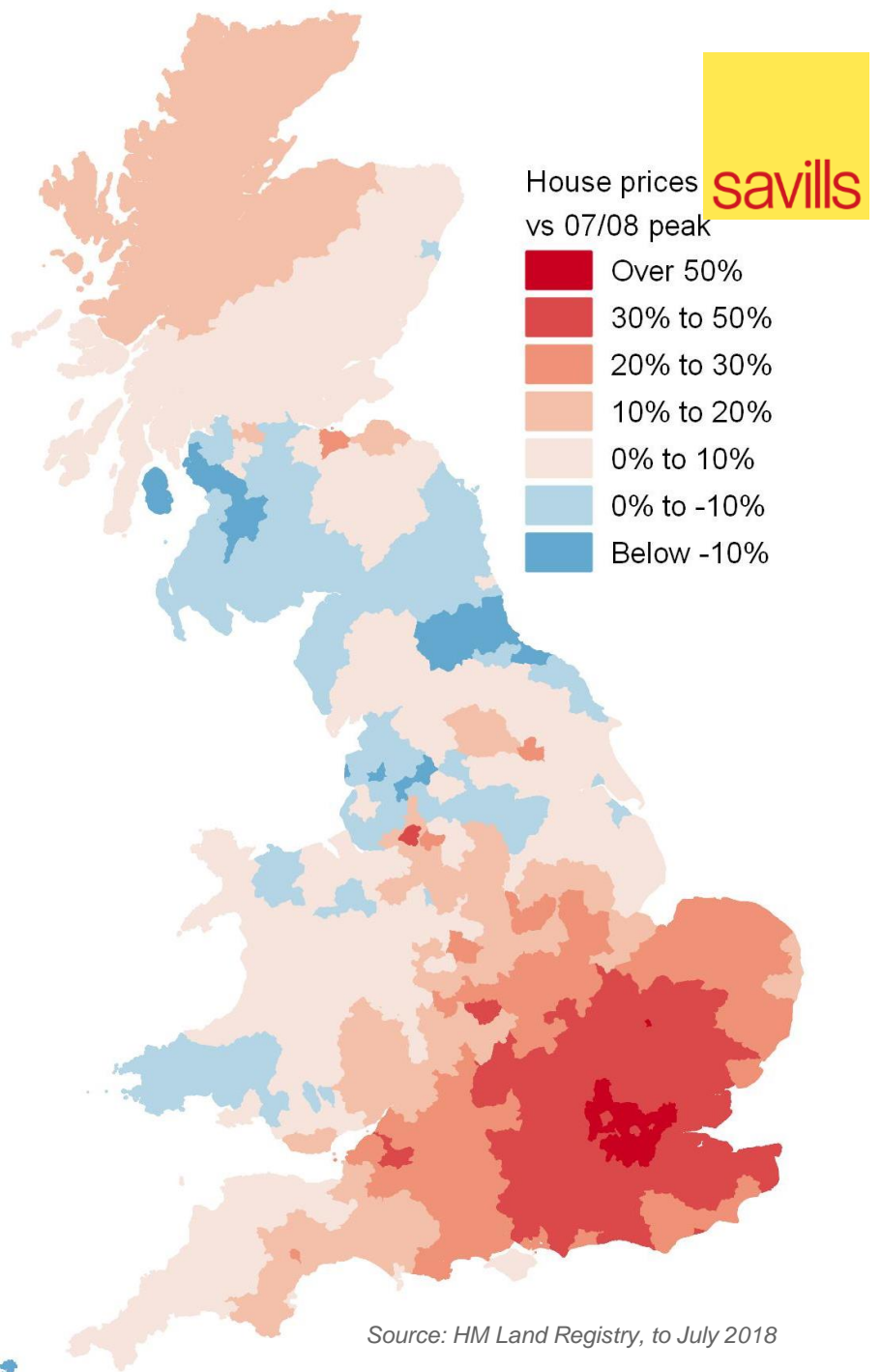
Dr. Lucy Greenwood, Savills Research



Housing market



House price growth vs 07/08 peak



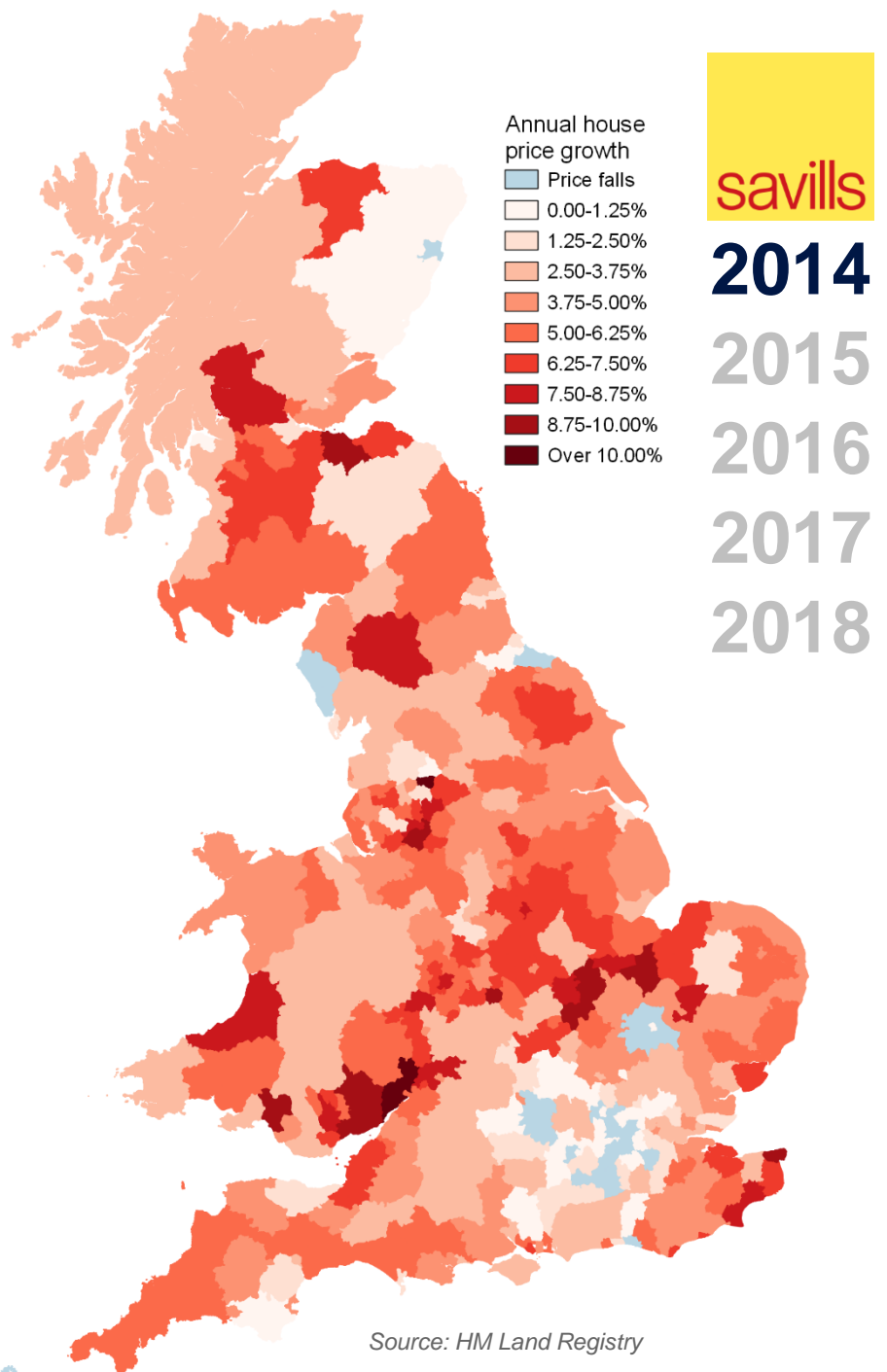
Annual house price growth

+2.0%
Nationwide
(August)

+3.3%
Halifax
(July)

+3.0%
ONS
(June)

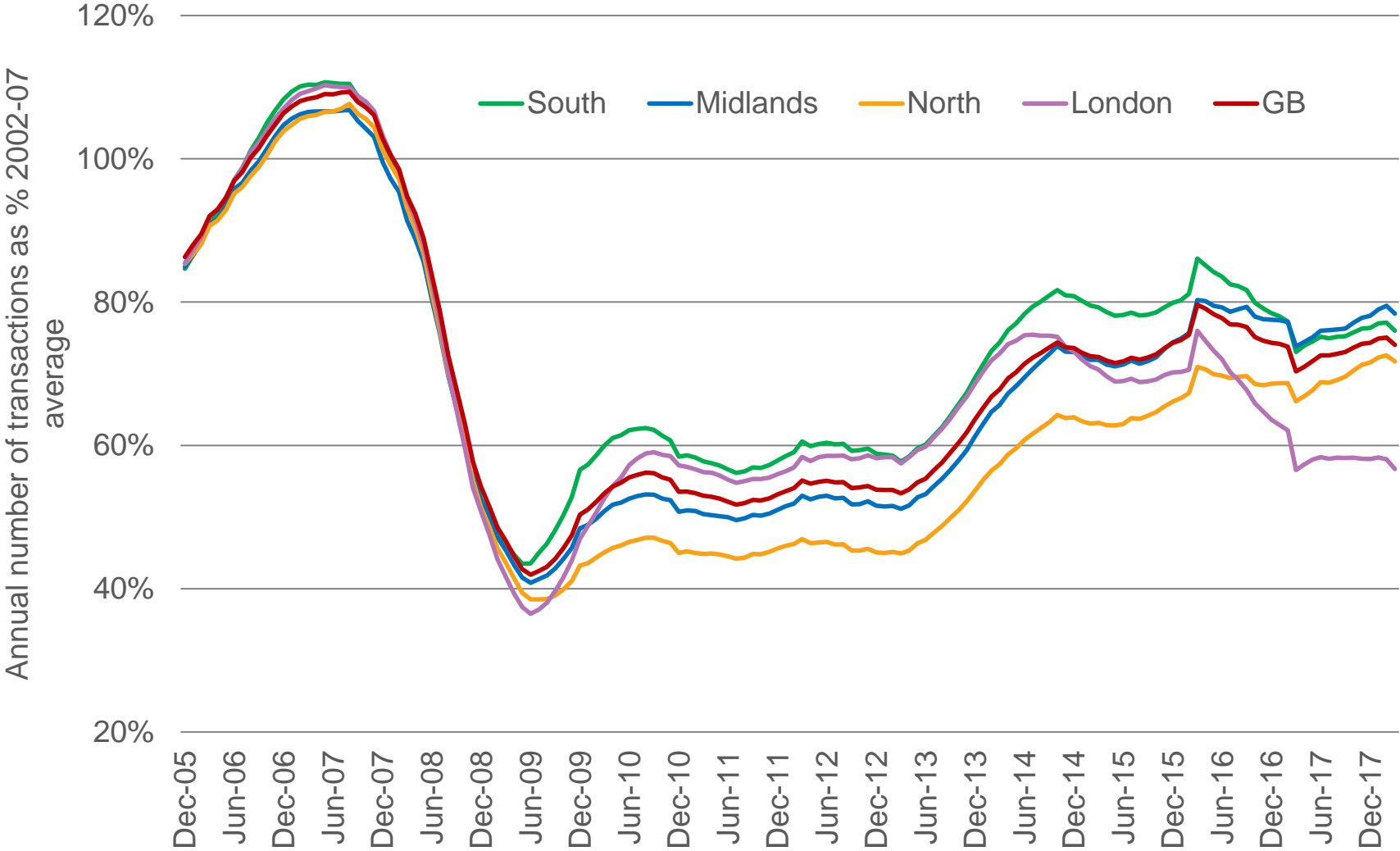
+3.1%
Savills
(June)



Transactions slowing in London



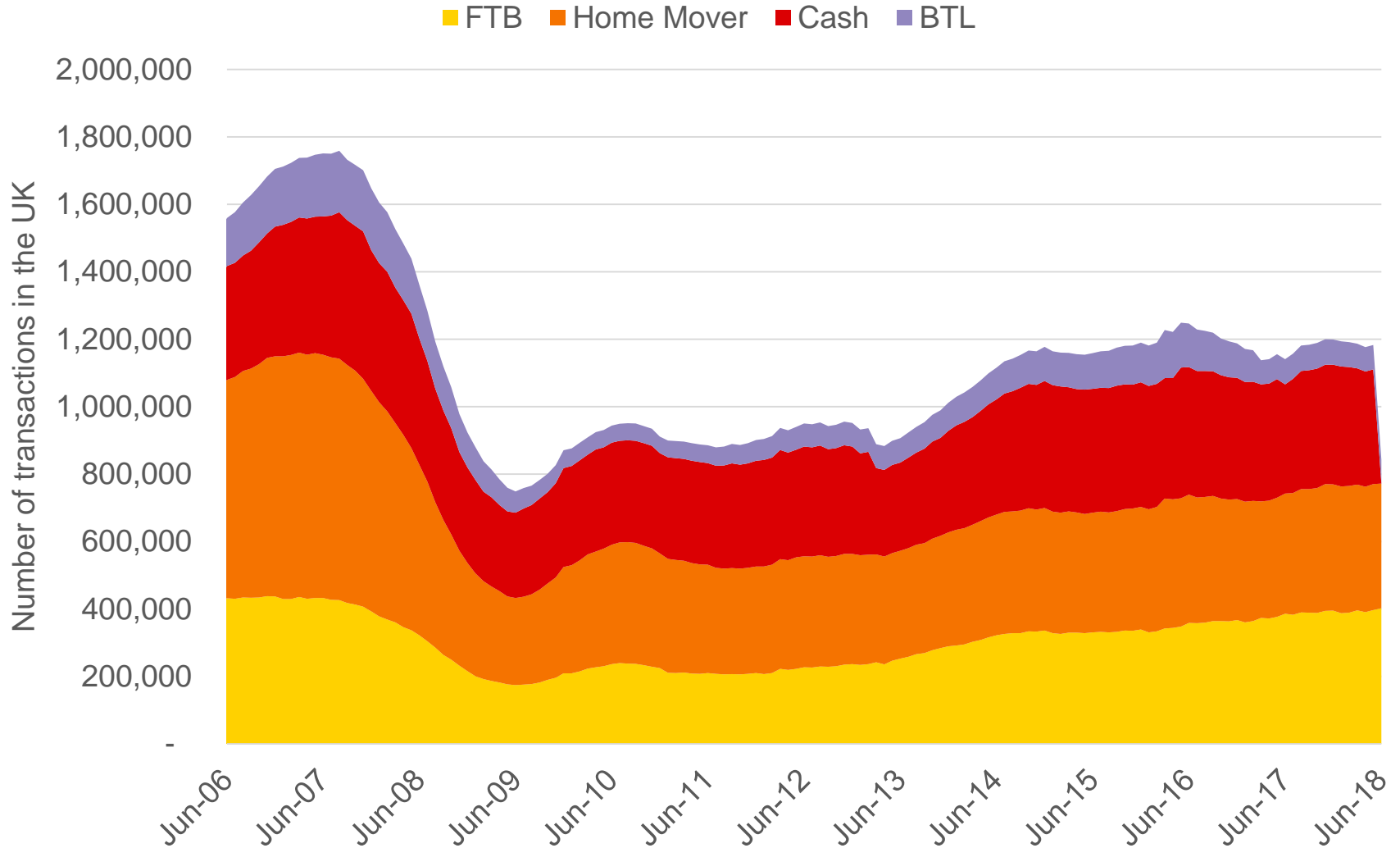
Source: HM Land Registry



Buyer types



Source: UK Finance, HMRC



Transactions static at circa 1.2m per annum (down 3.8% in first 6 months of 2018)

savills

Savills using UK Finance, HMRC



First Time
Buyers
+68%
in 5 years



Home Movers
+16%
in 5 years



Cash
+18%
in 5 years

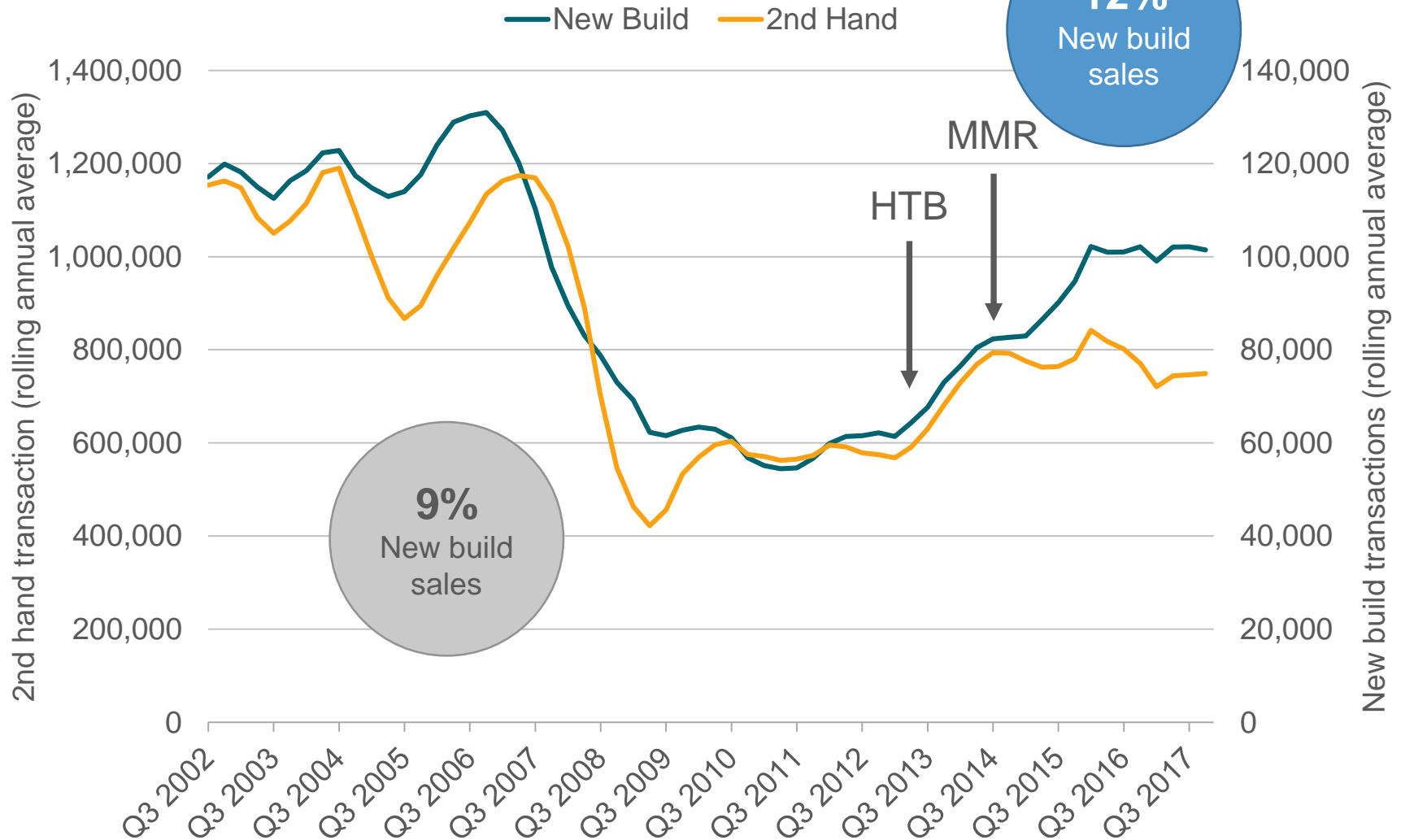


Buy to Let
-3%
in 5 years

Help to Buy has been a very significant boost to new homes sales volumes



Source: Savills using HM Land Registry (England)

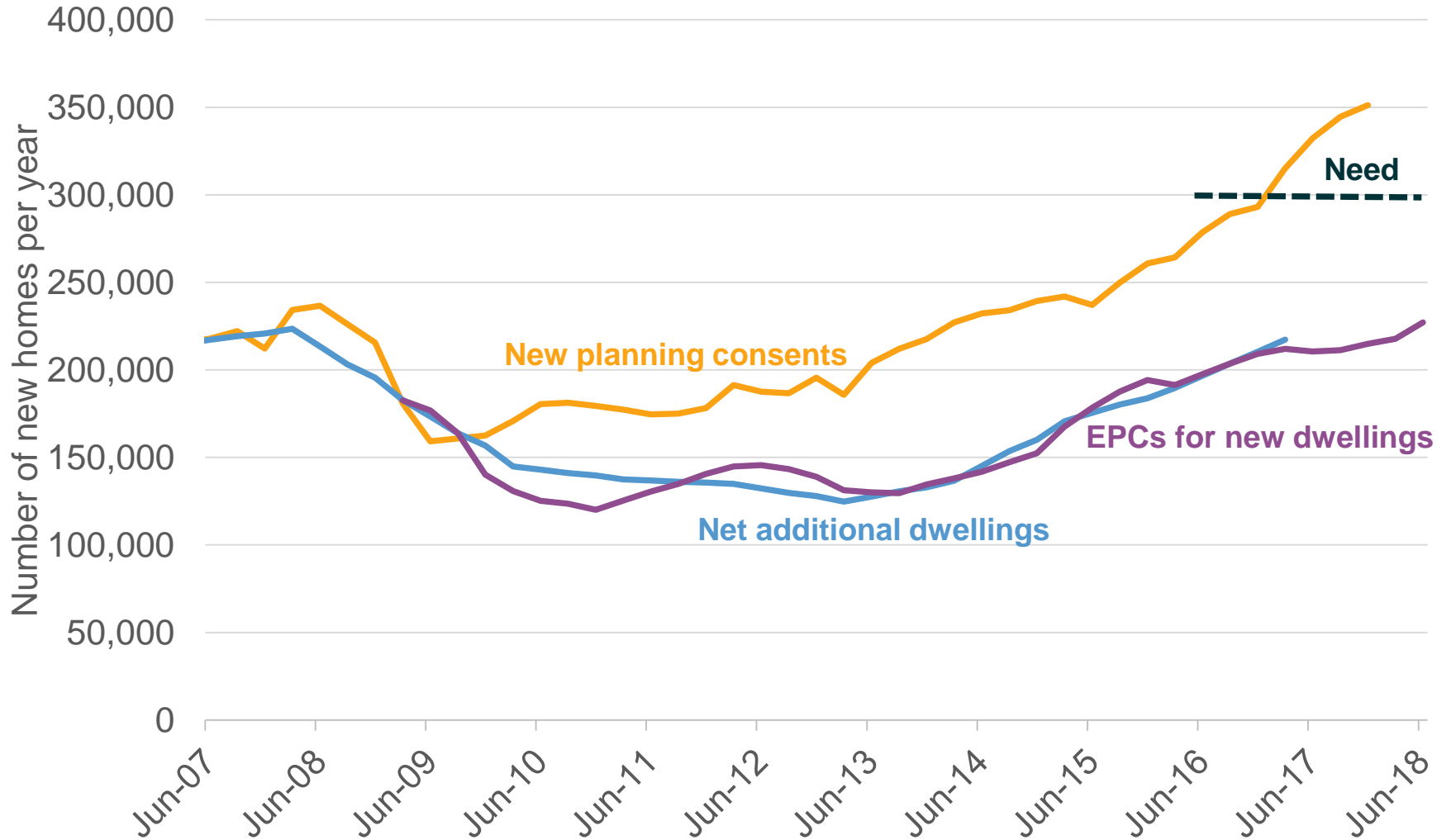


A graphic featuring the word "Supply" in a bold, dark blue font, centered within a dark teal rectangular frame. The background of the frame is a stylized, isometric illustration of a cityscape with various buildings and trees, rendered in light blue and orange outlines. The word "Supply" is the central focus of this graphic.

Supply

How much are we building?

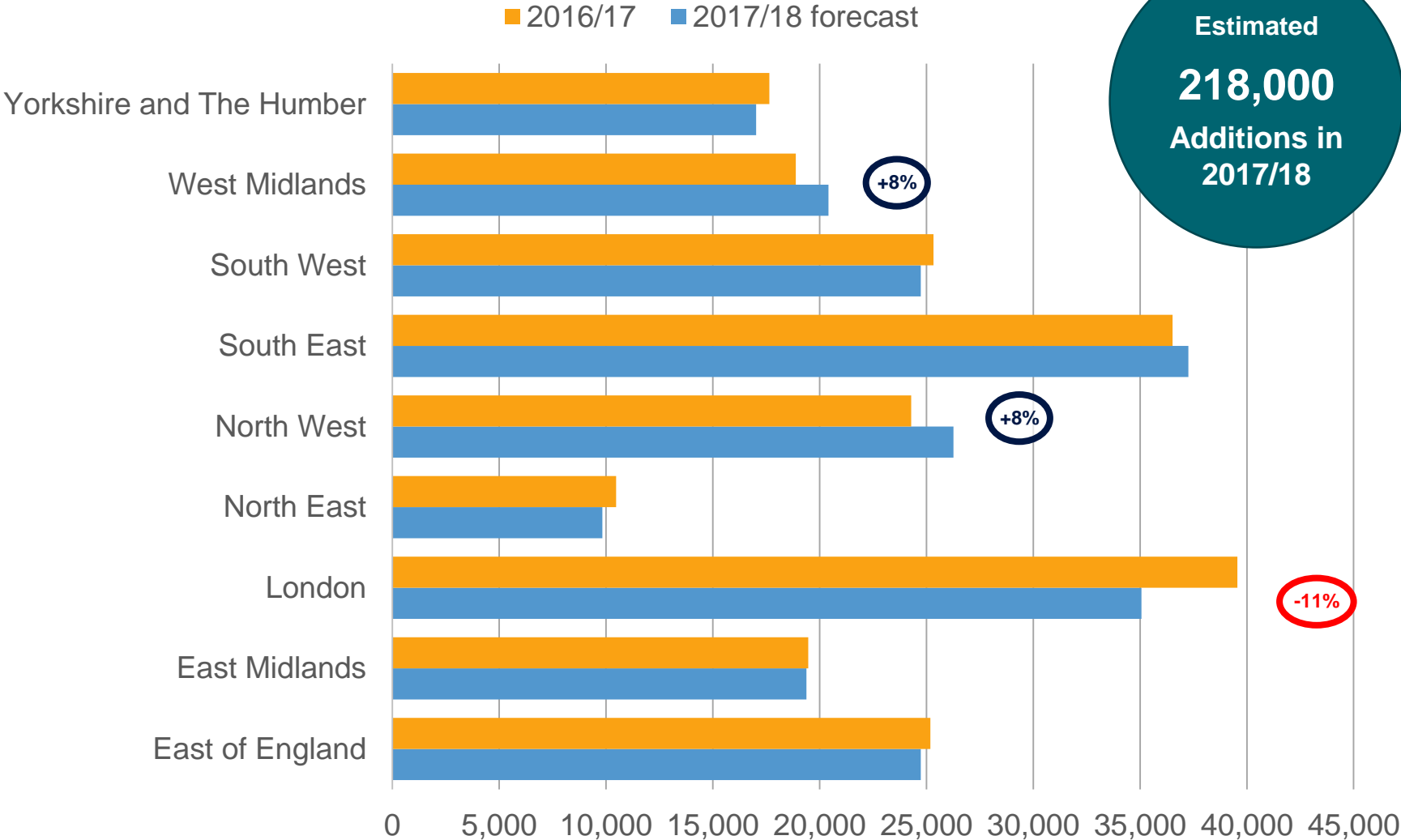
Source: MHCLG, Glenigan, HBF



Supply by region



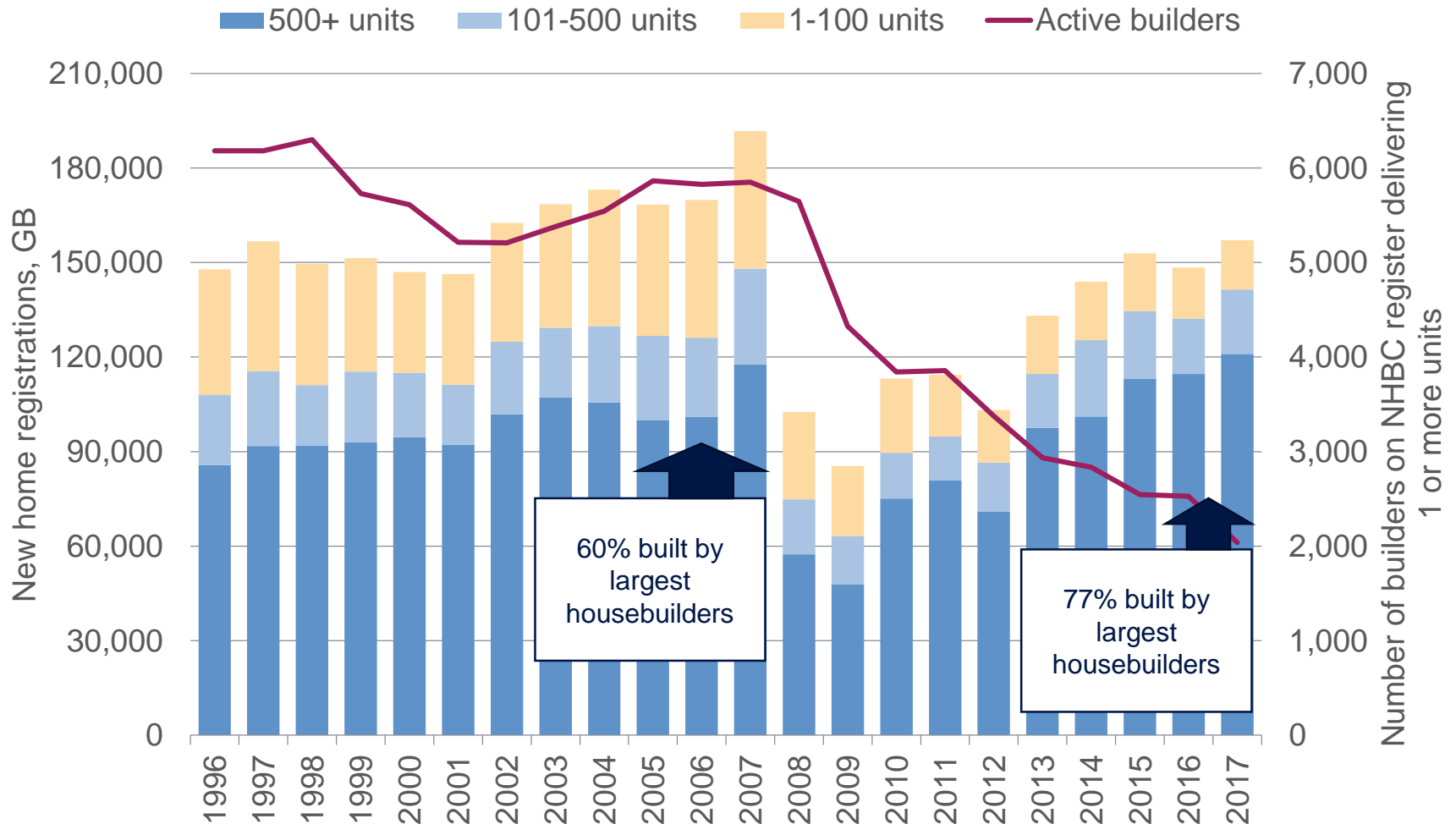
Source: Savills analysis of EPC data



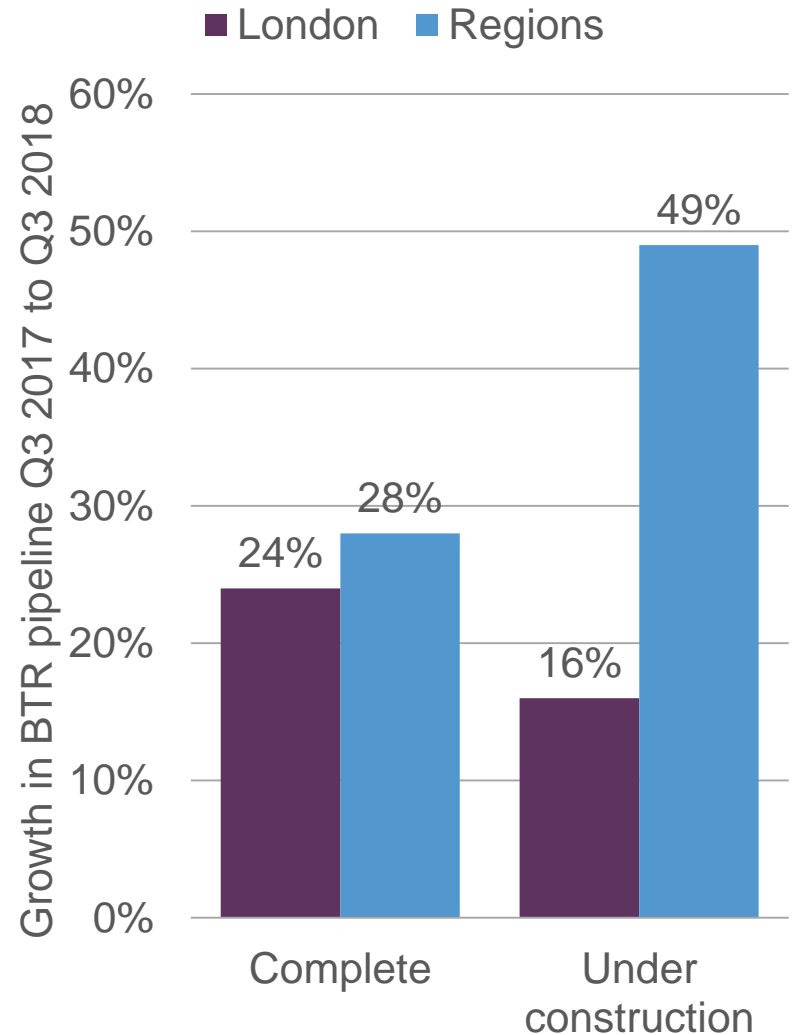
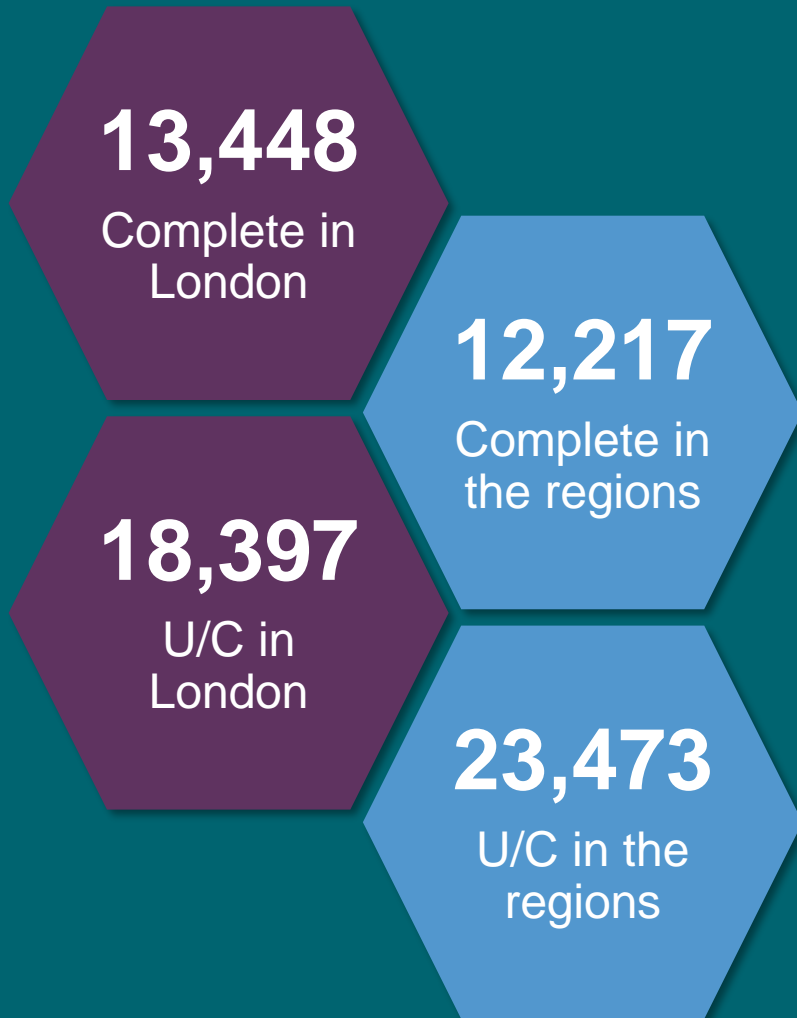
The largest housebuilders are dominating



Source: NHBC



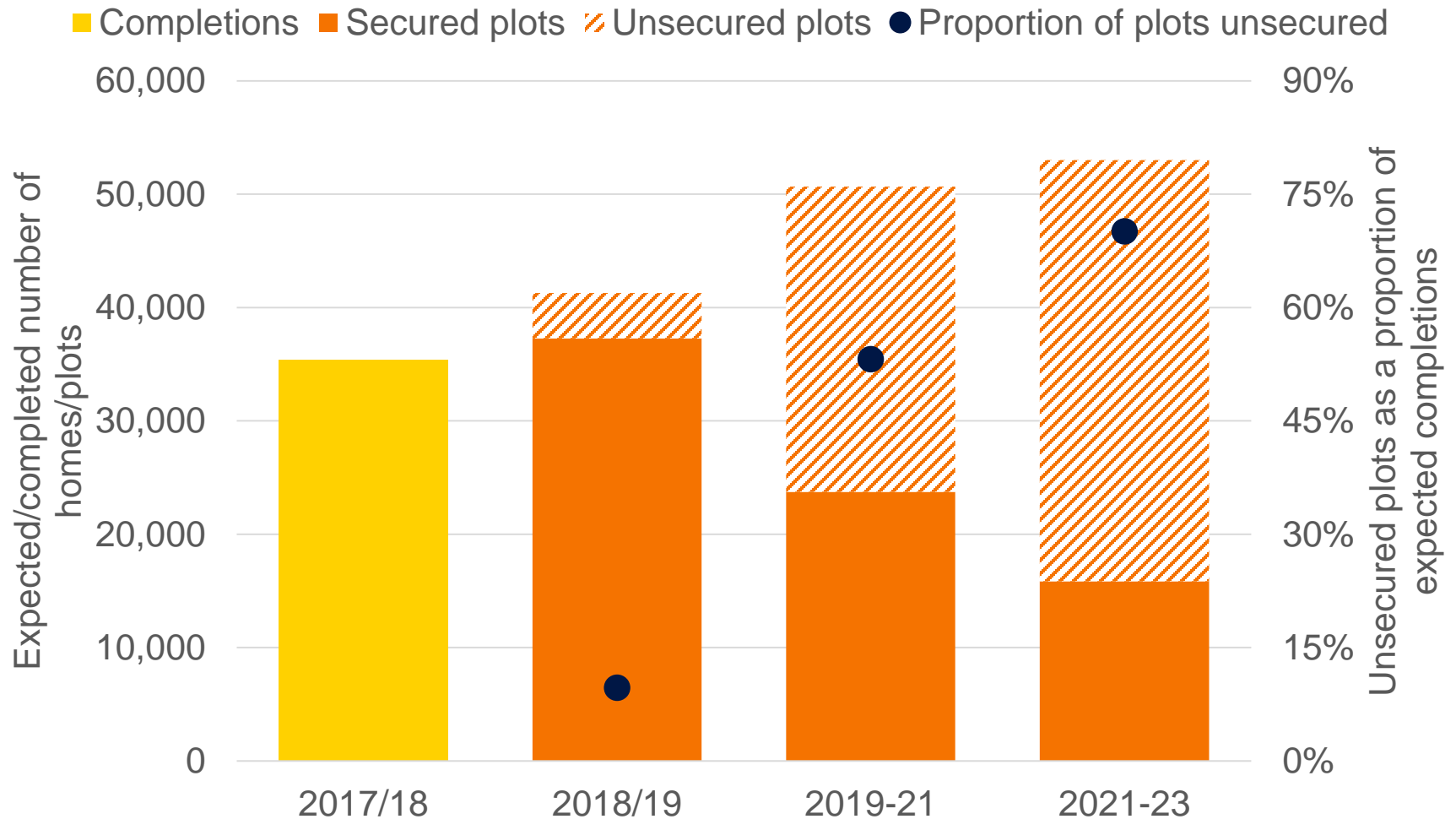
Build to Rent picking up momentum



Source: Savills, Molior, BPF, Q3 2018

Bold HA ambitions

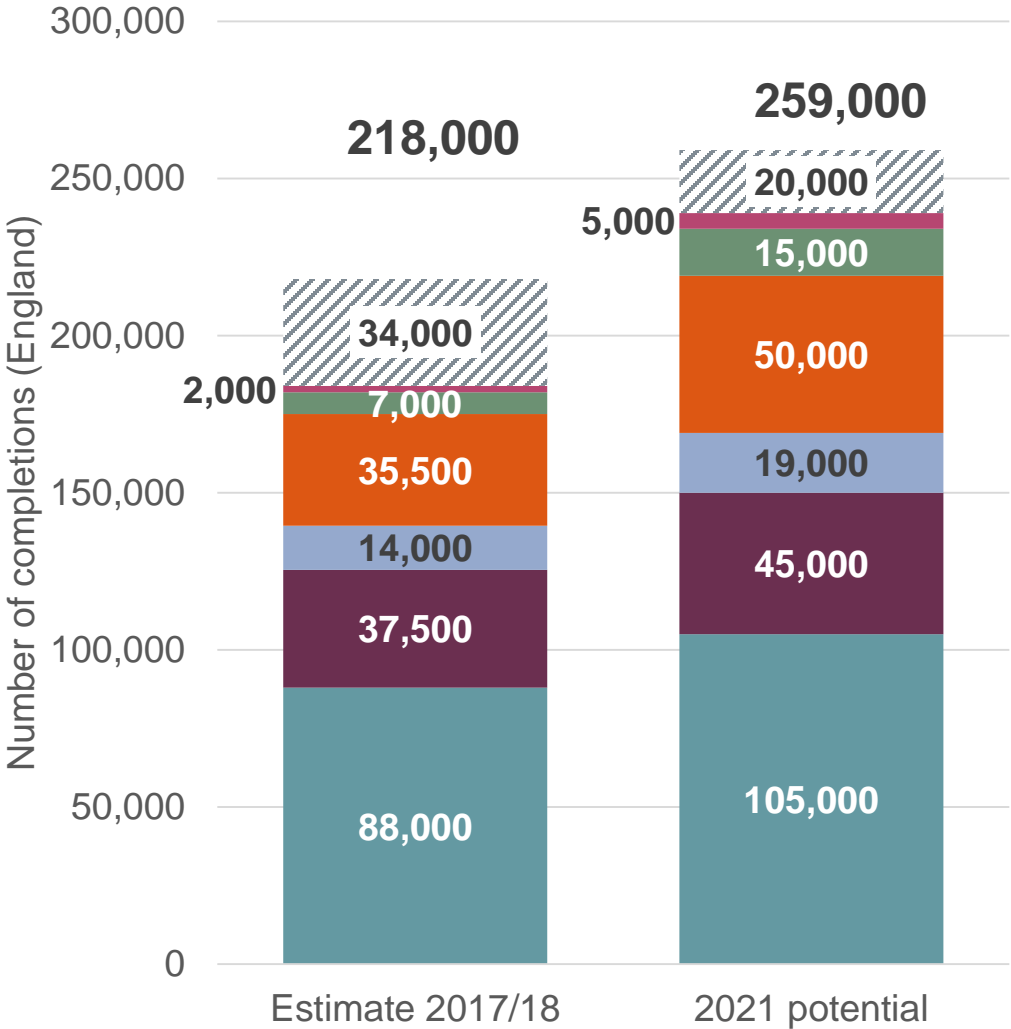
Source: Inside Housing Top 50 Housing Associations



On track to reach 300,000?



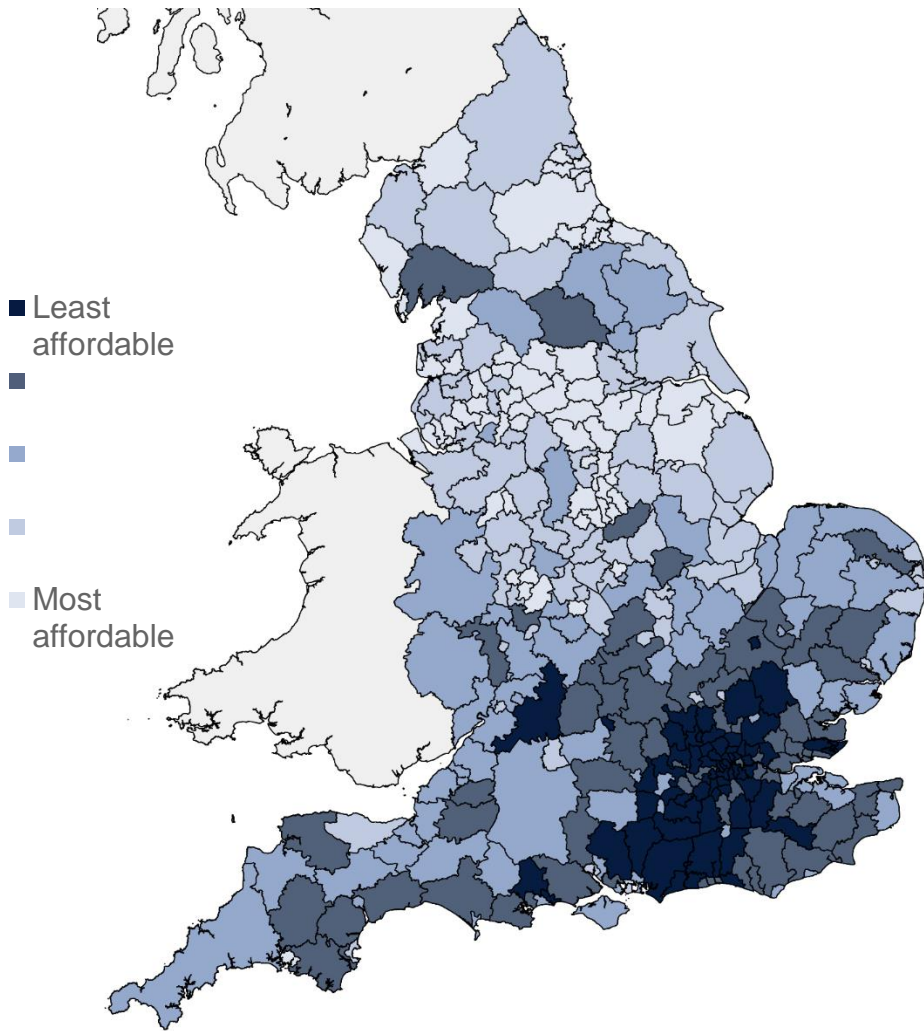
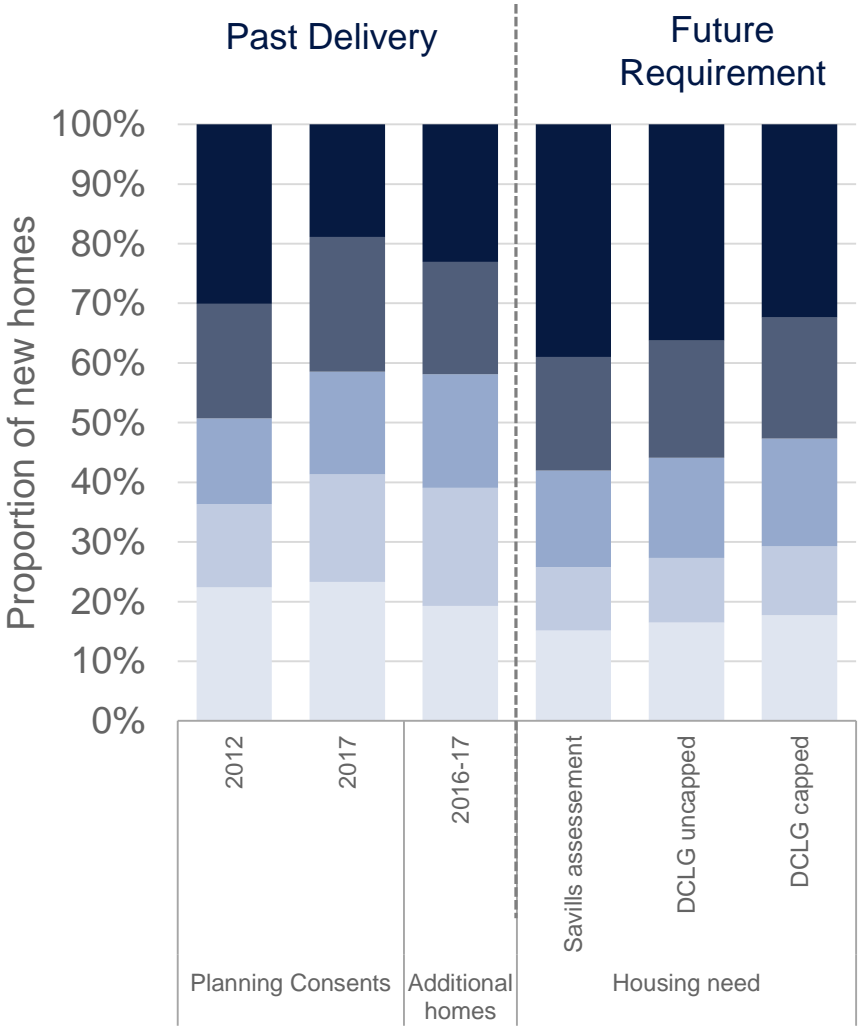
Source: Savills Research



Are we planning for delivery in the right places?



Source: Savills Research, MHCLG, ONS



1 House price growth slowing

2 Transactions remain stable at 1.2m per year

3 HAs and BTR expected to increase housing supply

4 We need to be planning to build in the right places

The Savills logo consists of the word "savills" in a lowercase, red, sans-serif font, centered within a bright yellow square. The background of the entire slide is a dark grey, stylized illustration of a city or town with various buildings, trees, and roads. A large yellow square is positioned in the center, overlapping the background illustration.

savills

Thank you

Planning

John Acres

President

Royal Town Planning Institute



RTPI

mediation of space · making of place

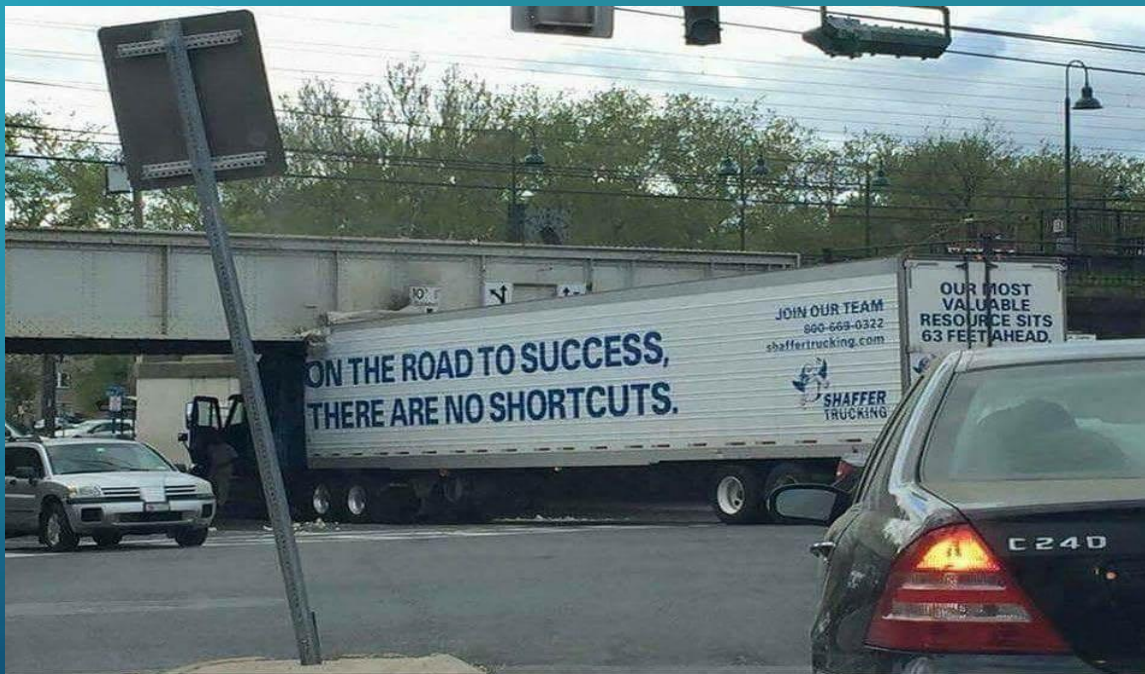
Reform of Planning?

The RTPI's view.

.....
12th October 2018

John Acres
RTPI President

IF WE FAIL TO PLAN, WE PLAN TO FAIL!



PLANNING IS BESET BY TENSIONS

- Certainty v flexibility
- Restraint v growth
- Stability/familiarity v change
- Private sector v public sector
- Politics – prosperity v protection
- Communities v business v people
(not everyone shares the same views)



“ PLANNING IS A MECHANISM FOR ADDRESSING COMPETING PRESSURES ACCORDING TO A PRE-DETERMINED VISION AND GUIDED BY LIMITED RESOURCES. ”
PLANS AND

But there are no easy solutions!

I would venture to suggest that - Government increasingly views planning as the **solution** rather than the **problem**.

IN MARCH THE PRIME MINISTER LAUNCHED THE NPPF REVIEW IN CONJUNCTION WITH RTPI - AND LUKE COFFEY (YOUNG PLANNER) DID THE INTRODUCTIONS!)



KEY PLANNING POLICIES – WITHIN NPPF2 – (& RTP1 VIEW)

- A target for 300,000 homes/annum
- More demand-led housing requirements
- Delivery test for LPA's – Letwin report
- 5 year Local Plan review, but lower bar
- Stronger 'duty to co-operate'
- Clarity of Presumption in favour of SD
- Tight Green belt – a 'last resort' test
- Changes to viability assumptions
- Strengthening design requirements
- Welcomed
- Tentatively welcomed
- Reluctantly welcomed
- Welcomed
- Welcomed – up to a point!
- Welcomed
- Would prefer a review of GB
- Welcome EUV+ benchmark
- Welcomed

RTPI INPUT TO NPPF REVIEW (FROM 200 MEMBERS)

- Local Plan should go beyond just setting strategic priorities
- Reduction from 20% to 10% target from small sites
- Clarification that entry level housing is affordable housing
- Support for the retention of the Garden City Principles
- Future review of the spatial distribution of housing
- Publicly available viability assessments
- More flexible retail policy for high streets
- Re-introduction of reference to Climate Change Act 2008



WHERE RTPI FELT THEY FELL SHORT.

- Loss of broad framework – planning principles – which were previously included at the start of the NPPF
- No reference to Sustainable Development Goals
- No reference to Industrial Strategy – employment land
- Not sufficiently holistic or integrated
- No Spatial element – e.g. Oxford-Cambridge corridor
- Absence of a social element to green belt purposes
- Concern about impact on Air Quality emissions

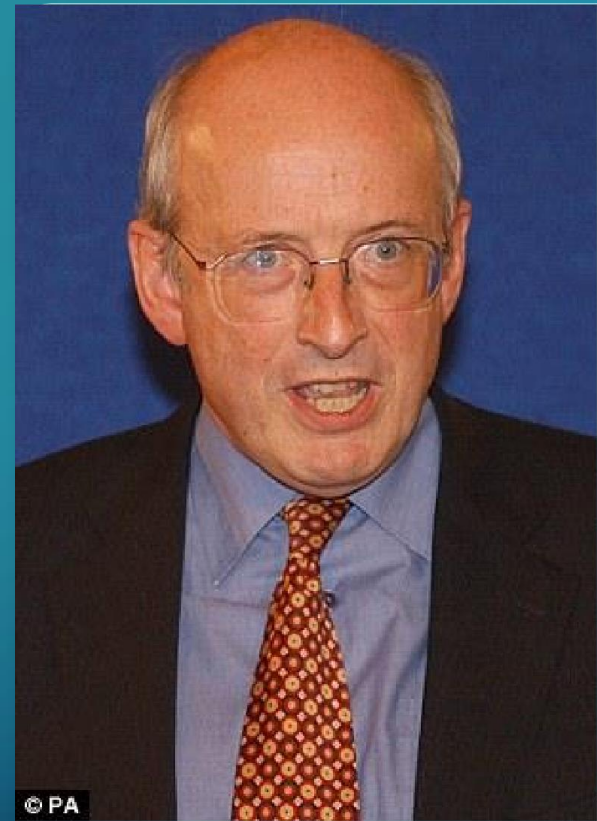


PLANNING REFORM PROPOSALS; RAYNSFORD REVIEW (TCPA)

Foreword.

'Planning has become a focus for bitter controversy. As a service which seeks to achieve the optimum outcome from often conflicting pressures, planning inevitably attracts differing points of view, and always has. But the ferocity of the divisions which characterise today's debates on planning, together with the scale of public disenchantment with its processes and outcomes, are, in my experience, unprecedented'.

Nick Raynsford



RAYNSFORD REVIEW (DRAFT PROPOSALS)

The 9 key propositions:

1. Planning in the public interest
2. Planning with a purpose
3. A powerful people-centred planning system
4. A new covenant for public participation
5. A new commitment to meeting peoples' basic needs
6. Simplified planning law
7. Alignment between the agencies of English planning
8. A fairer way to share land values
9. A new kind of creative and visionary planner

LABOUR PARTY COMMISSION ON PLANNING

'A 'root and branch' review of the planning system. Building on the findings of the Raynsford Review' Roberta Blackman Woods (Shadow Planning Minister).

Issues of concern:

1. Public participation – empowering local communities
2. Land value capture & infrastructure delivery
3. Rebalancing power between the private and public sector
4. Permitted development rights
5. Control over HMO's
6. Greater control or rents and security of tenure for tenants



SO DO WE NEED A 'ROOT & BRANCH' REVIEW?

RTPI considers that:

- fundamental reform is unnecessary
- The 9 principles within the Raynsford Review are already encompassed within the planning system
- Major changes in policy will only slow down delivery of housing
- There may be unintended consequences of major change

'You won't help the tree grow by constantly pulling it up by its roots'.



PLANNING IS ALL ABOUT DELIVERY!



The Circular Economy and Skills

Mike Leonard

Building Alliance

WEST MIDLANDS NEW HOMES PROGRAMME OFFERS A £70 BILLION BOOST TO THE LOCAL ECONOMY

MASONRY
Onsite

**Get Britain
Building**



BREXIT



THE CONSTRUCTION INDUSTRY NEEDS YOU!



iBuiltit

Calling all Students, Educators and Employers

FREE TO JOIN - SIGN UP NOW

The Construction Industry Needs You!

Welcome to "I built it" the portal for the West Midlands fast growing construction sector which puts local business and young people first.



Watch our video to find out why people get involved in the construction industry.

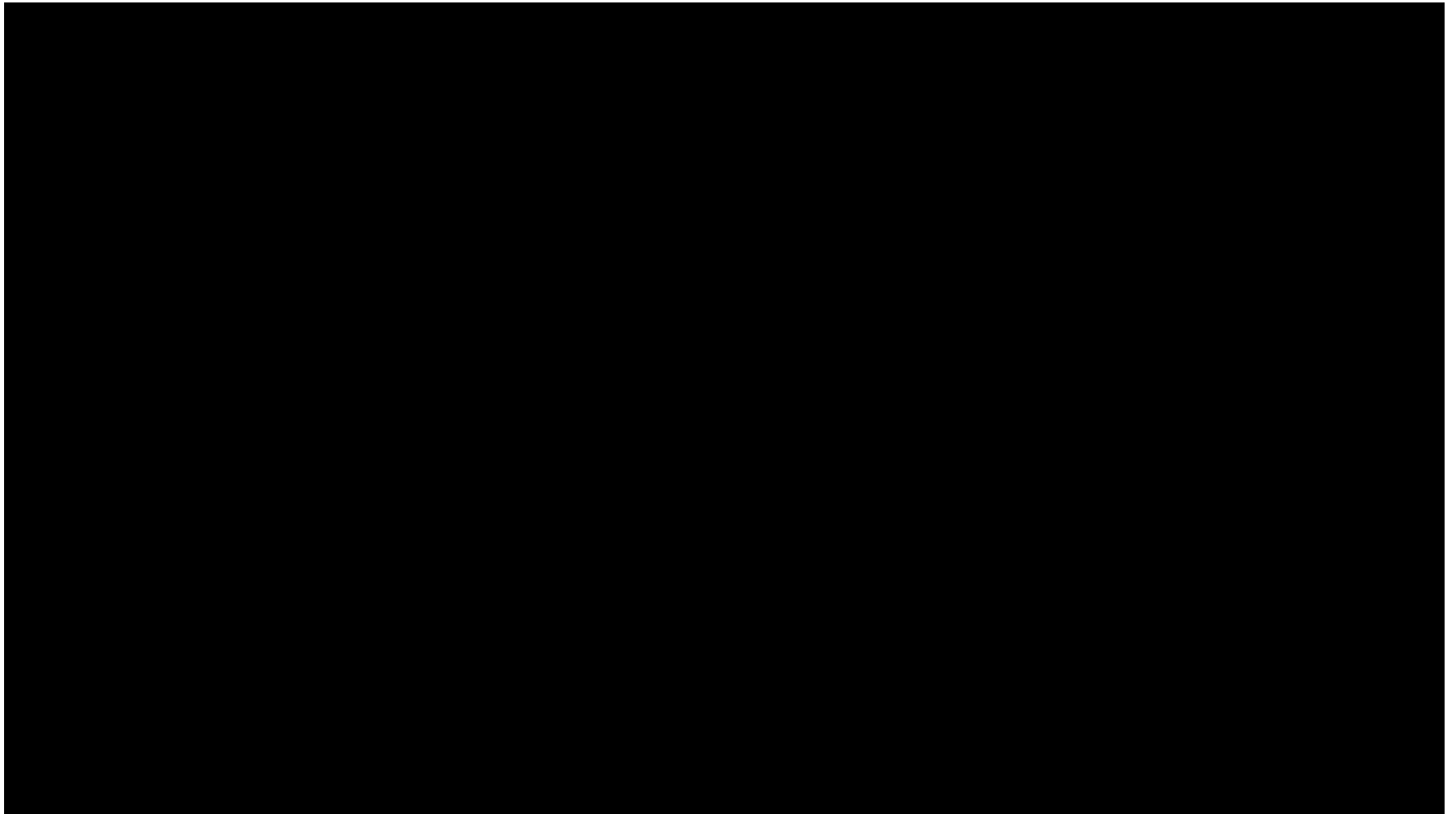
Government pledges 5-day payment for small businesses

Small to medium-sized firms are being promised five-day payment terms from Government as part of a fresh push to stamp out late payment.

May paves way for next generation of council houses

The Prime Minister has cleared the way for a surge in council house building by announcing plans to lift the housing borrowing cap on councils.

Birmingham City University's CEBE (Computing, Engineering and The Built Environment) faculty has a number of construction based subjects that you can study. Find out more on our website.



Coffee

Building Regulations Review

Bob Ledsome

MHGLG



Ministry of Housing,
Communities and
Local Government

Building Regulations Update

Housing Summit

**Bob Ledsome, Technical Policy Division
Building Safety Portfolio**

12th October 2018



Introduction

Building Safety Programme

Implementing Dame Judith Hackitt's Review

Work on Fire Safety Guidance

Other Buildings Regulations Issues

EU Exit



A Building Safety Programme was set up in the immediate aftermath of Grenfell

The Building Safety Programme aims to make buildings safe and ensure that residents feel safe. It has four main stages.

Identify unsafe buildings

Make buildings safe

Identify system problems

Fix the system

Supported by: Expert Panel; Industry Response Group; Independent Review.



Making buildings safe: Progress with remediation

- 468 buildings have been identified as having cladding systems which are unlikely to meet current Building Regulations' guidance. 322 of these have been identified from BRE tests and the others are further private sector buildings identified by local authorities.
- Of the 322 buildings with systems which failed BRE tests:
 - 159 are social sector residential buildings
 - 149 are private sector residential buildings
 - 14 are publicly owned buildings
- Of the 159 social housing buildings judged to have failed large-scale system tests, 121 have started remediation and 22 of these have finished.
- Of the 295 private sector buildings in total, local authorities have reported that there are plans to remediate 103 buildings, and work has completed on 10 of these and started on a further 26.

(Building Safety Programme August Date Release; 14 September 2018)



Identifying buildings that are unsafe: What else have we found?

- Potential structural issues with Large Panel System buildings.
- Potential degradation issues with external wall render and brick-slip cladding and uncertainty amongst building owners about other types of cladding.
- Defects in basic fire safety measures in some buildings.
- A fire door failure as part of the Metropolitan Police Grenfell investigation.





Fixing the system: Hackitt interim and final reports

‘Building a Safer Future’ identifies system failure: ignorance, indifference, lack of clarity on roles and responsibilities, inadequate regulatory oversight and enforcement tools. A “race to the bottom”.

Final report makes 53 recommendations for:

- A new regulatory framework on higher risk residential buildings
- Improved safety during design, construction, refurbishment and occupation
- A stronger resident voice in the system
- Improved levels of competence
- Greater industry ownership of guidance
- A more robust and transparent construction products regime
- A golden thread of information
- Tackling poor procurement practices
- Continuous improvement and best practice learning.



Fixing the system: Action taken and next steps

Government response welcomed review, agreed with the assessment, supported the principles behind the recommendations and committed to legislating for a new regulatory framework.

- Consulted on desk top studies.
- Consulted on banning combustible materials in high-rise cladding systems.
- Consulting on clarified building regulations fire safety guidance (ADB).
- Confirmed there will be a wider technical review of ADB in the autumn.
- Working with industry to make all approved documents more user-friendly.
- Social Housing Green Paper – proposes improvements to empower residents.
- Launched an Early Adopters scheme.
- Construction Industry Council leading work on competence.
- Implementation plan in the autumn.
- Public Inquiry recommendations and other learning in 2019 and beyond.



Work on Fire Safety Guidance

- Consultation on restricting the use of assessments in lieu of tests (closed)
- Consultation on banning the use of combustible materials in external wall systems (closed)
- Consultation on clarified version of Approved Document B (open until 11th October)
- Technical review of Approved Document B
- Call for evidence to be published in the Autumn





Building Regulations: Other issues

- Review of energy performance standards
 - Clean Growth Strategy
 - Buildings Mission
 - Energy Performance of Building Directive
- Access
 - Response to Women and Equalities Committee report.
- Review of carbon monoxide alarms.
- Overheating.



House of Commons
Women and Equalities
Committee

Building for Equality: Disability and the Built Environment

Ninth Report of Session 2016-17

Report, together with formal minutes
relating to the report

Ordered by the House of Commons to be printed
19 April 2017



- Ensuring that legislation we inherit from the EU can operate after exit as provided for under the EU Withdrawal Act:
 - Construction Products Directive
 - Energy Performance of Buildings Directive
 - Mutual recognition of qualifications Directive (for architects).
 - SEA/EIA
- Future Economic Partnership
 - Implications of 'common rule book' for construction products
- Dame Judith Hackitt recommendations on products



Final thoughts

- Thank you for your support for the programme and engagement.
- “There is no reason to wait for legal change to start the process of behaviour change once it is clear what is coming and what is expected. A sense of urgency and commitment from everyone is needed.”
- All of our information and advice is on the web at <https://www.gov.uk/guidance/building-safety-programme>

Building Safer Futures

Rav Dhanjal

Arup

Building Safer Futures - A Fire Safety Perspective

Rav Dhanjal

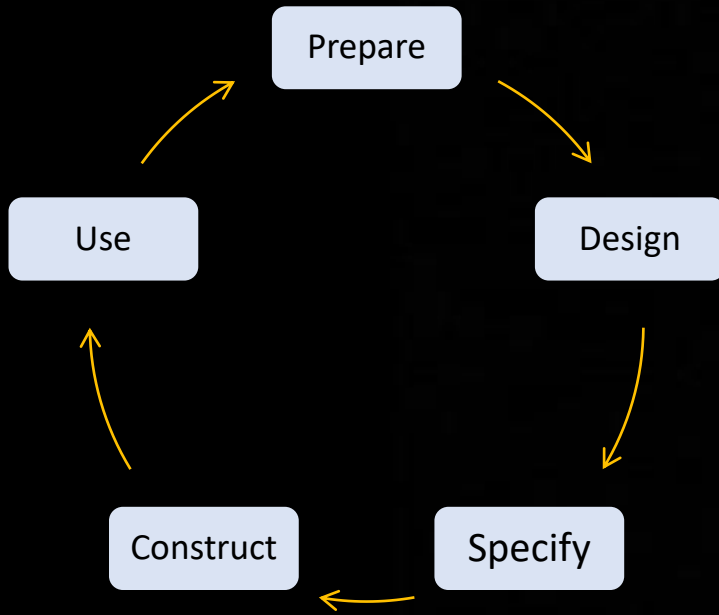


ARUP



Housing Summit 2018

Total Fire Safety



Handover



CC-BY-SA Nick Youngson

Looking Ahead



ARUP

Gateway Review Process – Fire Safety

Work Stage >>>

<<< Task

Core objectives of work stage set by RIBA

I

Fire Safety Objective at each work stage

II

1

Preparation & Briefing

Develop initial project brief and project objectives, project outcomes and budget. Undertake feasibility studies and site information.

Fire Safety Goals & Objectives for the Project. Basis of Design Fire Safety Risk Register
Identification of project constraints on fire safety.
Who are the Approving Authorities
Review of the feasibility options with respect to fire safety design, compliance and future operations and management.

2

Concept Design

Prepare concept design including outline proposals, outline specifications and preliminary cost information and project strategies. Agree alterations to brief and issue final project brief.

Conceptual fire strategy and drawings
Identification of the principle fire safety features required.
Identification of fire safety risks.
Identification of potential solutions to the fire safety risks.

3

Developed Design

Prepare developed design including co-ordinated and updated proposals, outline specifications, cost information and project strategies.

Developed Design fire strategy and drawings.
Building Control authority and fire service consultation and approval of the Fire Strategy Design.
Establish the fire safety performance requirements and identification of the all fire safety measures required.
Identification of maintenance and operational fire safety management requirements.

4

Technical Design

Prepare technical design in accordance with design responsibility matrix and project strategies to include all design and specifications.

Technical design information such as drawings, details, specifications and schedules that achieves the fire safety performance requirements and reflects the approved fire strategy design and is co-ordinated with it.
Technical Design Fire Strategy Report & Drawings.
Identification of maintenance and operational fire safety management requirements.

5

Construction

Construction in accordance with construction programme and resolution of design queries from site as they arise.

Construction of all elements complies with the requirements of the fire strategy design.
The construction is built in accordance with the relevant manufacturer's instructions and in line with relevant fire testing reports and certification being relied upon.
Testing and commissioning of all active fire safety systems is conducted and each system is proven to work in line with the fire strategy design requirements and provide the required performance.
Certification of all fire safety systems.

6

Handover & Close Out

Handover of building and conclusion of building contract.

Practical Completion and handover certification.
Final As Built Fire Strategy Report & Drawings.
Hand over of an "as built record" of the construction of the fire safety features in the building. Provision of a Regulation 38 Fire Safety Manual for the Building. This should include details on the fire safety products and materials and systems used to enable them to be maintained correctly and operation and maintenance instructions.

7

In Use

Undertake in use services in accordance with the schedule of services agreed.

To ensure compliance with the requirements of the Regulatory Reform (Fire Safety) Order 2005 or equivalent throughout the use of the building.
To ensure Building is being managed and operated safely and in line with the requirements of the Fire Safety Strategy.
To regularly update Fire Risk Assessments for the premises to reflect the changing environment, conditions and management of the building.
To update the fire safety manual for the premises in line with any changes that are being made.

Traditional Build – Watch It's





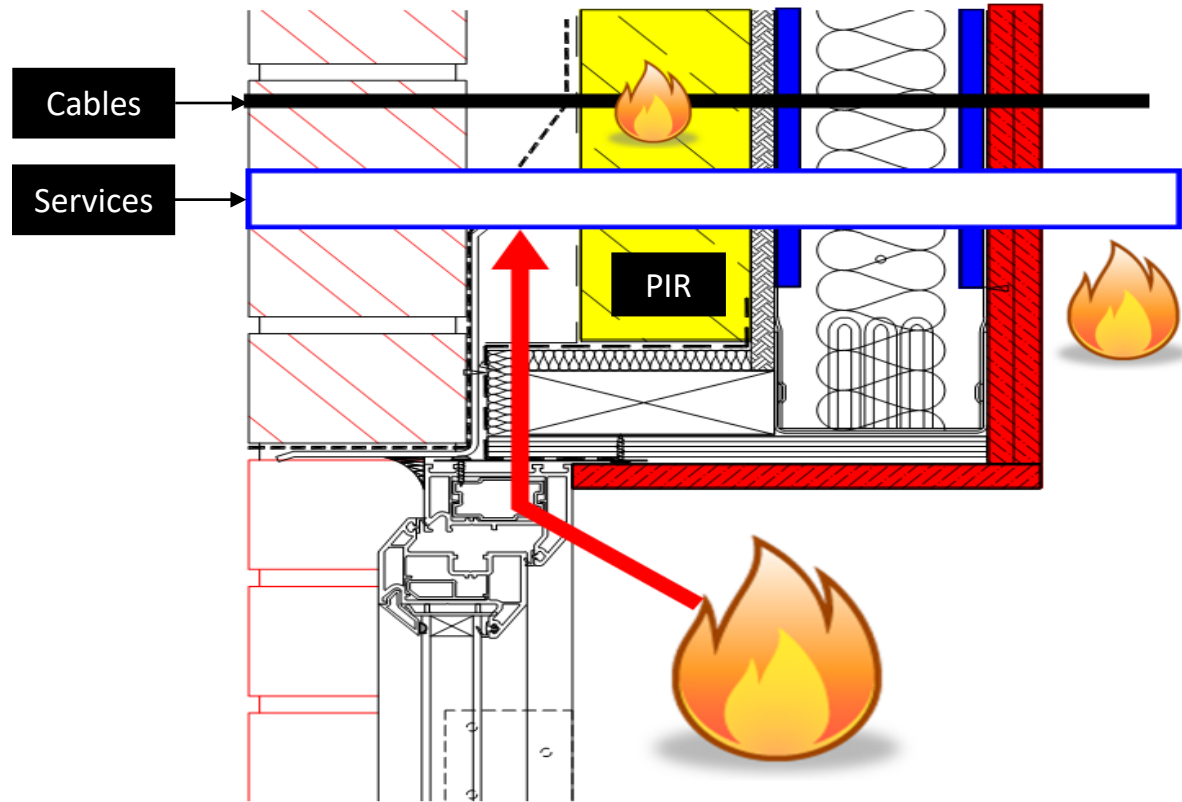
ARUP

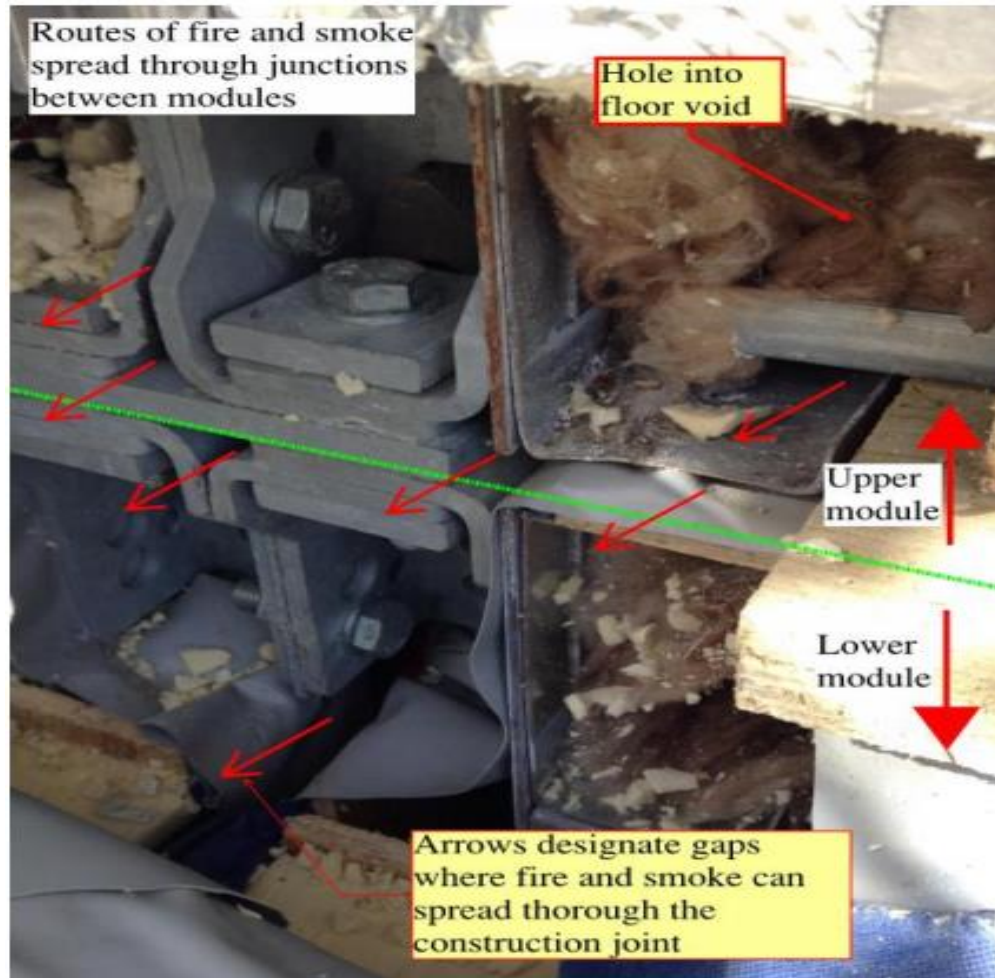


Modular Build – Watch It's



Modular Build – Potential Fire Hazards





Timber Construction – Watch It's



Why timber?

- Speed of Construction
- Sustainability
- Aesthetics & Innovation
- Technology & Prefabrication





Sprinklers





Home Fire Sprinkler Coalition

With Sprinklers



Home Fire Sprinkler Coalition

Without Sprinklers



Home Fire Sprinkler Coalition

An aerial photograph of a densely packed residential neighborhood. The houses are mostly two-story structures with brown roofs, arranged in a grid-like pattern. There are many cars parked on the streets and some green spaces scattered throughout. The overall scene is a typical suburban or urban residential area.

We are all responsible for shaping a safer world

ARUP

Resilient Housing

Dr Jim Glockling

Fire Protection Association



**Fire Protection
Association**

'Grenfell Review Update'

Housing Summit

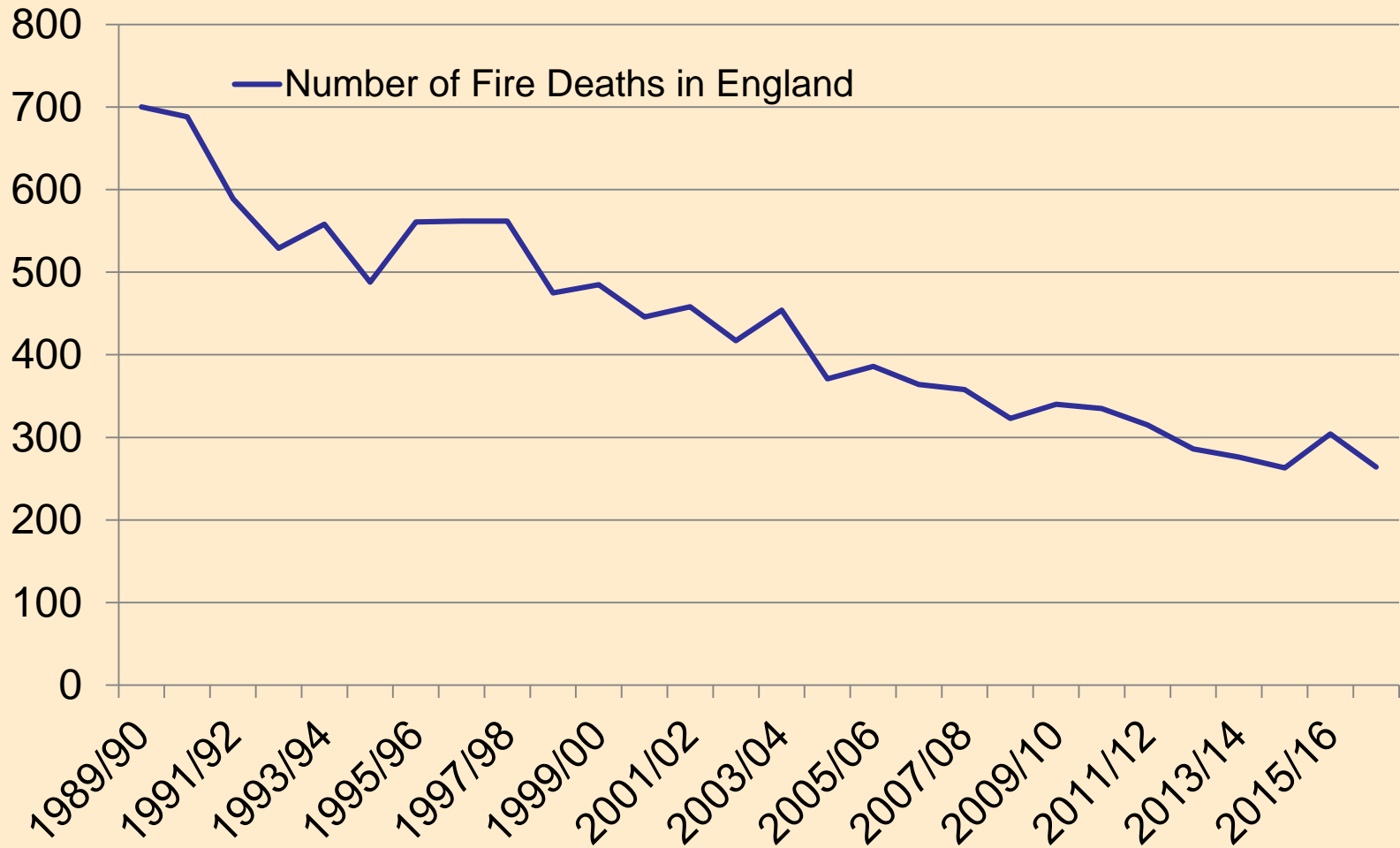
Dr James LD Glockling

Technical Director FPA, Director RISC Authority

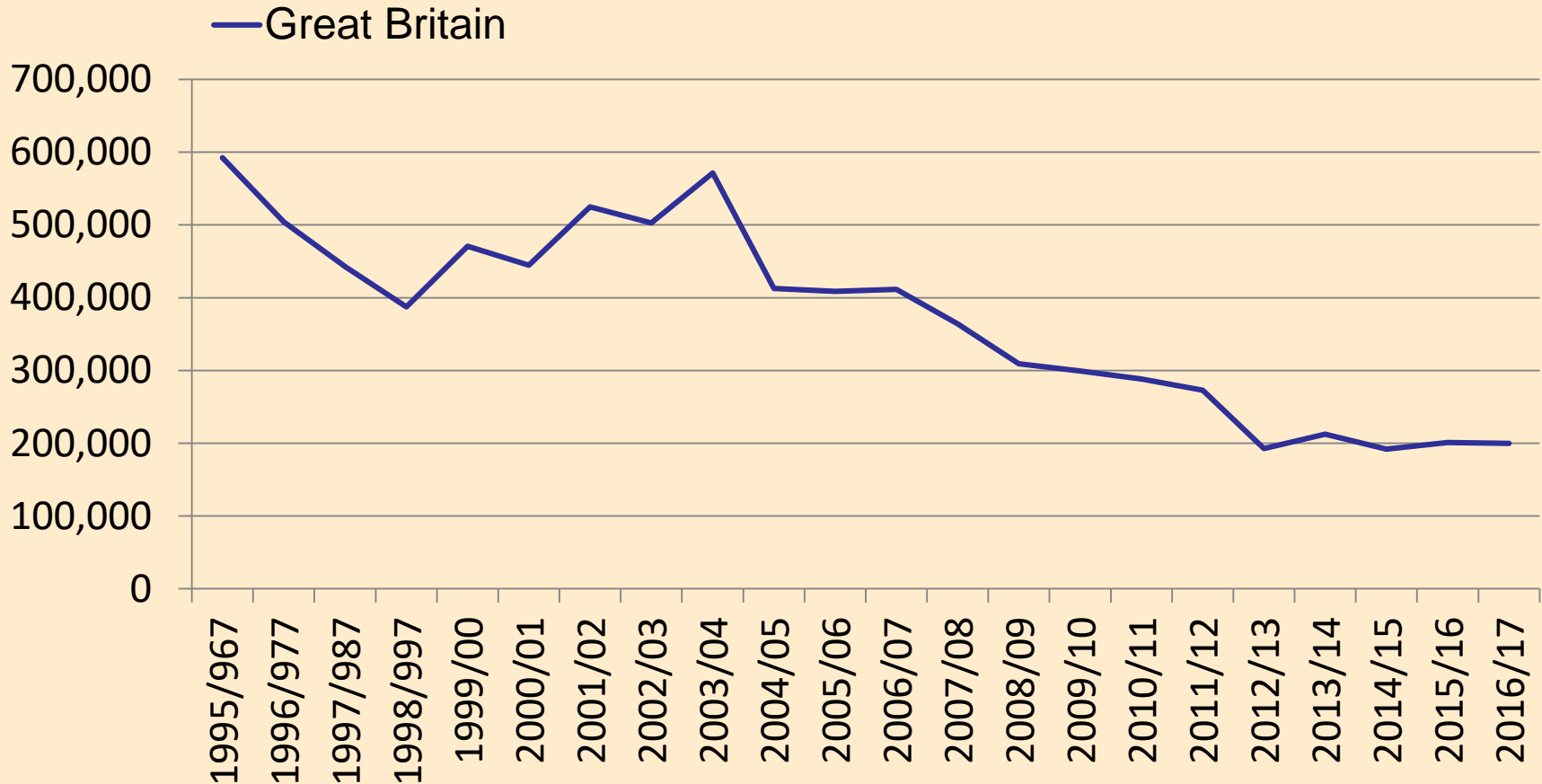
12th October 2018



Fire Deaths in England

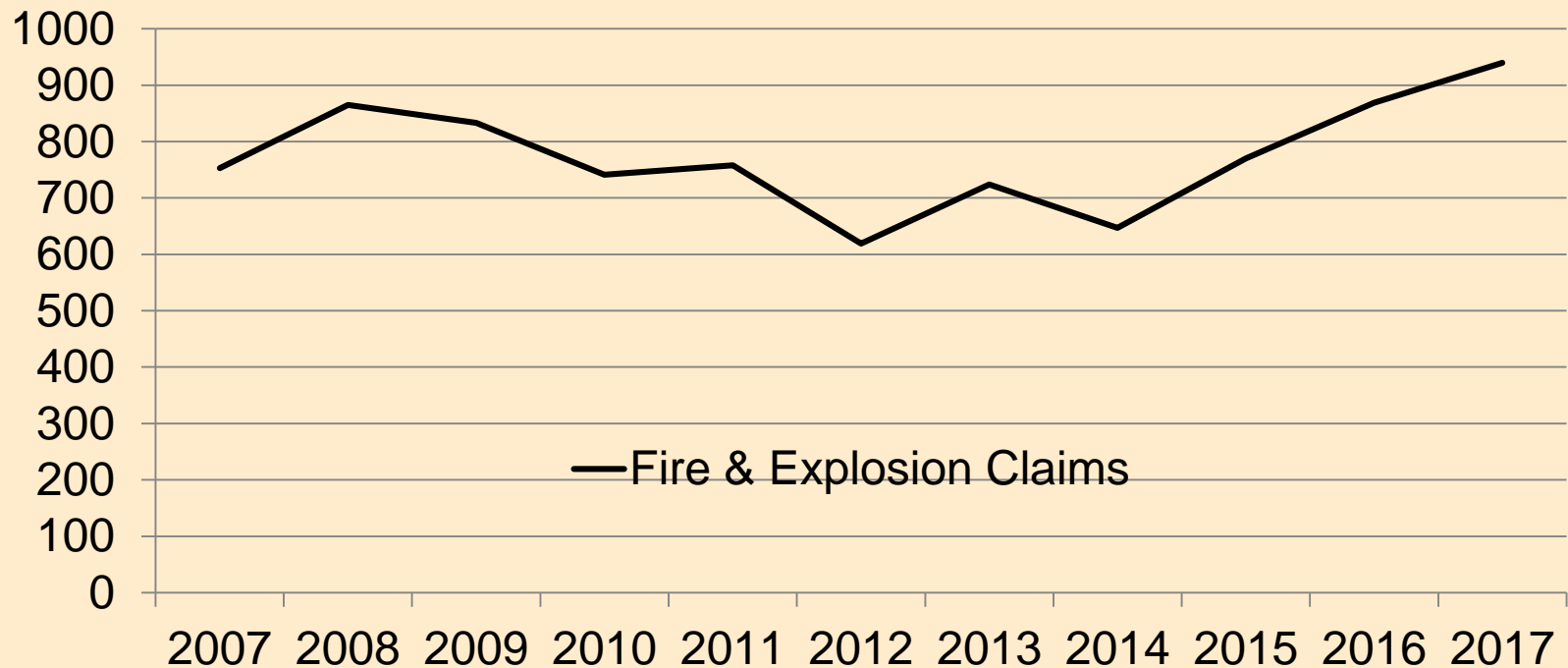


Number of fires attended in the UK



UK Commercial Insurance Fire Claims

Fire & Explosion Claims





THE UK's NATIONAL FIRE SAFETY ORGANISATION
Protecting people, property, business and the environment



Fire Protection
Association



That's OK..... no one died!

14th June 2017



THE UK's NATIONAL FIRE SAFETY ORGANISATION
Protecting people, property, business and the environment



**Fire Protection
Association**

Grenfell timeline

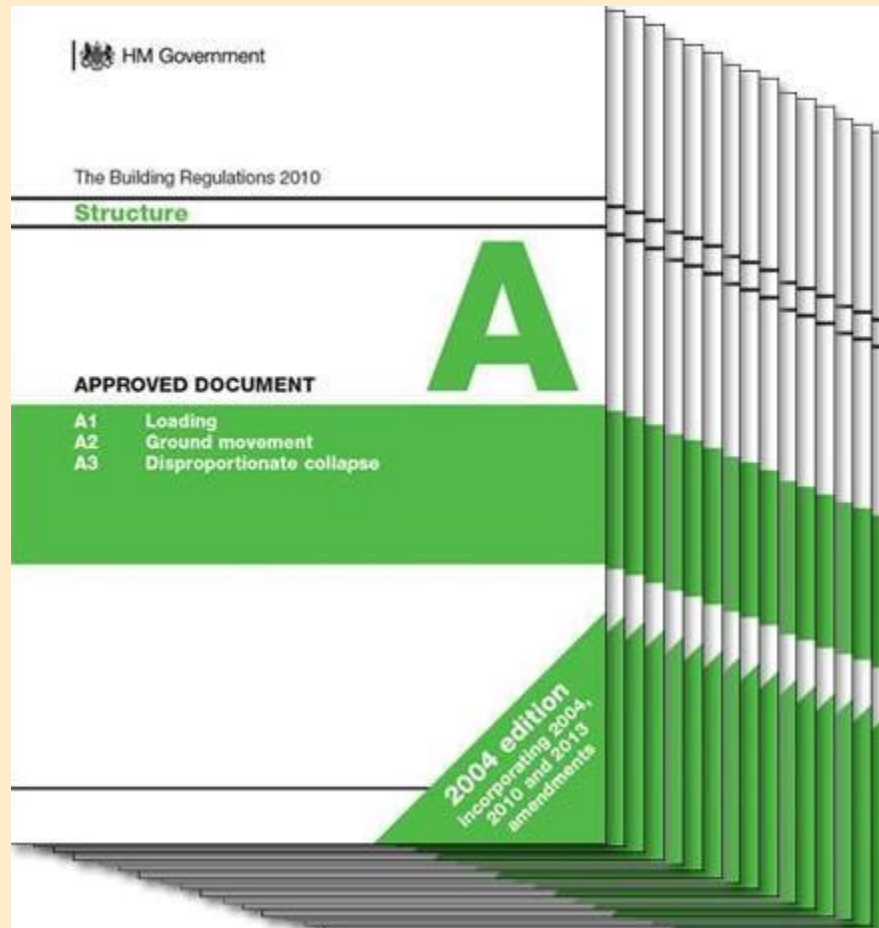
- 14/06/2017** Grenfell Tower, a 24 storey tower block, experiences the largest fatal fire in England in Recent times, causing the loss of 71 lives.
- 15/06/2017** A public inquiry into the fire is ordered by the Prime Minister. A criminal investigation is also opened.
- 20/06/2017** Croydon is first council to announce it will retrofit sprinklers in all its tower blocks
- 22/06/2017** It is revealed that there are estimated to be around 600 high rise residential buildings with similar cladding nationwide.
- 23/06/2017** Details of how the criminal investigation is being conducted are released to include LFB's response to the fire.
- 27/06/2017** Communities Secretary Sajid Javid sets up an Independent Expert Advisory Panel (IEAP) under Sir Ken Knight to advise on any immediate measures that can be put in place to make buildings safe following the Grenfell Tower fire.



Ministry of Housing,
Communities &
Local Government

Building Regulations Advisory Committee

A statutory advisory body that the Secretary of State will consult on proposals to make or change building regulations. In addition the Committee provides expert advice to the Secretary of State on building regulations or related matters. This includes for example the health and safety, welfare and convenience of people in and around buildings; energy conservation and the sustainability of buildings.

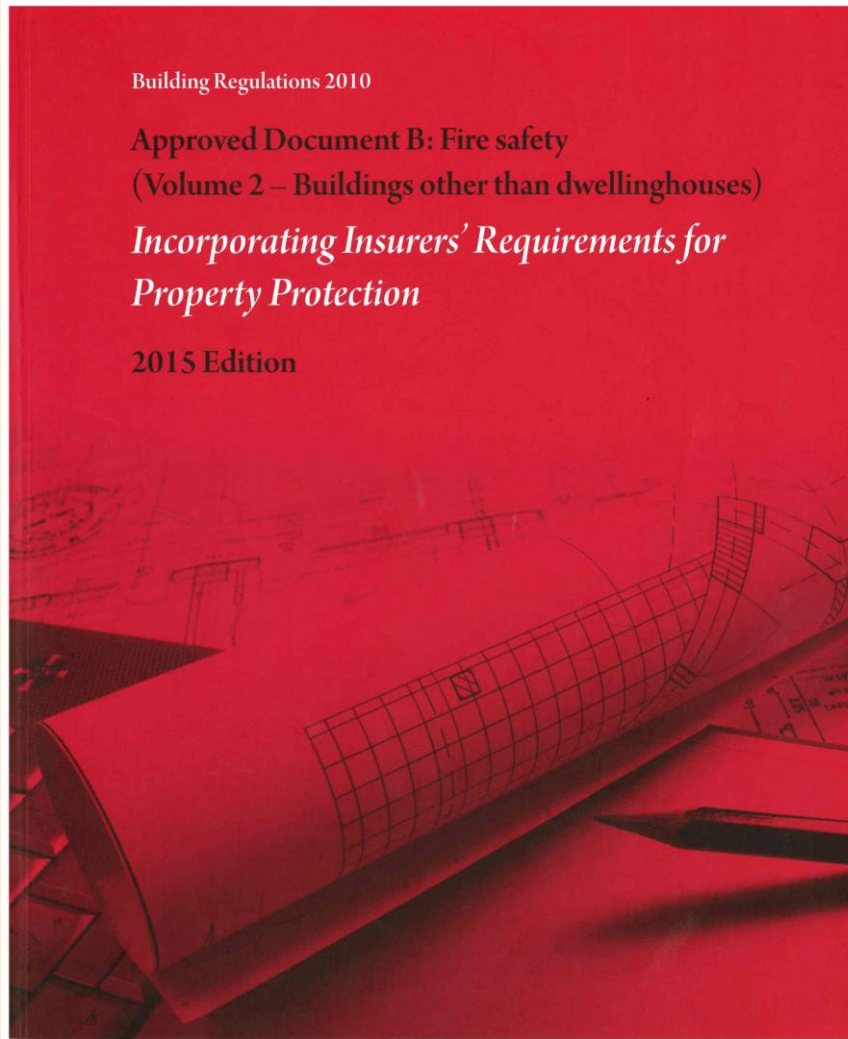



Building Regulations 2010

Approved Document B: Fire safety
(Volume 2 – Buildings other than dwellinghouses)

*Incorporating Insurers' Requirements for
Property Protection*

2015 Edition



RIBA  Publishing

 RISCAuthority

 Fire Protection Association

THE UK's NATIONAL FIRE SAFETY ORGANISATION
Protecting people, property, business and the environment



**Fire Protection
Association**

FPA Safe Futures Campaign

Issues that FPA and its stakeholders attach great importance to seeing covered in the next review of Building Regulations

- Solving the false and unwanted AFA alarm issue
- Addressing the external weak-spots in some modern building designs
- Improving sprinkler provision in warehousing

**Mr Jonathan O'Neill, Managing Director Dr James LD Glockling,
Technical Director**

Fire Protection Association & RISCAuthority FPA BRAC Presentation Feb 2016

Modern Methods of Construction

- MMC and the ‘Sustainability agenda’ resulting in buildings with much higher readily available combustible content:
 - Structure (Timber, Timber & Polystyrene mixes (SIPS))
 - Cladding (Polystyrene, PUR, PIR)
 - Insulation (Polystyrene, PUR, PIR, recycled comb)
- Internal fire protection usually afforded by layers of plasterboard and use of fire stopping padding
- Little or no requirement for external fire spread mitigation

Fire Protection Association & RISCAuthority FPA BRAC Presentation Feb 2016

Modern Methods of Construction

Proposal:

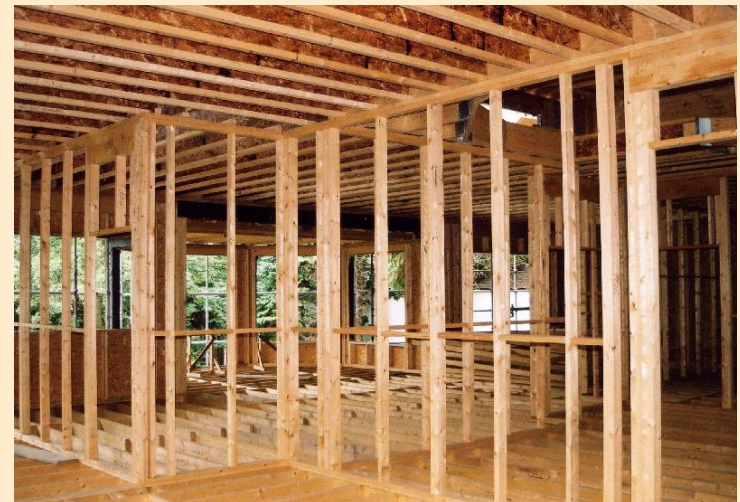
- Accept that MMC demands Building Regulation to include the external envelope of the building within its scope (prevention of fire ingress) to ensure a reduced likelihood of internal cavity fire protection being challenged
- Conduct a ‘fresh-eyes’ review of the appropriateness of our current building regulations in supporting fire safety in MMC buildings (Party Wall Act / Fire Compartments ‘floating’ in a combustible lattice)

Fire Protection Association & RISCAuthority FPA BRAC Presentation Feb 2016

What changes the Risk Factors - Materials



- Structure
- Insulation
- Cladding

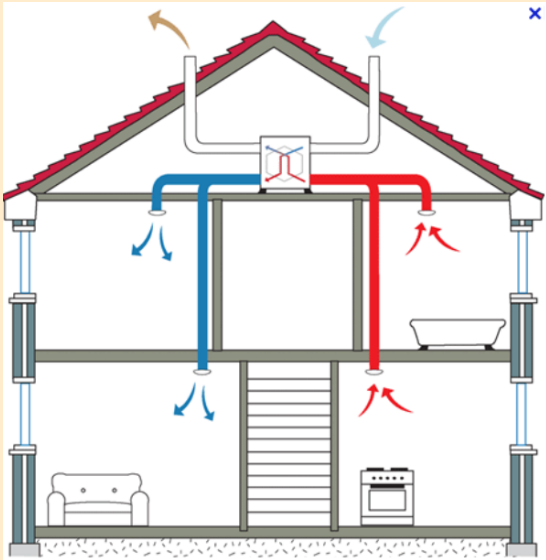
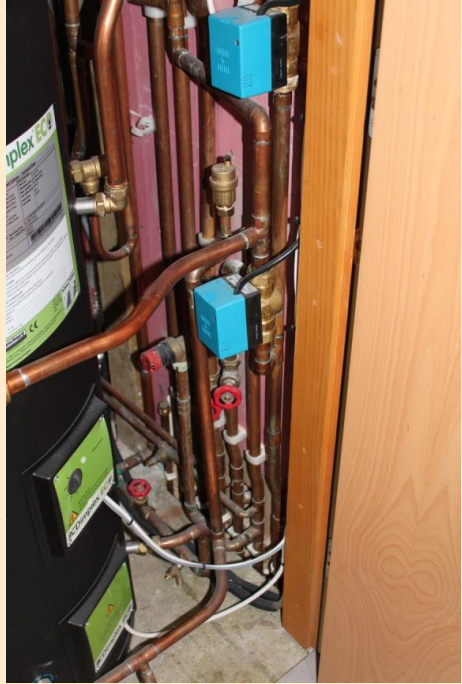


What changes the Risk Factors - Design

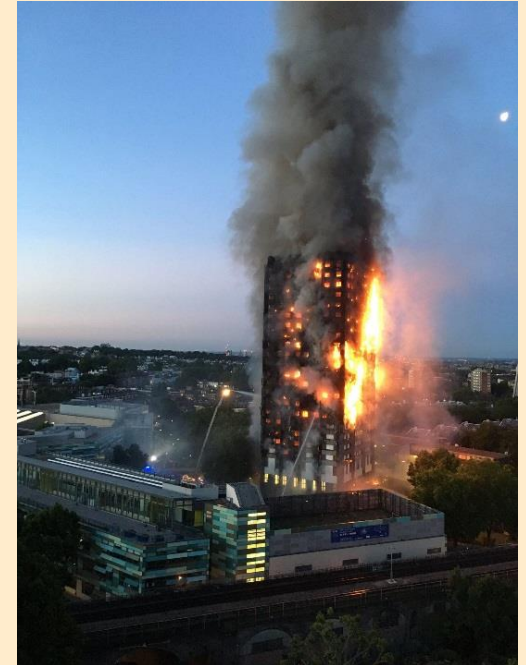


- Building access
- Material accessibility

What changes the Risk Factors – Energy Systems



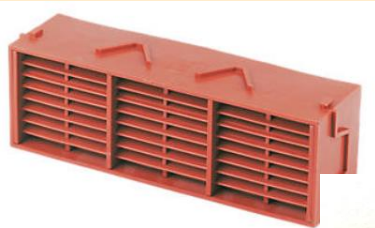
Transferring Commercial Building Systems to the Residential environment without impact analysis



Intransigence



Department for
Communities and
Local Government



Grenfell timeline

- 28/06/2017** 120 high rise buildings of serious concern have failed government fire safety tests.
- 29/06/2017** The chair of the inquiry is announced as retired judge Sir Martin Moore-Bick.
- 05/07/2017** A consultation period opens for residents and those affected to help shape the work of the inquiry.
- 06/07/2017** 190 samples of cladding have failed fire safety tests (ignoring insulation tests).
- 10/07/2017** The industry response group (IRG) is created to complement the work of the IEAP.
- 15/08/2017** The terms of reference for the inquiry are announced - "no stone will be left unturned".
- 25/08/2017** 228 buildings have cladding using a dangerous combination that fails "whole system" tests.

Grenfell Tower Inquiry

1. To examine the circumstances surrounding the fire at Grenfell Tower on 14 June 2017
2. To report its findings to the Prime Minister as soon as possible and to make recommendations.

Grenfell timeline

- 30/08/2017** DCLG publishes the terms of reference for the Independent Review of the building regulations and fire safety, which will be led by Dame Judith Hackitt.
- 06/09/2017** 173 social housing buildings have their cladding tested - 165 failed the tests.
- 14/09/2017** The first hearing of the public inquiry takes place as it opens.
- 30/09/2017** ABI agree Research programme into Cladding, Detection and Sprinklers
- 18/12/2017** The regulations review's interim report is produced - the consensus is that they are not fit for purpose and need significant change.
- 22/01/2018** Dame Judith Hackitt hosts industry summit. Senior industry figures meet to inform the next phase of the Independent Review into Building Regulations and Fire Safety.

Insurer concerns

- Clarity and interpretation
- Scope
- Engagement
- Competency, Supervision, Control, and Authorisation
- Combustible Materials
- Imperfect World
- Standards
- Detection and Evacuation
- Engineered solutions
- Data
- Awareness
- Impact of other parts of Building Regulations
- Sprinklers
- Consequences of previous BR reviews and legislative changes

Hackitt Review



Building a Safer Future Independent Review of Building Regulations and Fire Safety: Final Report

Presented to Parliament
by the Secretary of State for Housing, Communities and Local Government
by Command of Her Majesty

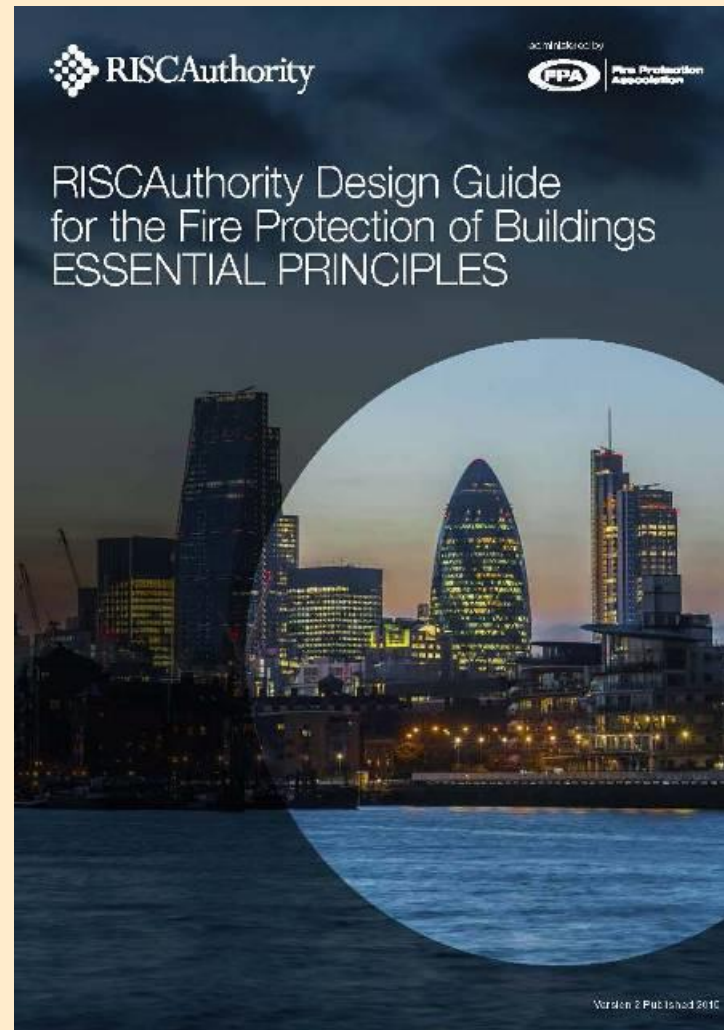
Hackitt Review - Detail

- Current regulations and guidance are **too complex and unclear leading confusion and misinterpretation in their application** to high-rise and complex buildings.
- **Clarity** of roles and responsibilities is poor. Even where there are requirements for key activities to take place across design, construction and maintenance, it is not always clear who has **responsibility** for making it happen.
- Process for **Residents** to escalate concerns is unclear and **inadequate**.

Hackitt Review - Detail

- Despite many who demonstrate good practice, the means of assessing and ensuring the **competency** of key people throughout the system is inadequate. There is often no differentiation in competency requirements for those working on high-rise and complex buildings.
- **Compliance, enforcement and sanctions** processes are too **weak**.
- The system of **product testing**, marketing and quality assurance is not clear

Essential Principles



THE UK's NATIONAL FIRE SAFETY ORGANISATION
Protecting people, property, business and the environment



**Fire Protection
Association**

FPA Concerns for Grenfell Inquiry & Regulatory Review

Adequacy, Clarity & Scope

- the definition of 'limited combustibility' and whether such materials should be permitted for use in high risk occupancies such as social housing.
- process for approval of all 'modern methods of construction
- whether the scope needs to be extended to cover fire ingress.
- Modern methods of construction - whether the use of such methods and materials are appropriate particularly in higher risk occupancies such as social housing, hospitals and hotels for example.

FPA Concerns for Grenfell Inquiry & Regulatory Review

Engagement

Test Methodologies, Assessment & Fire Engineering

- Suitability of current test methodologies for assessing fire resilience of building products; including the option for desk-top style assessments of fire performance.
- Fire engineered solutions - consider the discipline of fire engineering, the qualifications required to practice and produce solutions for approval by building control bodies.
- Whether the refurbishment at Grenfell Tower should have been classified as major building works and subject to full Building Regulations approval

FPA Concerns for Grenfell Inquiry & Regulatory Review

For Supervision, Control, and Authorisation

- A new joint supervisory body - clarification needed on the extent and breadth of its powers.

Combustibility

- Resilient fire prevention and protection starts with the selection of non-combustible materials
- Current regulations have a remit that extends no further than ‘evacuation before collapse’
- Hierarchical guidance on the selection of materials to support building regulations

FPA Concerns for Grenfell Inquiry & Regulatory Review

Imperfect World

- in-exactness in construction
- inappropriate adjustment of the materials/specification

Standards

- test standards do not accurately represent real-life situations
- interpretation of standards

Resilience and Repeal of the Local Acts

Grenfell timeline

- 14/02/2018** BRAC sub committee for the clarification of Approved Document B meets for the first time
- 21/02/2018** First meeting of BSI committee to look at extended application of BS 8414
- 28/02/2018** First tower block in Croydon retrofitted with sprinklers
- 11/04/2018** Consultation on Desk top Studies Opens
- 23/04/2018** FPA/ABI release report examining the efficacy of the BS 8414 test
- 31/05/2018** Independent Review due to Report
- 21/05/2018** Oral hearings due to begin at the Public Inquiry
- 14/06/2018** Anniversary
- 18/06/2018** Expert testimony to Public Inquiry begins
- 18/06/2018** Consultation on non combustibility opens

Grenfell timeline

- 18/07/2018** Select Committee Report on the Hackitt
- 19/07/2018** Consultation on Clarification of Approved Document B Opens
Secretary of State announces ABD Review
- 31/07/2018** Expert Panel Fire Doors Concerns Emerge
- 12/09/2018** Letter to Building Control on Desktop Cladding Assessments
- 18/09/2018** Government Response to the Select Committee Report on the Hackitt
- 27/09/2018** LFB Commissioner gives evidence to Inquiry
- 01/10/2018** Announcement of combustible materials ban

What are we asking for?

- Recognition of resilience
- No more sacrificial buildings
- Robust structures
- Third party accredited products and services
- Competence in design, install and inspection

Thank you

Dr Jim Glockling

Director FPA, RISC Authority, Technical Director
jglockling@thefpa.co.uk

All guides and documentation referred to freely available from

www.RISCAuthority.co.uk

<https://robust.riscauthority.co.uk/>

www.theFPA.co.uk

fpa.bppp.riscauthority.co.uk

London Road, Moreton In Marsh , Gloucestershire GL56 0RH
T: +44(0)1608 12500 F: +44(0)1608 812501
E: info@riscauthority.co.uk www.riscauthority.co.uk

Indoor Air Quality and Overheating

Professor David Boyd

Birmingham City University

Air Quality and Overheating

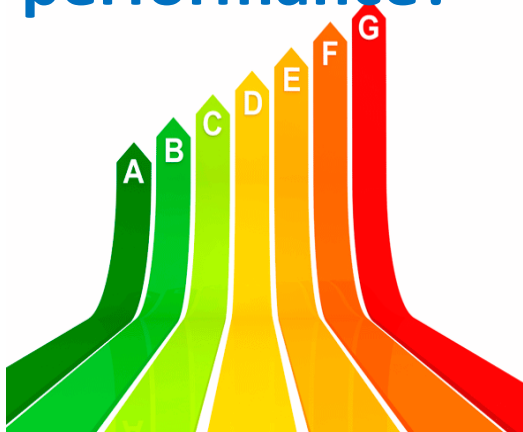
a review of the problem

Professor David Boyd

School of Engineering and the Built Environment

Birmingham City University

Energy performance?



Building Whole life?



Building Performance

Maintainability?



Occupants' satisfaction?



Environmental Quality?



Indoor Environmental Quality

Emphasis on Energy Conservation
and Higher Expectations

Poor Air Quality



Low comfort

Unnecessary
Air Conditioning

Medical
Conditions

Distress
Incapacity
Death

Overheating



Public Health
Problem

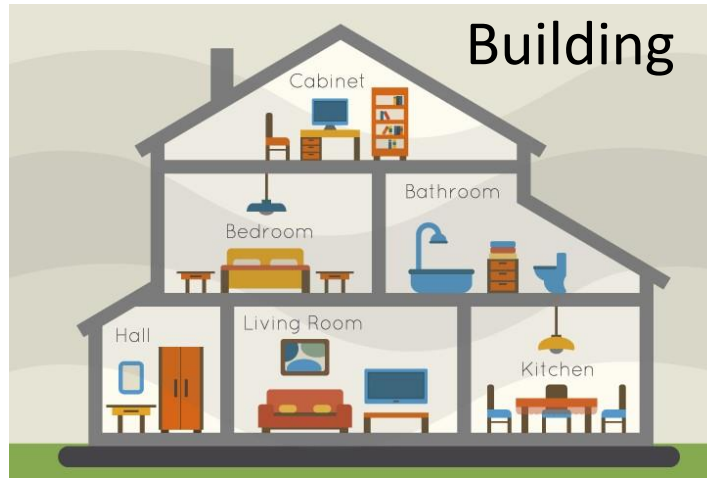
Cost to society

Issues Complex

Materials

Form, space
and orientation

Services
and Facilities



Build quality

Outside context

Regulations

Ventilation

Occupant Behaviour


Occupant
expectations



Occupant capabilities
and competence
(physical and mental)

Aging Population

Overheating in buildings: lessons from research

Kevin J. Lomas  and Stephen M. Porritt 

School of Civil and Building Engineering, Loughborough University, Loughborough, UK

Introduction

There is growing evidence of an increased incidence of overheating during warm weather in buildings without air-conditioning, especially homes in temperate climates where the retention of winter heat has been the principal focus of thermal design. Overheating has been particularly notable in new homes and in existing stocks. Excess heat affects the health and wellbeing of occupants, especially if sleep is degraded. In extremis, the heat stress caused can lead to premature mortality, especially amongst more vulnerable members of society. The problem came vividly to the fore during the devastating 2003 pan-European heatwave which caused 15,000 premature deaths (PHE, 2015).

In territories where air-conditioning is already used, or even essential to maintain comfort, there is an interest in the indoor temperatures that might occur should the mechanical cooling equipment or the electricity supply fail. The concern here is survivability in relatively rare and unpredictable circumstances.

This special issue presents overheating studies by 12 groups of researchers. The papers, which were selected from the 79 submitted abstracts, describe work conducted in Australia, China, Germany, India, New Zealand and the UK (Table 1). They describe monitoring campaigns in occupied buildings, modelling studies, controlled trials in full-size test buildings and laboratory experiments, in short, the full range of approaches that might be used to shed a light on the incidence of overheating, the causes of it, and the impact on and response of building occupants.

This editorial places these papers in context and compares and contrasts the research findings; it is shaped by the consideration of six questions:

- Why is overheating a problem and why now?
- When is a building overheated?

- How do people respond to heat?
- How widespread is overheating?
- Can we predict overheating?
- What should we do next?

The chosen papers contain an excellent array of references to the extant literature,¹ which makes this issue a valuable resource for those new to the field, and obviates the need for an extensive background review here.

Why is overheating a problem and why now?

Overheating has been observed across Europe and in North America (e.g., Lane et al., 2014; Lee & Shaman, 2016), but in this issue the majority of the papers, eight in all, are from UK researchers, which is illustrative of the rising level of concern about overheating in many places with a temperate climate. Seven papers report monitoring studies conducted between 2009 and 2015 in dwellings covering the entire nation. They report primary data collection and an analysis of secondary data from the English survey of over 800 dwellings (DECC, 2013). The primary studies vary in scale, with data collected from between 101 and 18 homes, and temperatures typically recorded in the main bedroom and living room (Table 2). Overheating is shown to occur in dwellings stretching from the south-east and south-west of England to the north of Scotland. The papers give insight into the incidence and causes and effects of overheating which will be of interest to policy-makers, designers, housing authorities, researchers, etc. in many countries.

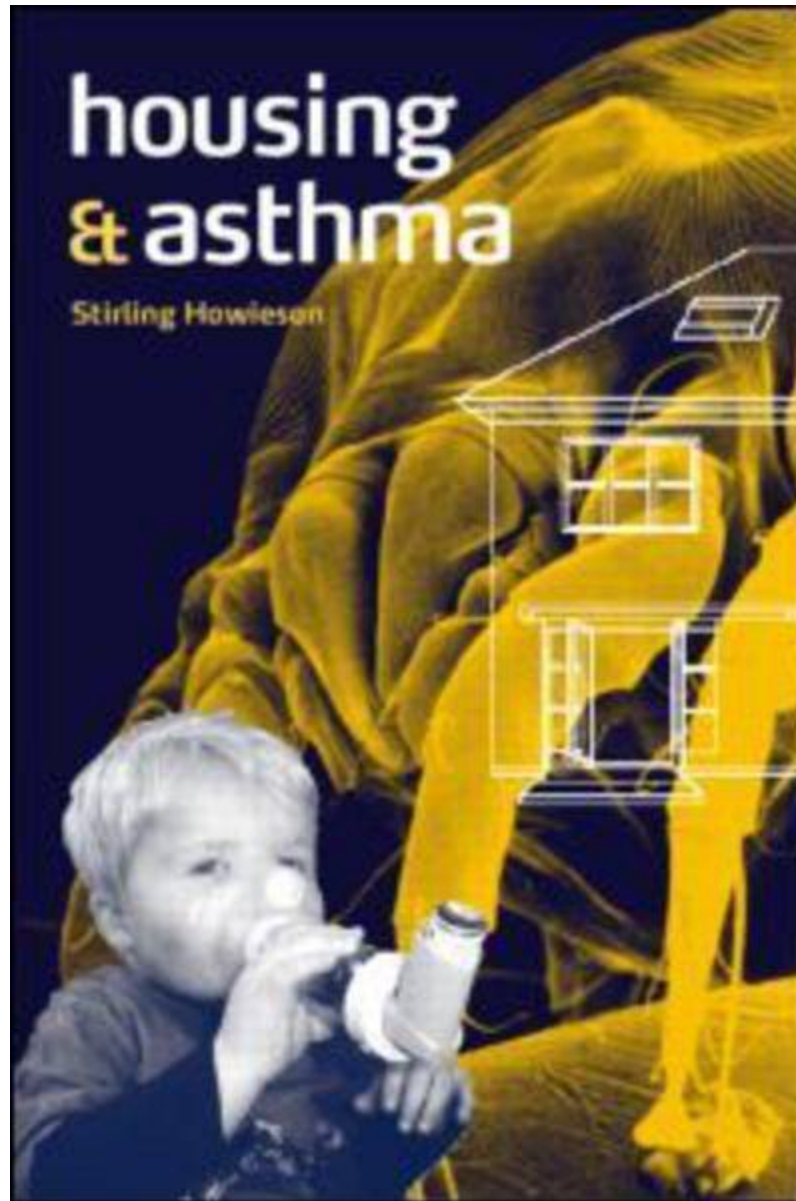
Why, though, should overheating be a particular problem in European homes and the UK in particular, and why now? After all, the UK is a small, if densely populated, island with relatively mild winter weather and temperate summer conditions. Situated off mainland Europe

summertime overheating

- A 'perfect storm' of interacting factors :
- the drive for energy efficiency and decarbonization,
- the changing climate with increasingly hot summers and heatwaves, urbanization and urban heat islands,
- the incessant drive to reduce construction costs,
- increasing land and property prices,
- an ageing population,
- the technical ability to identify and quantify the problem,
- the profound social and cultural lack of knowledge about what to do when confronted with heat.

housing & asthma

Stirling Howleson



Every breath we take The lifelong impact of air pollution

Report of a working party
February 2016



Poor indoor air quality

- Volatile Organic Compounds
- Humidity,
- CO, CO₂, NO₂, O₃
- Radon
- Pollutants from occupation; cooking, fires, aerosols, paints, cleaners, flowers
- Particulates
- Moulds and bacteria

Anthropogenic pollutants

Sources

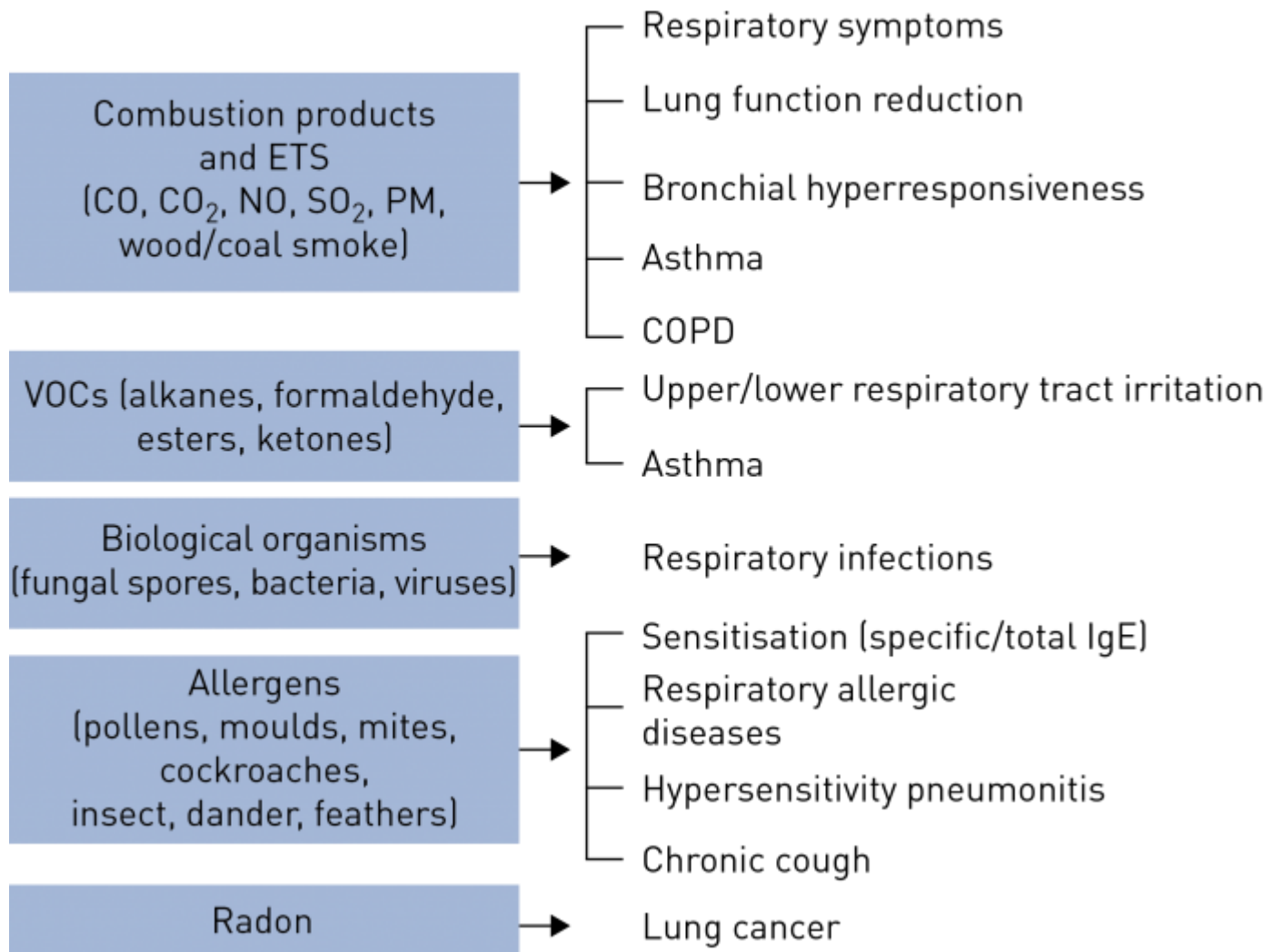
- Combustion
 - Unvented gas/kerosene heaters
 - Biomass (wood/coal) for heating/cooking
 - Tobacco smoke
 - Wood (fireplaces), gas ranges – pilot lights
- New furniture, solvents, painting, adhesives, insulation, cleaning products, materials for offices
- Building materials, water
- Allergens
 - Dust, beds, carpets
 - Pets, birds, insects, rodents
 - Dampness
 - Plants
- Viruses, bacteria

Pollutants

- CO, CO₂, NO₃, PAHs
- CO, CO₂, PM, PAHs
- CO, CO₂, PM, VOCs, PAHs
- VOCs
- VOCs, formaldehyde
- Radon
- Acarides (HDM)
- Moulds
- Pollens
- Biological contaminants

Pollutants

Health effects



Opportunities

- Selling indoor air quality

VERDE TWO

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MONTEVERDE TOWER**

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Apartment in Indonesia

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Conclusion

- Houses and Fitness for Purpose
- Hidden problem with large health impact
- Aging population
- Issues Complex and not understood
- Unintentional consequences
- Long term
- No responsibility

IAQ and OH Working Group

- Manufacturers, House Builders, Agencies
 - Built Environment and Public Health academics
 - Chaired by Silvio Junges AES Sustainability Consultants
- Shared Responsibility for Solutions
 - Practical, economic realism, incremental.
- Please join us
- david.boyd@bcu.ac.uk



Quality Matters

Phil Rogers

NHBC



Construction Quality

Within the house building
industry



Phil Rogers

Construction Quality Manager NHBC



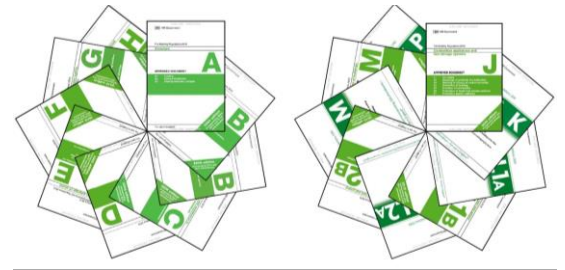
Agenda

-  About NHBC
-  Measuring quality
-  Construction Quality Reviews (CQRs)
-  Areas of focus emerging from CQRs
-  What next?

NHBC

Raising Standards. Protecting homeowners

- NHBC Standards
- Warranty provider
- Approved inspector
- Administer the HBF new-home satisfaction surveys
- Provide training to industry
- Support the industry with research and guidance

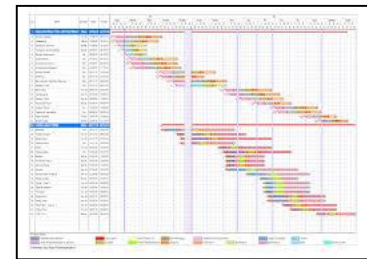
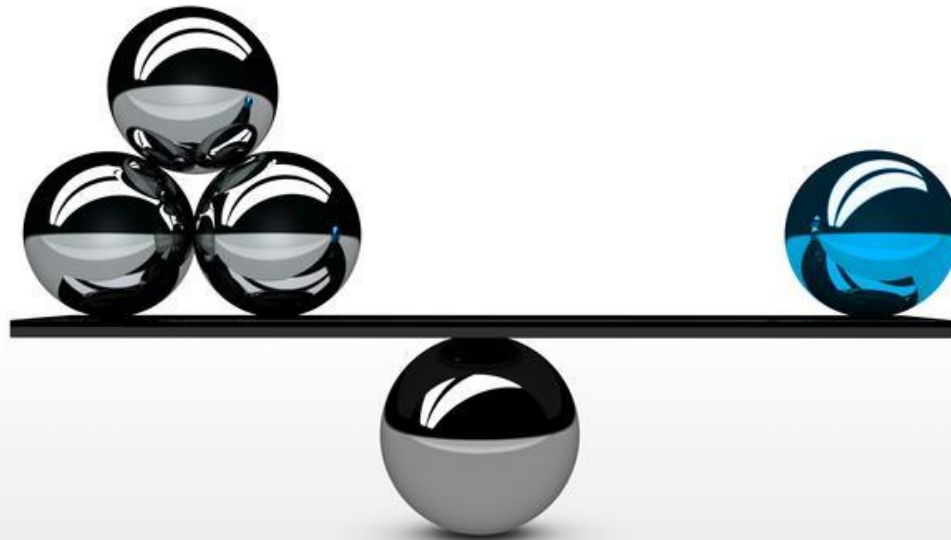


What do we mean by construction quality?

- Performance, aesthetics & cost
- The product is fit for purposes and meets or exceeds the expectation of the end user
 - Satisfying the specification required by the contract
 - Complies with applicable codes and regulations
 - Aesthetically pleasing and defect free

The balancing act

Balancing quality and cost, whilst always constructing homes safely



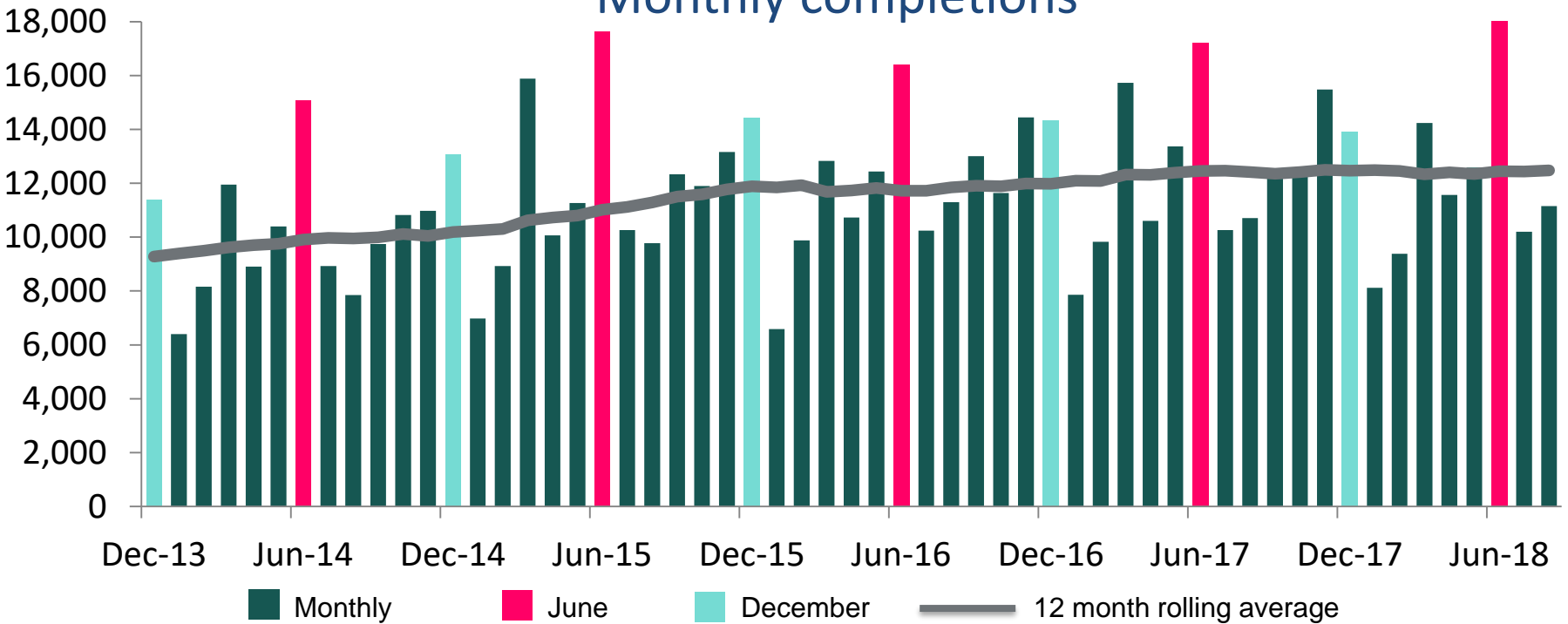
Root Causations - Core Process

Creating an environment to build quality homes



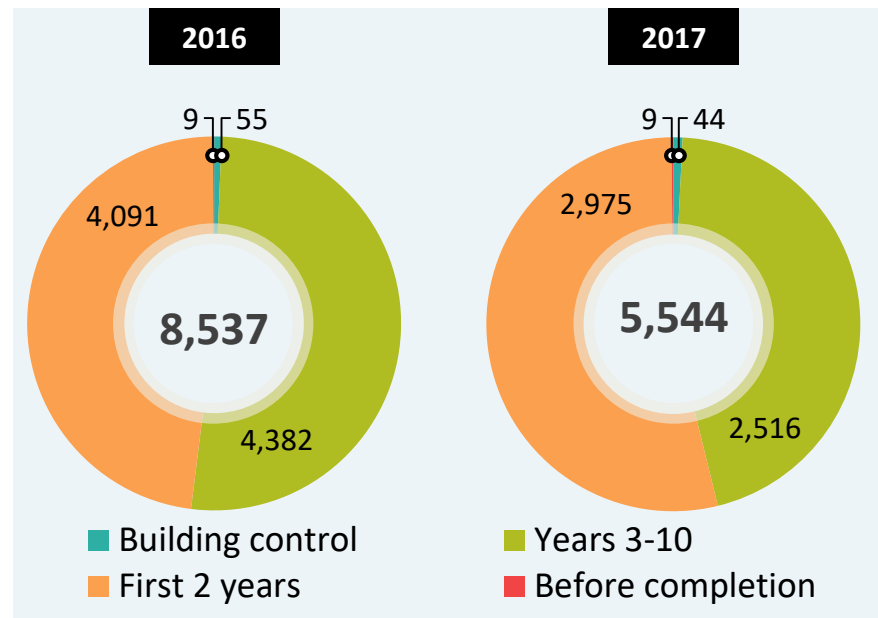
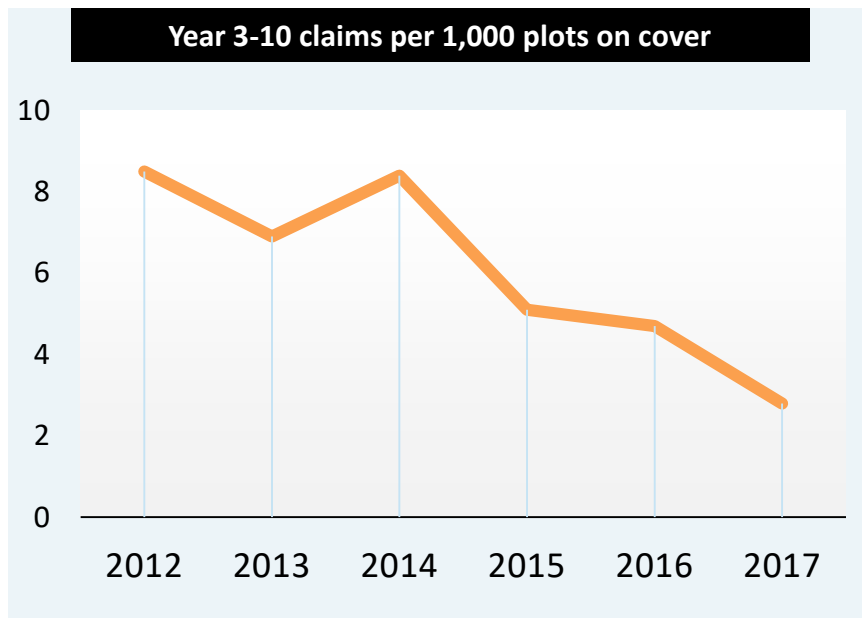
Construction quality - volumes

Monthly completions



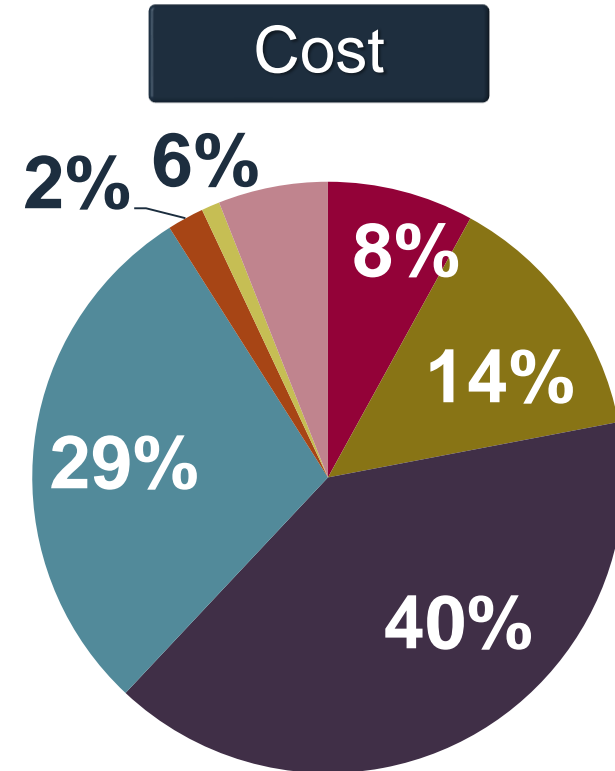
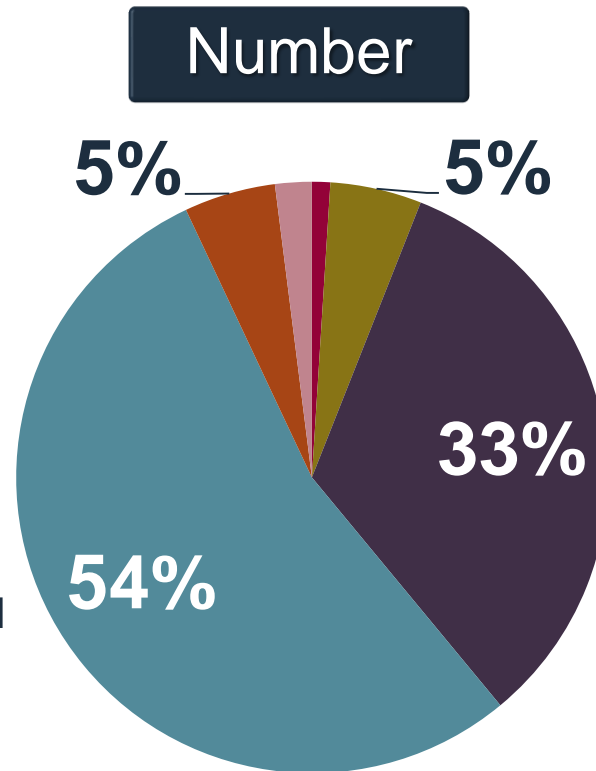
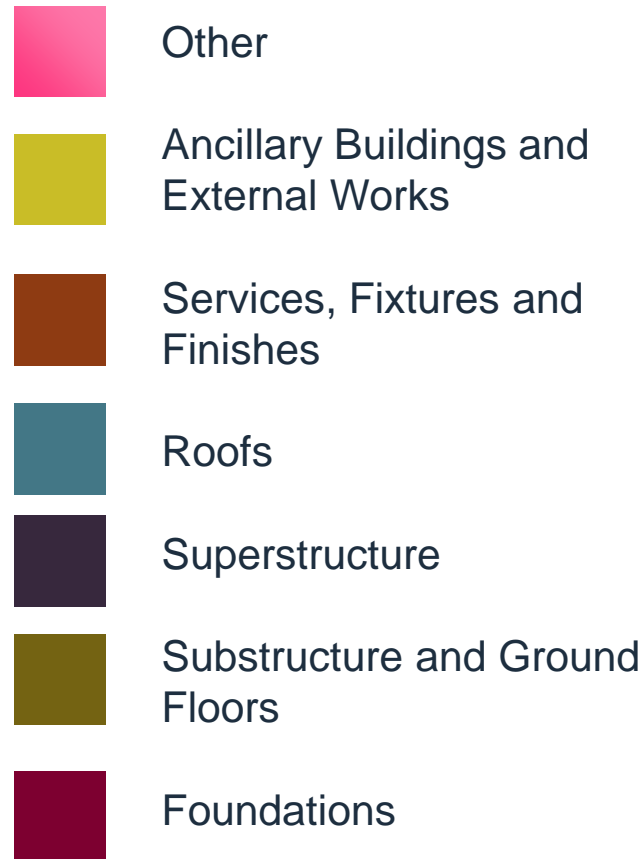
Construction quality - claims

Reductions in volumes – pitched roofs and external walls in particular

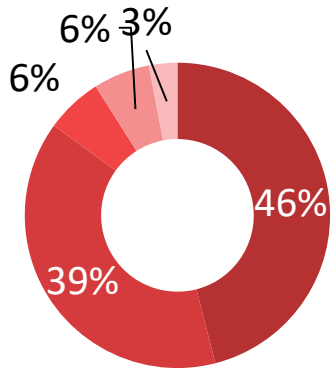


Construction quality - claims

2017 Claims in year 3-10



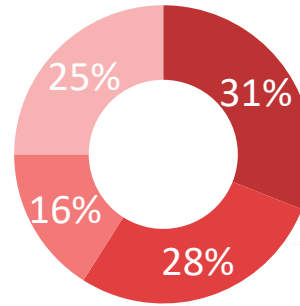
Construction quality – New home survey



Quality

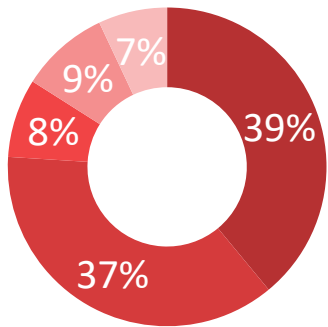
- Very satisfied
- Fairly satisfied
- Neither
- Fairly dissatisfied
- Very dissatisfied

Number of problems

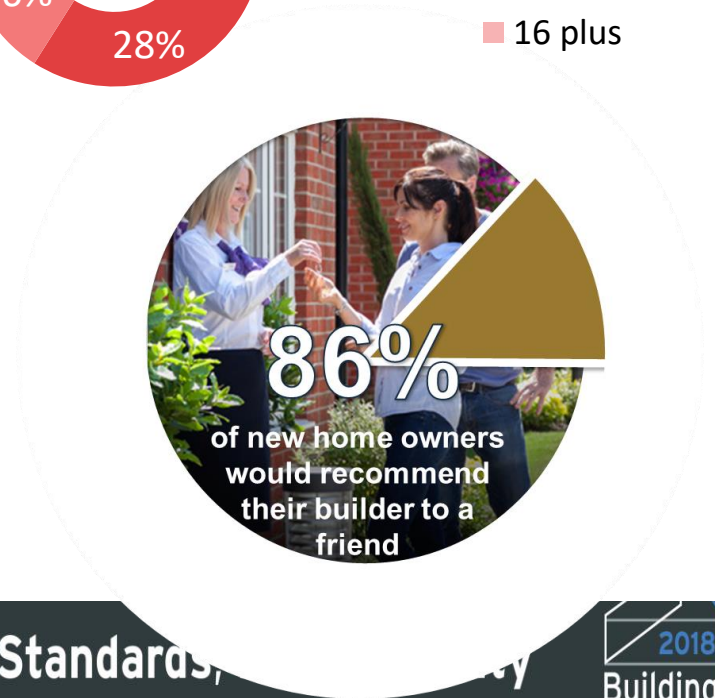


- 1 - 5
- 6 - 10
- 11 - 15
- 16 plus

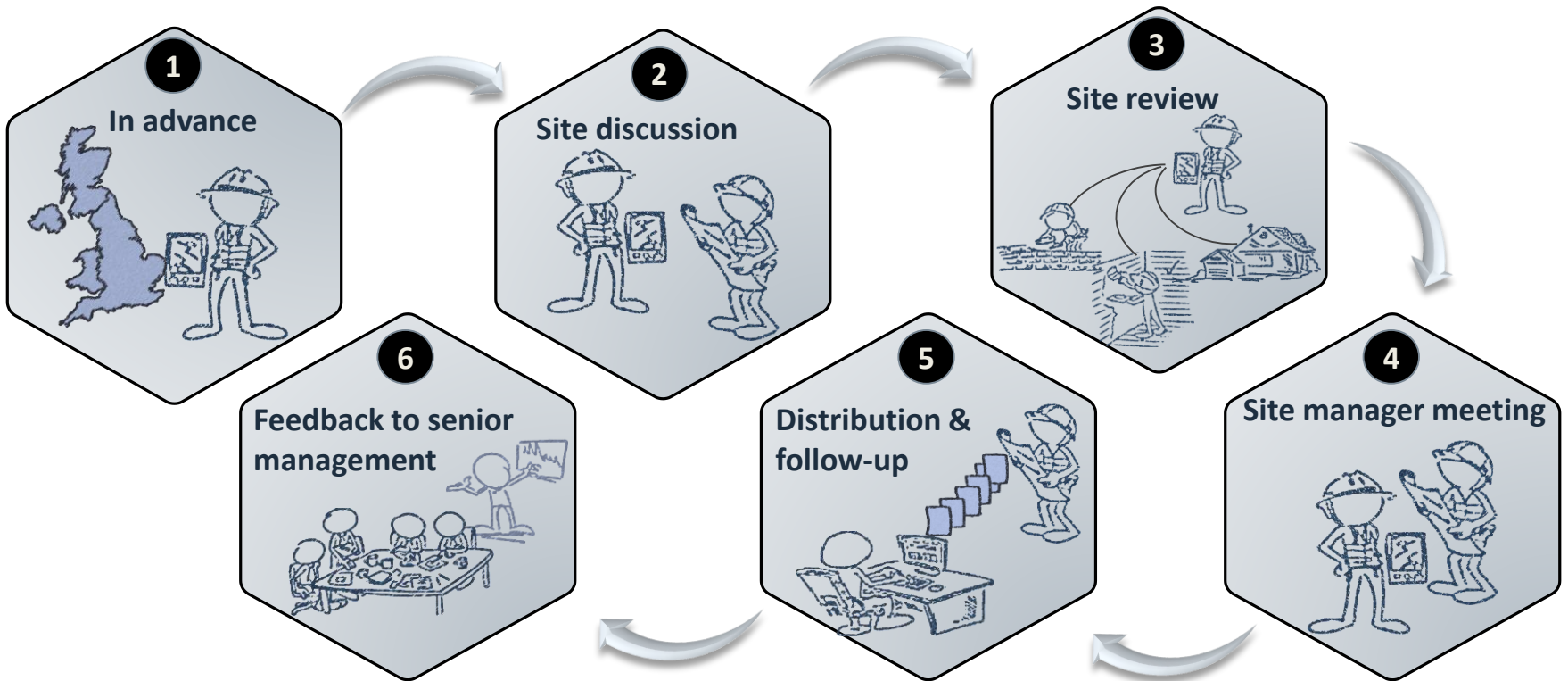
Standard of finish



- Very satisfied
- Fairly satisfied
- Neither
- Fairly dissatisfied
- Very dissatisfied



Construction Quality Reviews



Construction Quality Reviews

Very Poor	Many significant non-compliances of NHBC Standards and/or Building Regulations - Imminent dangers to H&S apparent and/or almost inevitably resulting in a claim(s) > £100K	1
Poor	Many minor non compliances of NHBC Standards and/or Building Regulations and/or some significant non-compliance - Imminent danger to H&S apparent and/or almost inevitably resulting in a claim(s) > £30K	2
Requires Improvement	Some minor non-compliance(s) with NHBC Standards and/or Building Regulations	3
Good	Meets NHBC Standards & Building Regulations	4
Very Good	In addition to 4 - some extra attention to detail over and above minimum requirements	5
Outstanding	In addition to 4 - much of work seen can't be improved upon	6



CQRs – Industry results

Emerging focus areas

	Number of reviews
1. DPCs and trays	2300
2. Cavities and insulation	2400
3. Fire stopping and sound proofing	1450
4. Plaster and dry lining to walls and ceilings	1680
5. Waterproofing and ventilation	1370

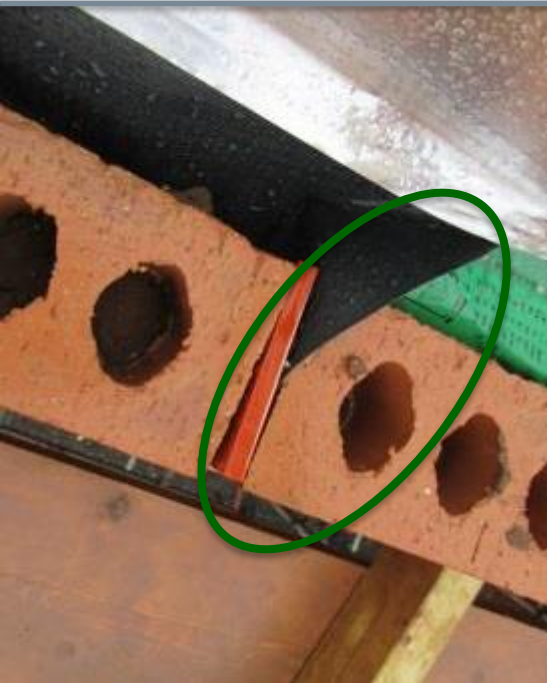
DPCs and trays



DPCs & trays

- Stop-ends just folded back on itself
- Tray full of mortar
- Trays in wrong place

DPCs and trays



DPCs & trays

- Correctly formed stop-end
- Tray clear (can hold and dispense water)
- Preformed stepped tray being used

So what?



Stepped Cavity Trays

Design Example of design and procurement related issues and actions

- **Trays** installed in the **wrong location or missed** - **Level of detailing on drawings** for trays, Setting out point, confirmation of roof covering & vertical tray details

Commercial

- Stepped trays – **Lack of product knowledge** in **tender process** / Insufficient detail in the **trades specification**
- **Horizontal trays not aligning** with offsite tiled porch / canopies – Earlier confirmation of the **bay window product type** with coordinated drawings / Standardised product types

Cavities and insulation

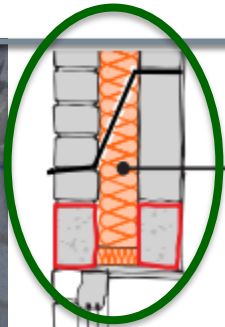


Cavities & insulation

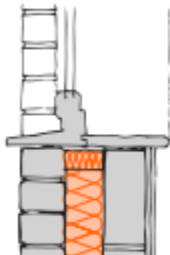
- Insulation detail wrong near cavity tray
- Missing insulation
- Gaps



Cavities and insulation



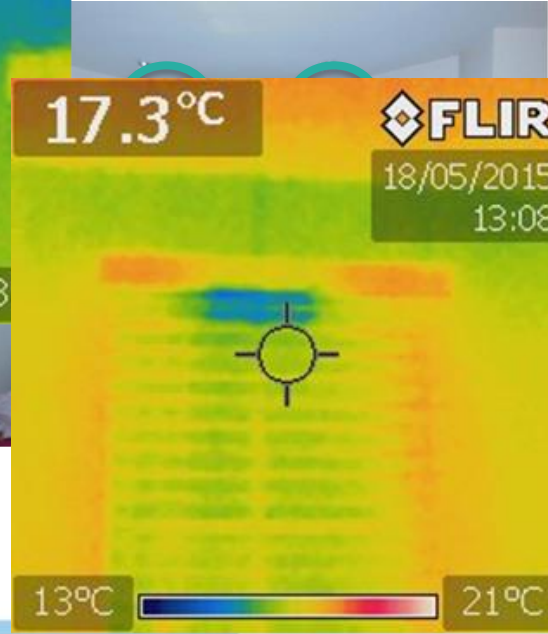
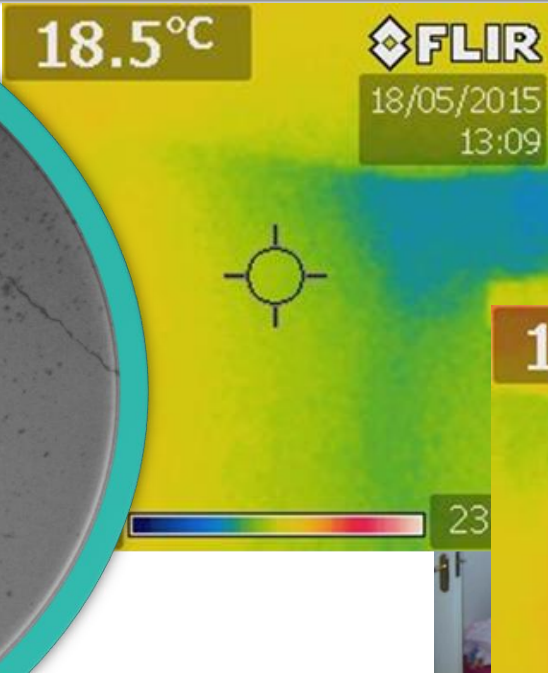
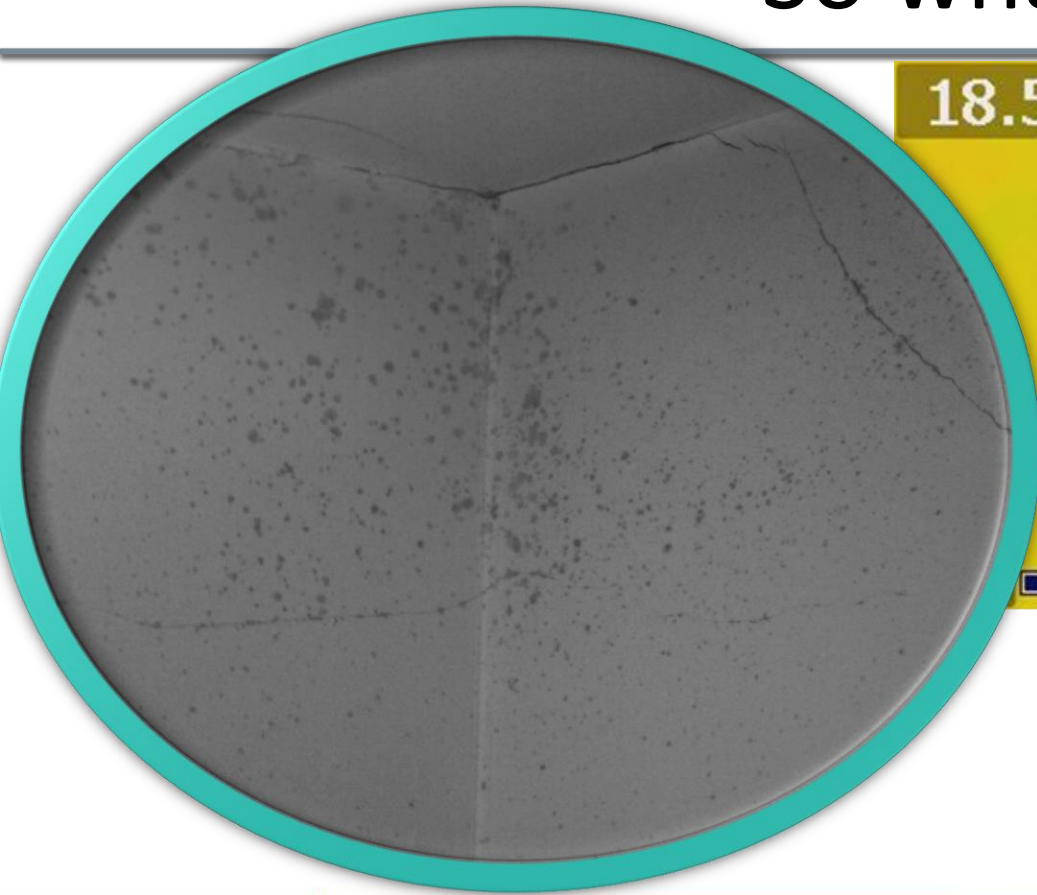
INSULATION CUT
BEHIND CAVITY
TRAYS



Cavities and insulation

- Insulation should be continuous and cut behind and in front of trays
- Insulation should be tight against the blockwork
- Joints should be tight and taped
- There should be no gaps
- Insulation should be fixed with ties vertically at the board joints

So what?



Fire stopping and soundproofing



Firestopping and soundproofing

- Gaps in insulation cause cold spots and increase sound transfer
- Mortar on cavity barrier causes a cold bridge, increases sound transfer, and can allow fire and smoke to spread if the sock is being used as a fire barrier

Fire stopping and soundproofing



Firestopping and soundproofing

- Full insulation
- Tight fitting barriers
- Barrier is close against the insulation (no cold spots)

Opportunities for improvement

What can the **Design** team do to help?

Simpler drawings that relate to the construction phase?

Can we use less jargon like BS numbers and Codes?

More clarity on how we understand revisions to drawings?

3D images?

QR Codes?

Are we still using 'handed' drawings?

Opportunities for improvement

What can the **Procurement** team do to help?

Tender documents for **sub-contractors**....

Do we mention the word 'Quality' in the text of tender document?

Can we include coloured photos showing "excellence"?

Can we link procurement and quality to payments?

How often are sub-contractors supervisors present?

Do sub-contractors supervisors inspect AND sign off works?

Opportunities for improvement

What can the **Procurement** team do to help?

Tender documents for **material suppliers....**

Where are installation instructions - will they reach the trade on site?

What is the 'day' of delivery? How often if that met?

Do suppliers inspect installed product to check against requirement?

Does the product work on site?

Is there a proof of performance on site?

Opportunities for improvement

What else are builders doing to improve Construction Quality?

Tablets on site, targeting more drawings and forms on-line

QA plot books/APP linked to stage payment release

Minimum standards document with photo's showing standards required

Supplier conferences

Feedback internally and externally on technical packages

A review of what a site manager does; with a target to reduce workload on less productive work in order to increase time on quality.



Thank You



Phil Rogers
Construction Quality Manager



Email: progers@nhbc.co.uk
Website: www.nhbc.co.uk



Questions

Lunch

Have a safe journey home
and a great weekend!