

Appendix H: Housing stock change scenarios to 2050

H.1. Background

This appendix provides the detail behind assumptions about changes in the housing stock to 2050, as used in the modelling work for this study.

H.2. Housing stock

Changes to the housing stock are assumed to come about in response to the demand for new housing, as a result of new household formation. In each of the three scenarios, the same demographic projections are used, as shown in Table 1.

Table 1 Underlying assumptions about demographic change, Scenarios A, B & C

Parameter	Value for 2050
UK population (people)	66.8 million
Average household size (people per household)	2.1
Number of dwellings needed to meet demand	31.8 million
Increase in number of dwellings from 1996	10 million
Increase in number of dwellings from 2004	8.9 million

The difference between the three , s lies in the assumed number of demolitions and newly-built homes. For the purposes of modelling, ‘target’ figures for demolition are not achieved straight away: they are reached by 2017 (Scenario C) and 2016 (Scenario B). Figures for increased house-building are achieved earlier, so that there is a period of about ten years when house-building increases faster than demolition as a way of meeting part of the backlog of demand, as identified by Barker 2004. Target new-build rates are achieved in 2012 for both Scenarios B and C, with significant annual increases from 2006.

The headline figures for each scenario are given in Table 2.

Table 2 Headline figures for housing stock, Scenarios A, B, C

	A	B	C
Target demolition rate (annual)	17,000	71,000	89,000
Target new-build rate (annual)	169,000	222,000	240,000
Total new homes built, 2005 - 2050	7.6 m	10.0 m	10.8 m
Total homes demolished, 2005 - 2050	0.8 m	3.2 m	4.0 m
New homes as %age of stock in 2050	23%	31%	33%
Total demolitions as %age of 2004 stock	3%	13%	16%
Stock turnover in 2050 (years)	1900	400	300

The assumptions behind each of the three scenarios have been worked out in such a way that the total number of homes by 2050 is 31.8 million in each case. This equates to a net increase of 140,000 – 150,000 dwellings per year in all scenarios (ie new-builds minus demolitions), with the 10,000 variation in the headline numbers arising as a result of the different rates at which activity ramps up from current levels to higher levels and in rounding of certain

numbers. In a stock of tens of millions of homes, such variations are in any case insignificant for the modelling results.

In Scenario A, the demolition rate is based on the ten-year average 1995 – 2004, which is just over 16,500 demolitions per year. The five-year average 2000 – 2004 is 20,000 demolitions per year. In order to achieve a stock in 2050 of 31.8 million, the new-built figure is 169,000 per year. This long-term average is actually below current levels, suggesting that current turnover rates will fluctuate before too long. It may be, for instance, that there is a ‘bulge’ in house-building between now and 2020, requiring a much slower rate of development beyond that date. A pre-2020 ‘bulge’ is modelled as part of Scenario A, but not in either of the other scenarios. One consequence of this is the disproportionate number of homes built to earlier standards, which are assumed to be not as tight as later standards.

Given the importance of demolition in so many fields, it was decided that the recent trend for demolition should be kept in Scenario A and the new-build rate should be varied to make the totals add up. A decision to follow the recent trend in new-build would result in an increased demolition rate in the model. A decision to keep both new-build and demolition rates at the level of recent trends would result in an additional 1 million homes by 2050 (ie 32.8 million instead of 31.8 million).

In contrast, Scenarios B and C work the other way around: new-build rates, influenced to some extent by the Barker review (Barker 2004). It should be noted that the Barker review did not set an end-point for new-build rates and did not explicitly mention demolition at all. It is highly likely that extrapolation of these figure as far forward as 2050 is not justified on the grounds that Barker addressed (ie reducing house price inflation). The figures from Barker are summarised in Table 3.

Table 3 Summary figures derived from Barker 2004

ref	Description	England	UK
A	Private sector gross completions in England in 2002-2003	125,000	148,000
B	Private sector gross starts in England in 2002-2003	140,000	166,000
C	Extra private homes needed to achieve house price inflation of 1.8%	70,000 (ie 195,000 total)	83,000 (ie 231,000 total)
D	Extra private homes needed to achieve house price inflation of 1.1%	120,000 (ie 245,000 total)	142,000 (ie 270,000 total)
E	Extra social homes needed to meet flow of new households in need	17,000	20,000
F	Extra social homes needed to make inroads into the backlog of need)	9,000	11,000

G	Social homes built in UK in 1994-5	-	42,700
H	Social homes built in UK in 2002-3	-	21,000

Note: comparisons between England/UK assume England = 84.5% of UK throughout

By deduction from Table 3:

- There are 169,000 new homes built each year in the UK, based on 2002-3 figures (ref A+H)
- We need an extra 83,000 private homes to drive down house price inflation to 1.8% = 252,000 total (ref C)
- We need an extra 142,000 private homes to drive down house price inflation to 1.1% = 270,000 total (ref D)
- We need an extra 31,000 social homes to meet new demand and to tackle backlog = 52,000 total (ref E+F+H)
- To achieve 1.8% house price inflation and to provide enough social housing, the UK needs 283,000 new homes per year (82% of which should be private; 18% social) (ref C+E+F+H)
- To achieve 1.1% house price inflation and to provide enough social housing, the UK needs 322,000 new homes per year (84% of which should be private; 16% social) (ref D+E+F+H)

For the purposes of this report, the new-build rates derived from Barker would result in very high demolition rates if the number of households were to balance by 2050. This is most likely a product of the unspecified end-points in the scenarios proposed by Barker. The scenarios developed for this report therefore use figures below the headline new-build rates in the Barker review.

In Scenario B, a new-build rate of 220,000 pa balances out if the demolition rate is 71,000 pa; in Scenario C, the new-build rate of 240,000 (approximately 10% higher than in Scenario B) balances against a demolition rate of 89,000 pa. In all scenarios, there is no unmet demand for housing if the assumed figures for population growth and household size are correct.

References

Barker K (2004) *Review of housing supply. Delivering stability: securing our future housing needs. Final report – recommendations*. HM Treasury, London, UK.
http://www.hm-treasury.gov.uk/media/0F2/D4/barker_review_report_494.pdf