



Construction Quality

yesterday - today - tomorrow



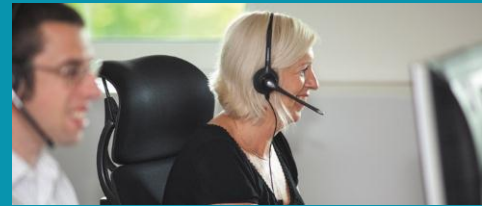
Mark Jones
Head of House Building Standards







Construction Quality - yesterday

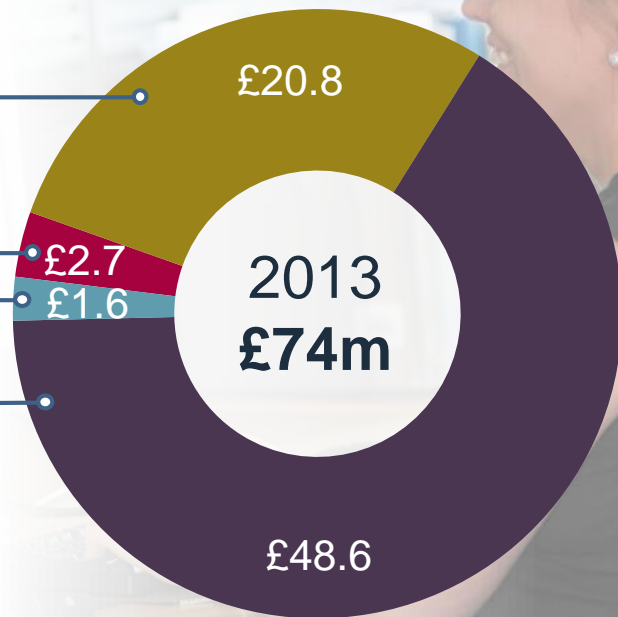


NHBC annual claims bill

First two years
including builder
insolvency

Before completion
Building Control

Years 3-10

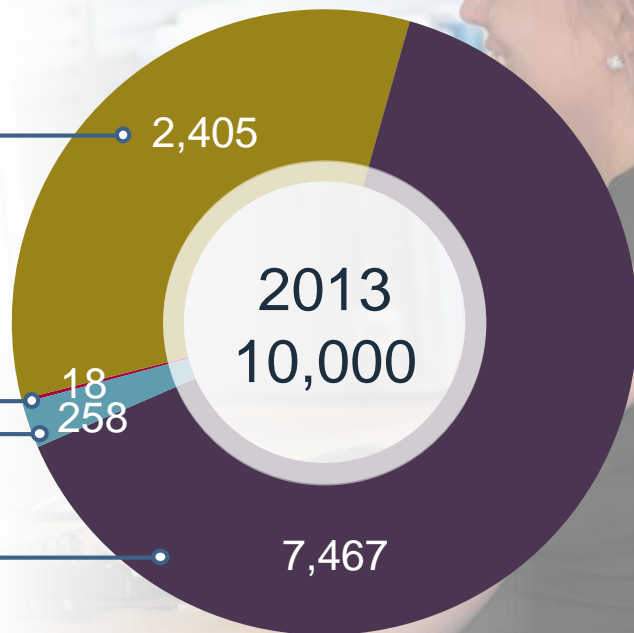


Valid new claims 2013

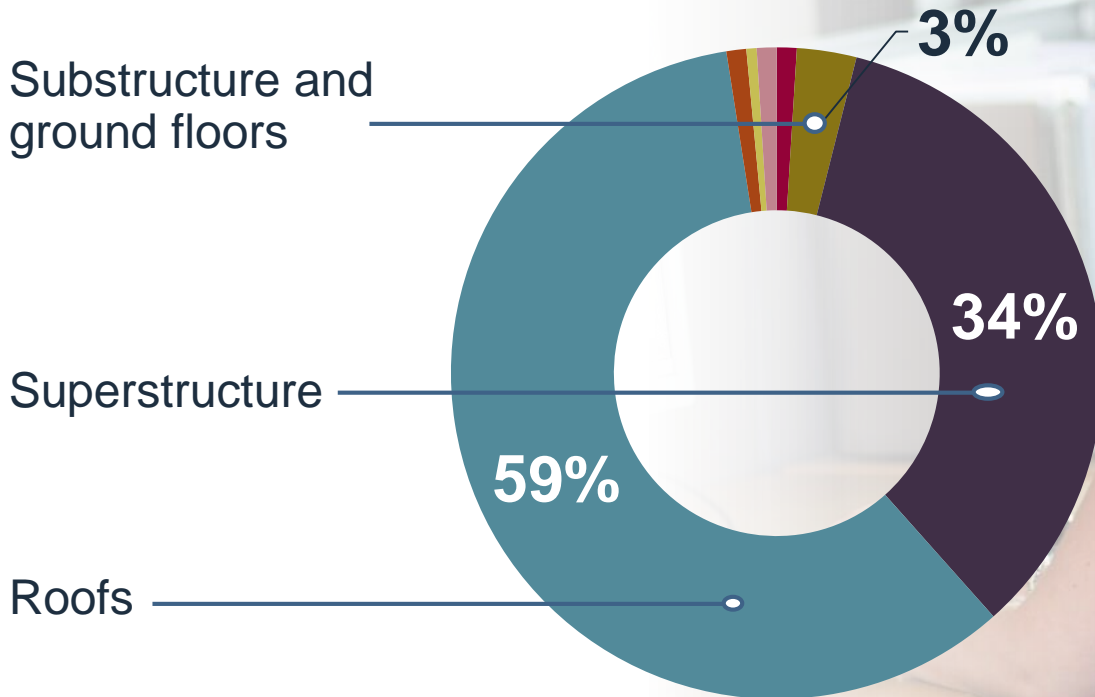
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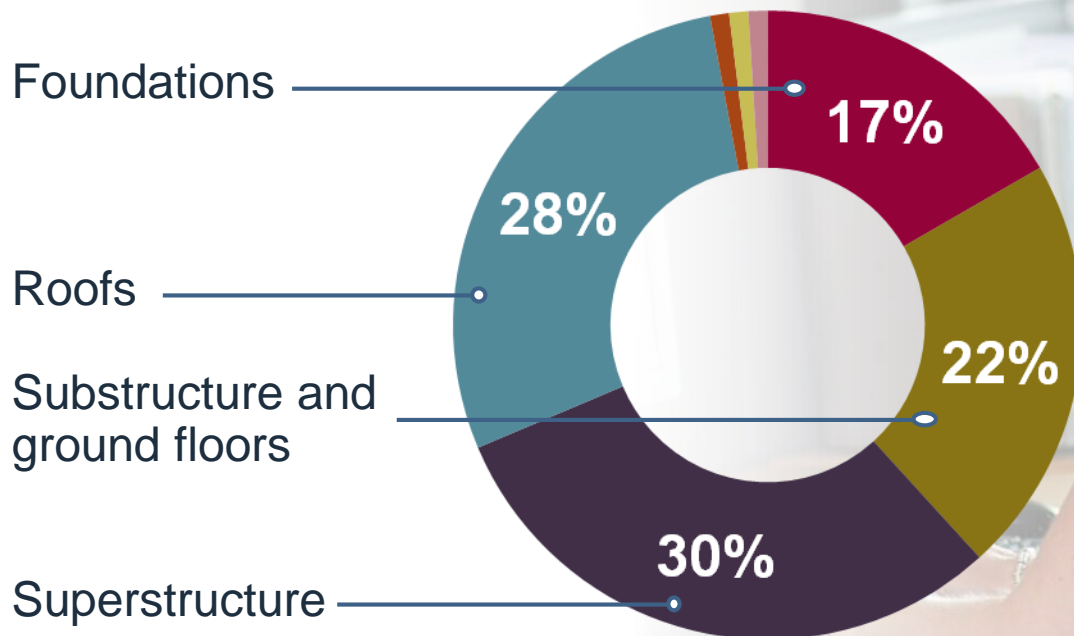
Years 3-10



Main causes of claims 2013/14



Claims spend profile 2013/14



Section 3 claims per 1,000 plots (2013 claim year)



Builders with > 1000 plots finalised in 2013, claims per 1000 plots based 2013 claims experience

Distribution of Section 3 Claims



Generational performance

Cumulative claims per 1000 plots finalled									
Finalled Year		Year claim made							
		3	4	5	6	7	8	9	10
	2000	2.47	5.43	9.45	13.54	18.82	23.89	29.19	37.14
	2001	2.13	5.77	9.92	15.61	20.75	25.98	35.18	46.03
	2002	2.47	5.98	12.06	17.96	22.95	30.67	40.87	53.71
	2003	2.53	8.65	14.08	19.11	26.11	34.90	46.47	59.65
	2004	3.52	8.10	12.18	17.62	24.60	32.90	42.22	
	2005	2.42	5.42	9.58	14.50	21.08	28.57		
	2006	1.67	4.60	8.00	12.72	17.77			
	2007	1.76	5.04	9.07	13.55				
	2008	1.36	4.30	8.13					
	2009	2.16	5.54						
	2010	2.07							

High level focus - 2014

Identified area	Year 0-2 claims by number	Year 0-2 claims by cost	Year 3-10 claims by number	Year 3-10 claims by cost
External masonry walls	H	M	H	H
Doors, windows and glazing	H	M	L	L
Substructure and ground floors	L	H	L	H
Internal services	H	H	L	L
Flats roofs and balconies	H	H	L	M
Drainage	L	H	L	L
Foundation claims	L	L	L	H
Pitched roofs	M	L	H	H





Campaigns



Pitched roofs

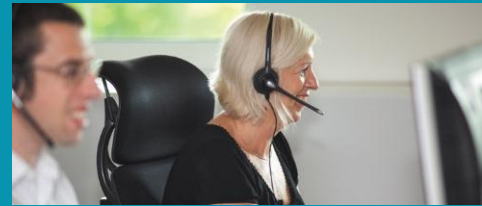
Basements

External masonry walls

Foundations



Foundation Campaign



Benefits of changes - Good News...

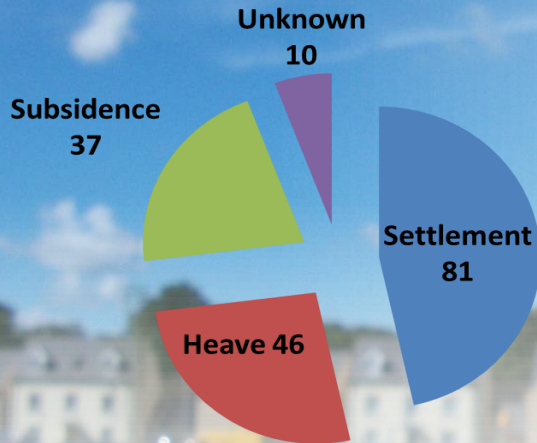
Foundation Claims Per 1000 Plots on Cover



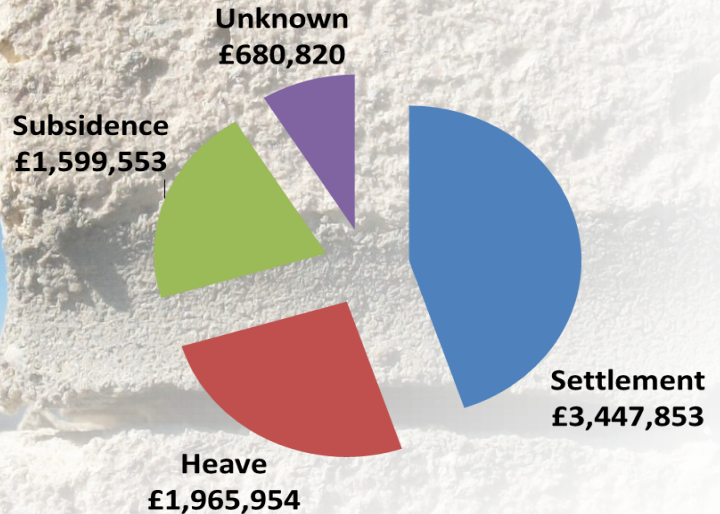
Total	£221,551,322	1222			
2015	£5,430,040	1	1,352,451	£50,800	10.0
2014	£4,011,004	122	1,310,081	£35,010	11.0



FND Generational Analysis 2005-12



Volume



Cost

Foundation Defects Causations

- **Settlement 47%**
 - Bearing Stratum – Eng Fill / Made Ground
 - Shallow Foundations
- **Heave 26%**
 - Removal of preconstruction trees
 - Ground beam Heave Precautions
- **Subsidence 21%**
 - Near equal split pre – post construction trees



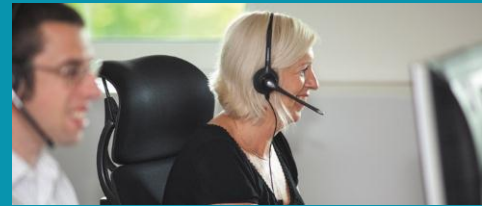
Moving Forward - Actions

- **NHBC Standards**
- **Home Owner**
- **Guidance / Research**
- **Training**
- **Inspection Risk Management**





Construction Quality - today



% of Key
stage without
RIs



2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2

Average DPR
per RI

Quality ??

2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2

BRI per plot
finalled



2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2

Quality of new
home



2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2

Standard of
finish



2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2

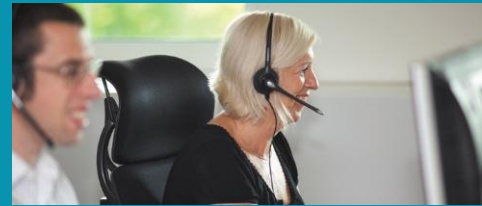
Less than 11
snags/defects



2012 Q2 2012 Q4 2013 Q2 2013 Q4 2014 Q2



Construction Quality - tomorrow



Emerging focus - 2014

	Current	1-5 years	>5 years
Claim	<ul style="list-style-type: none"> • Off site manufacture • Product/material substitution / replacement • Impact of Part F & L • Skills and people • Soil Stabilisation 	<ul style="list-style-type: none"> • Changing weather patterns • Design vs As built • FWMA inc' SUDS 	<ul style="list-style-type: none"> • Climate change
Consumer	<ul style="list-style-type: none"> • Indoor Air Quality • Overheating • Services – controls • On-going maintenance • Homeowner satisfaction 		

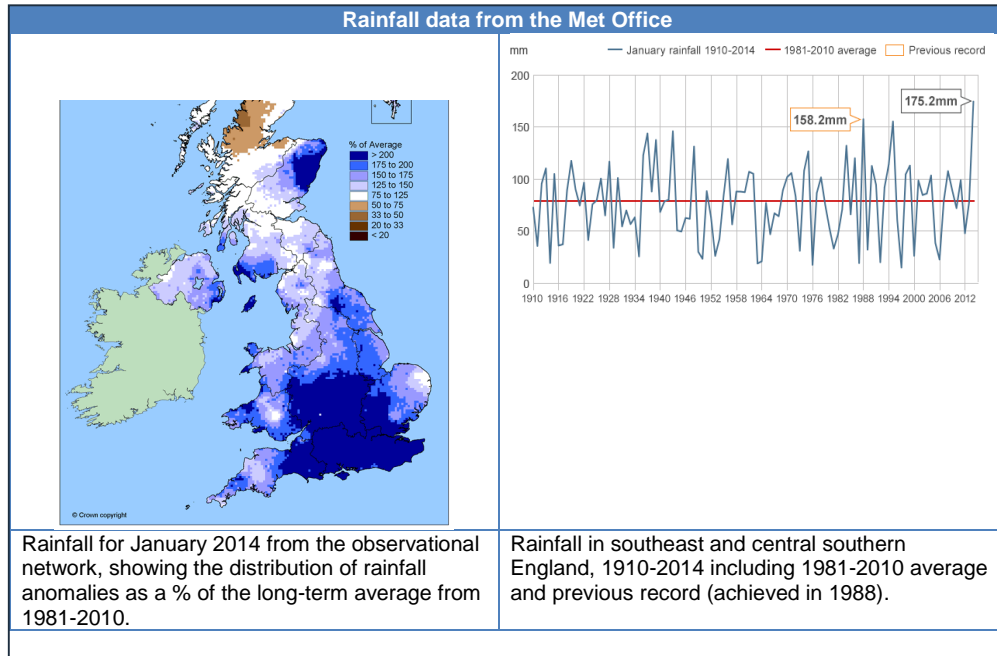


Off-site or 'advanced housing'



2014 storms damage

Worst rainfall in 248 years, wettest recorded in southern England since 1910



NHBC Foundation

- Formed 2006 – JV with BRE
- ‘to facilitate research and share guidance and good practice with the home building industry’
- NHBC re-investing surpluses
- 58 reports published to date
- 2013 – renewed commitment £500,000
- Expert Panel formed

www.nhbcfoundation.org



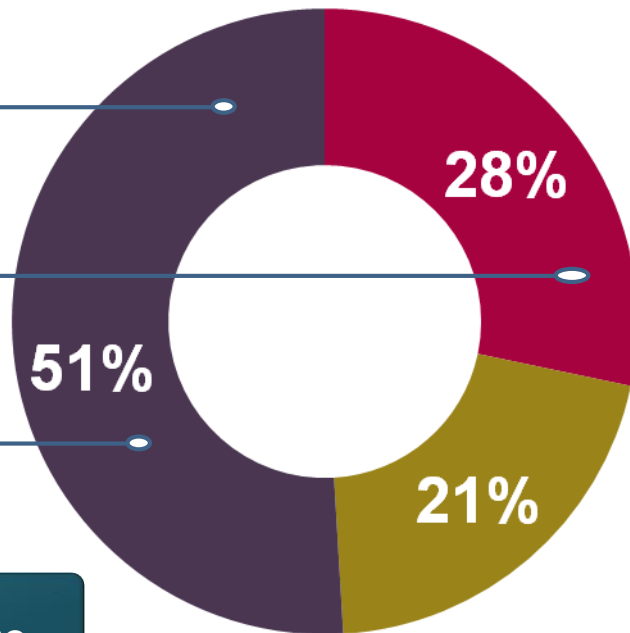
Research themes

Zero carbon

Risk management

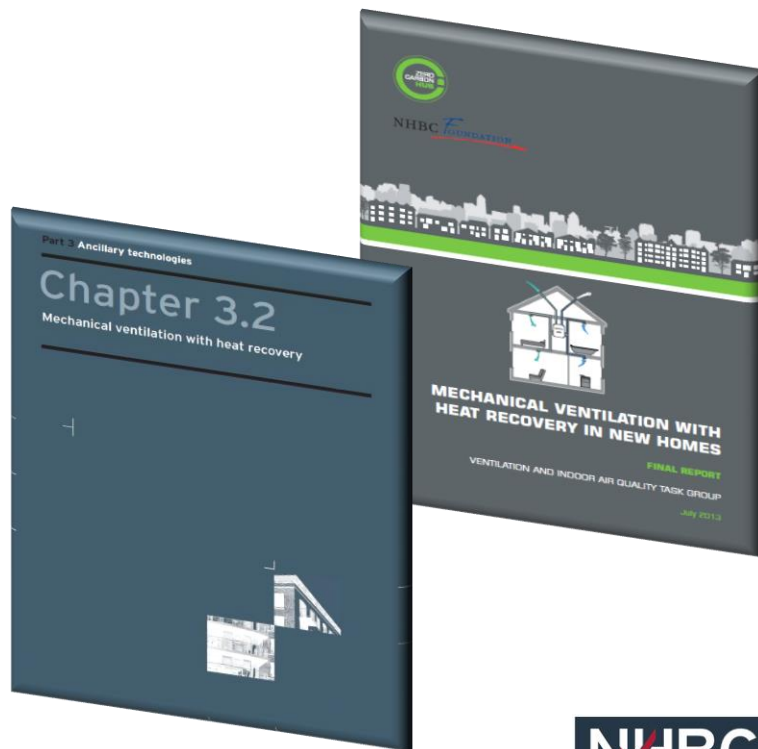
The consumer

Influencing policy and debate –
supporting the industry



MVHR. Case study

Research by NHBC
Foundation
+
Industry engagement
=
Chapter 3.2 'Mechanical
ventilation with
heat recovery'



Projects recently published

Cellulose-based building materials

Use, performance and risk



Research review

NHBC FOUNDATION

Review of co-heating test methodologies



Primary research

NHBC FOUNDATION



Sound progress

A review of homeowner feedback on noise in new homes



Primary research



Improving the prospects for small house builders and developers

Overview

- Small house builders and developers have contributed significantly to UK housing output. However in recent years these smaller companies have declined in number and are not showing growth at the recovery gains momentum.
- This study examined the business challenges that small house builders and developers have been facing.
- Planning, finance and land availability issues in particular were highlighted by companies, with many commonly identified as serious barriers to business growth.
- Addressing these barriers is a priority if small builders and developers are to prosper and make a bigger contribution to the housing market recovery.



Primary Research

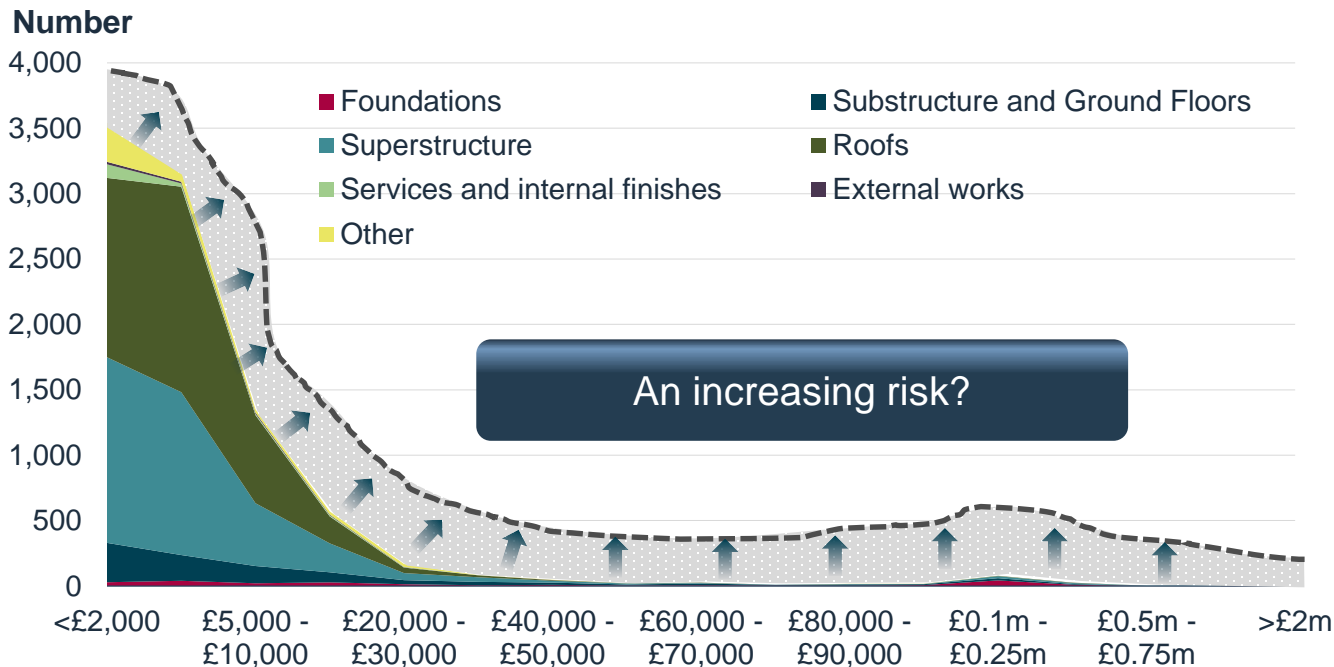


Projects in the pipeline

- Part L 2013: where to start
- Bin stores: avoiding rubbish design
- Recruitment of young people into house building
- Homes through the decades
- HAs' experience of sustainable homes
- Full fill insulation in severely exposed areas
- Lighting guide
- Underfloor heating
- The 'connected home'
- Road & sewer bonds



Increasing Volume





70 million reasons

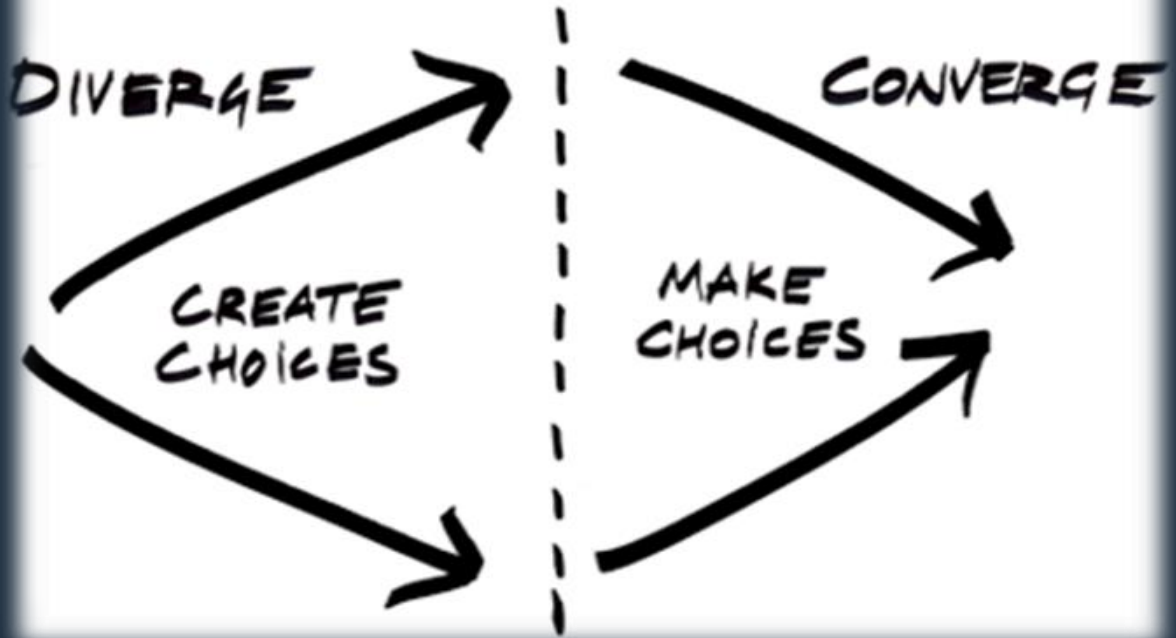


Objectives

- Identify real opportunities to significantly reduce the number of defects in new homes
- Prioritise ideas generated and develop them into practical solutions for approval and implementation



The process



Input

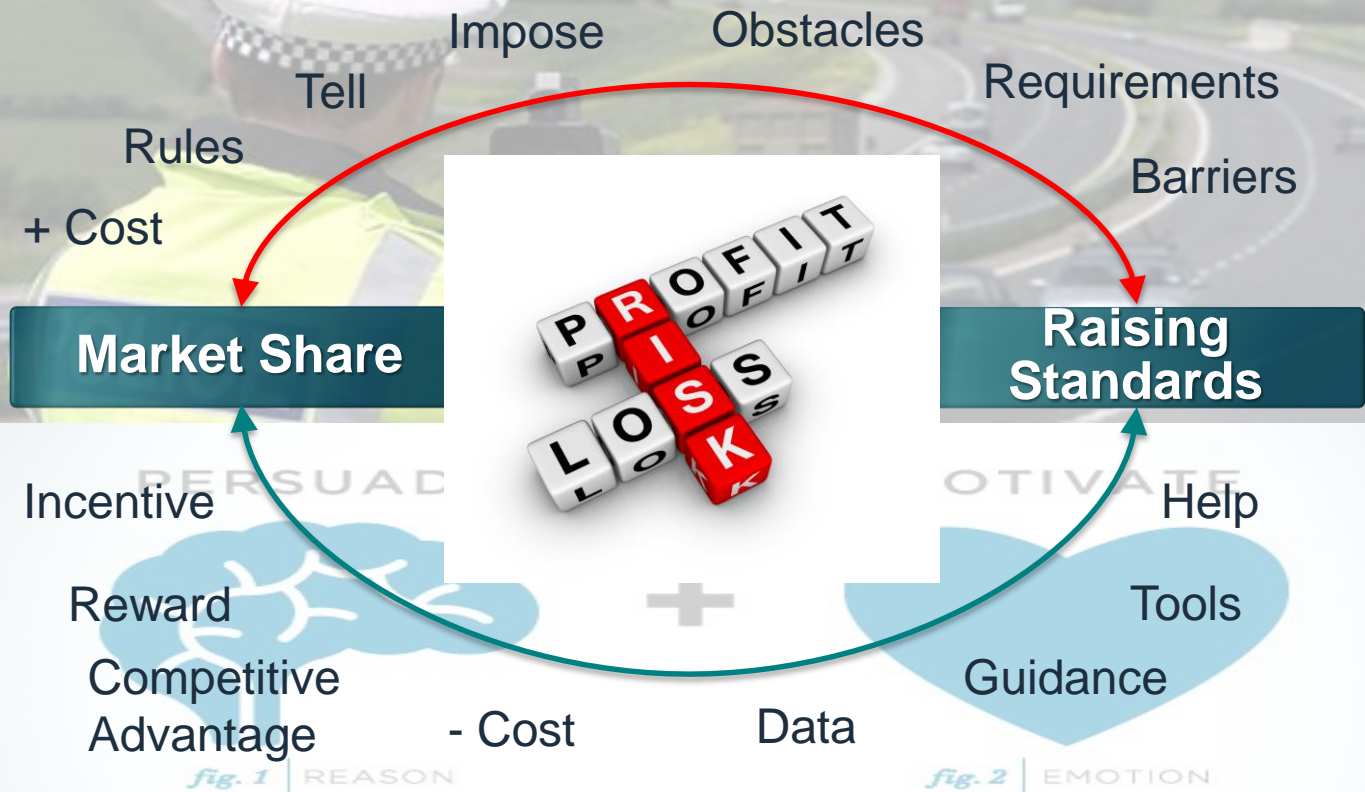
- 16 in-depth interviews
- Committees
 - Scotland
 - Northern Ireland
 - Standards Review
 - Standards
- Managers' Conference
- Workshops
 - 5 'idea generation'
 - 2 'proposition definition'



Underlying causes (summary of input)

- Profit focus
- Construction quality not priority
- Construction quality not a key purchase decision factor
- A 'sellers' market'
- Lack of understanding of true cost of defects
- Quality control systems and processes lacking
- Skilled trades and management lacking
- Uneven demand
- Lack of feedback loop / change control







Questions

