



# PEOPLE & MONEY

FUNDAMENTAL TO UNLOCKING THE HOUSING CRISIS



It may have been the economy that won the election but the core challenge represented by the UK's housing crisis has not gone away. The availability and affordability of housing is a vital foundation of the UK's dynamic and sustainable economy. As the UK looks towards continuing growth and the closure of the deficit, the new Government must act quickly to create the conditions to deliver on its key pledge to 'build more homes that people can afford'.

The consequences of the UK's failure to build are significant and will continue to affect generations to come, as housing affordability and mobility is reduced:

Average age of a UK first-time buyer **36**



Affects ability of families to move up the housing ladder

**1.7 million**

People on a waiting list for affordable housing



Share of housing provided by private rent



Typical earnings consumed by rent



Private rented sector is a significant investable segment of the housing market



Shortage of appropriately priced rental housing

**£24 billion**

Cost of housing benefit rising by **£1.7 million per day**

These are costs that need to be controlled to enable welfare budgets to be cut



## HOW MANY HOUSES AND FLATS ARE REQUIRED?

Demand for people and money will be determined by the rate at which we need to build homes. Across the UK, the consensus is that around 300,000 units are required each year - taking into account both household formation at 215,000 per annum and a reduction in a 1 million unit backlog. Figure 1, based on DCLG data going back to 1969, shows that 300,000 units were last delivered in between 1977 and 1978. Furthermore, only from 2004 to 2008 were 200,000 units produced each year - when highly leveraged funding, loose lending practices and a fresh influx of European labour created ideal conditions for house-building.

Expanding the current output of 140,000 units by a further 80,000 will be tough. Around 20,000 units could be delivered just by conversion or change of use, but the other 60,000 must be new-build. Increasing housing production by 40,000 took six years from 2002 and since then, the core house-building industry and its supply chain has resized to produce 150,000 dwellings. The workforce is down by 300,000 compared to manpower levels seen in 2008, and the Home Builders Federation is already reporting labour shortages on a par with those seen in 2002.

Clearly, if demand remains high, innovative solutions are needed to address the UK's long-term housing delivery challenge. However, the challenge itself is rapidly evolving as new tenures and delivery models emerge. Significantly, much of the current shortfall in UK housing production is automatically associated with the private for-sale market - rather than the need to expand the housing association and local authority or emerging private rented and later living segments.

Figure 1. Housing completions in the UK

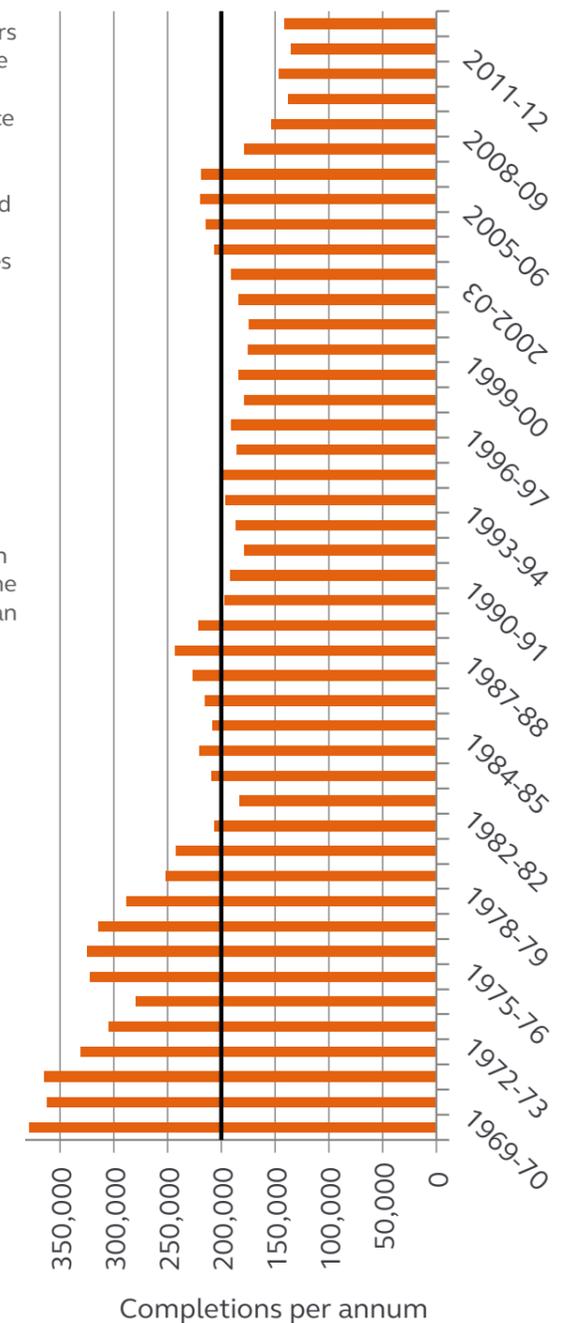
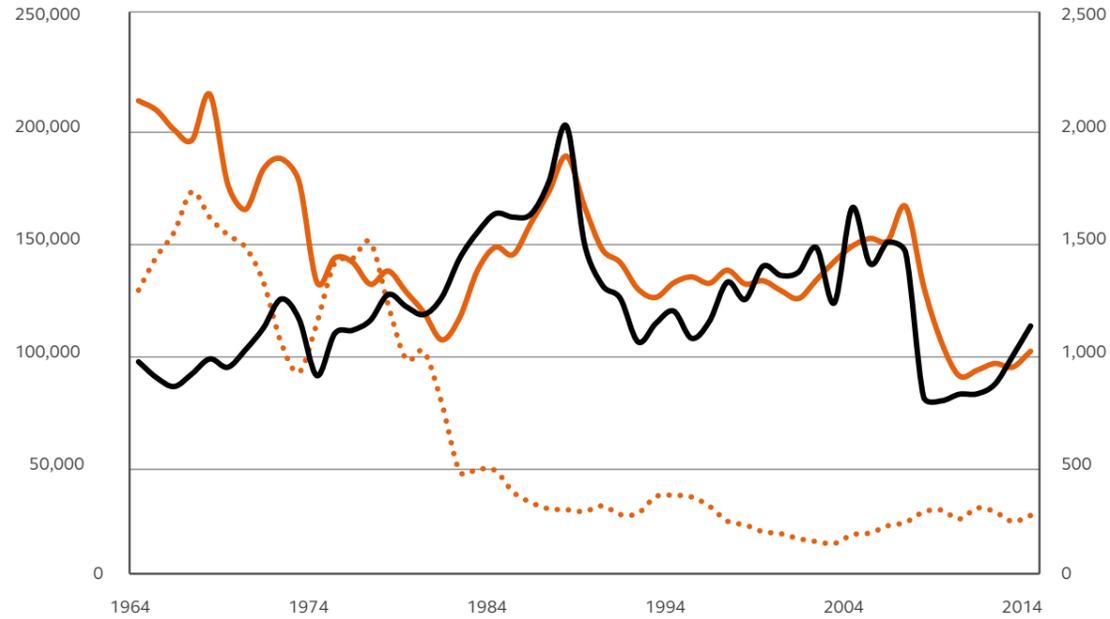


Figure 2 suggests that the volume of new private house-building is determined by the level of activity in housing markets rather than housing need.

— Market completions (thousands) [RHS]  
 - - - Non-market completions (thousands) [RHS]  
 — Residential transactions (thousands) [LHS]



*With only 1 in 10 housing transactions involving a new home, the long-term reduction in the size of the for-sale market is having a fundamental impact on the demand for for-sale housing*

Annual numbers of house purchases have been in decline since 1990, pointing to a structural shift in the housing market. The delayed entry of first-time buyers into the market and low levels of mobility once on the housing ladder both point to the fact that the UK needs a wider range of housing options in both the private and public sectors.

Focusing on the private, for-sale market will not deliver the housing that the UK needs, and will tie the supply side of the industry to a cyclical, boom-bust market that cannot provide the basis for a long-term sustainable house-building industry. Expansion of housing supply across a range of tenures funded by the public and private sectors is necessary to smooth out fluctuations in demand and to enable the house-building industry and its supply chain to invest in additional capacity with confidence.

## PEOPLE AND MONEY – THE SCALE OF THE CHALLENGE

It is very rare that all of the resources needed to deliver a programme; people, money and materials, are readily available at the same time. Figure 3 illustrates that over the past 15 years, labour has been seen as the biggest source of constraint for the industry – only relieved by high levels of migration from Europe from 2004 onwards.

In 2015, a strong recovery is placing an even greater strain on resources than seen in previous upturns. Current forecasts published by the Construction Products Association, for example, anticipate that new build output will be up 26% by 2017 from the 2012 trough. Private housing activity is forecast to grow by 55% over the same period. Labour availability can be expected to be the biggest constraint on expansion over the next five years.

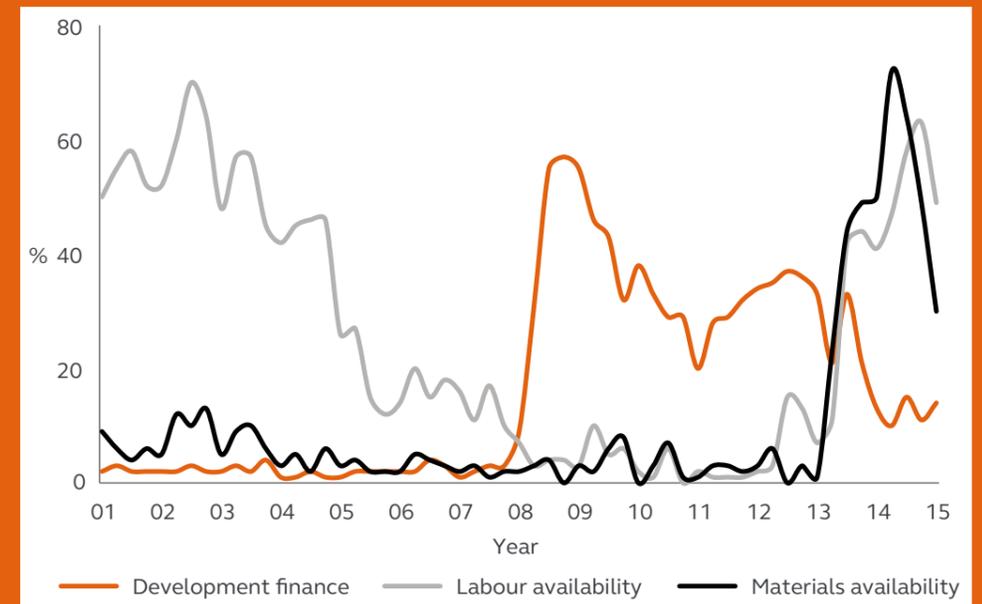


Figure 3. How much are people, money and materials constraining production?

# MANPOWER – THE CRITICAL CONSTRAINT

**Houses cannot be built without people, and construction is a particularly labour-intensive industry.** Construction's productivity has barely increased in the past 20 years, and whilst many industries have invested in labour-saving plant and technology, construction is as dependent on scarce labour as it was in 1993.

Historically, the house-building industry has employed 1.5 full time equivalent workers for a year to build a typical dwelling. 1.1 FTE is associated with actual construction and 0.4 with off-site management and administration.

Based on this data, we can estimate that the house-building industry currently employs around 165,000 site workers, as well as a further 50,000 supervisors, managers and administrators.

Ramping up the industry to deliver a further 80,000 units, taking UK production up to 230,000 per annum, will require a further 120,000 workers.

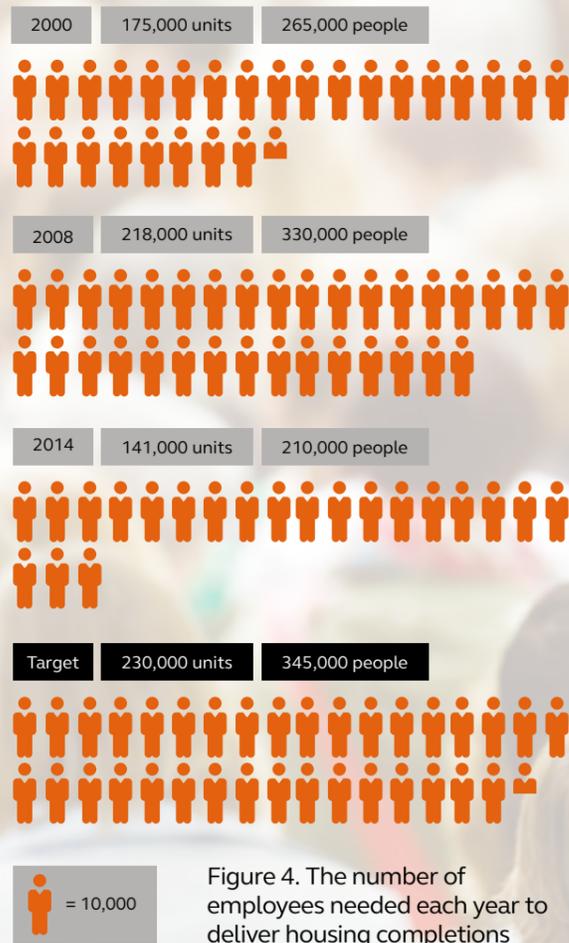


Figure 4. The number of employees needed each year to deliver housing completions

In seeking to recruit 120,000 people to deliver growth, house-builders will therefore be swimming against the tide in an industry that needs to find nearly 1 million new people. In our view, the industry has only a few options to address this challenge.

Where is this workforce going to come from? Current unemployment levels barely cover churn. The industry is also growing rapidly, and according to the Construction Skills Network, needs 224,000 new people by 2019 to deal with expansion. However, many existing operatives are leaving the industry early, and based on findings from the UK Commission for Employment and Skills, construction needs to recruit another 700,000 people just to fill the shoes of older, retiring workers.

*Historically, the house-building industry has employed 1.5 full time equivalent workers for a year to build a typical dwelling*

## THE WIDER CONSTRUCTION INDUSTRY WORKFORCE

House-building secures its labour from construction's wider workforce. Construction employs some 2.2 million people, of which 40% are self-employed. Although employment in construction has increased by 165,000 from a low point in early 2013, the size of the labour pool is down from the peak by 370,000. The industry has far less slack now than it did at the peak of the 2008 boom.

House-building's share of the labour force fluctuates somewhere between 10% and 25%. However, according to a CITB survey, nearly 50% of the workforce has some experience of house-building. This means that house-building can compete for an increased share of

the workforce from a deeper pool of labour - but will probably pay a premium price to do so. During periods of even reasonable house-price inflation, this is usually not a problem.

However, house-building's need for some specialist skills is so high, that even with the whole construction workforce as a source of manpower, there could still be a constraint. For example, based on the ONS UK labour force survey, there are only 70,000 bricklayers and masons now working in the UK, down from 100,000 in 2008.

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Figure 5. The available pool of employed and unemployed UK construction labour

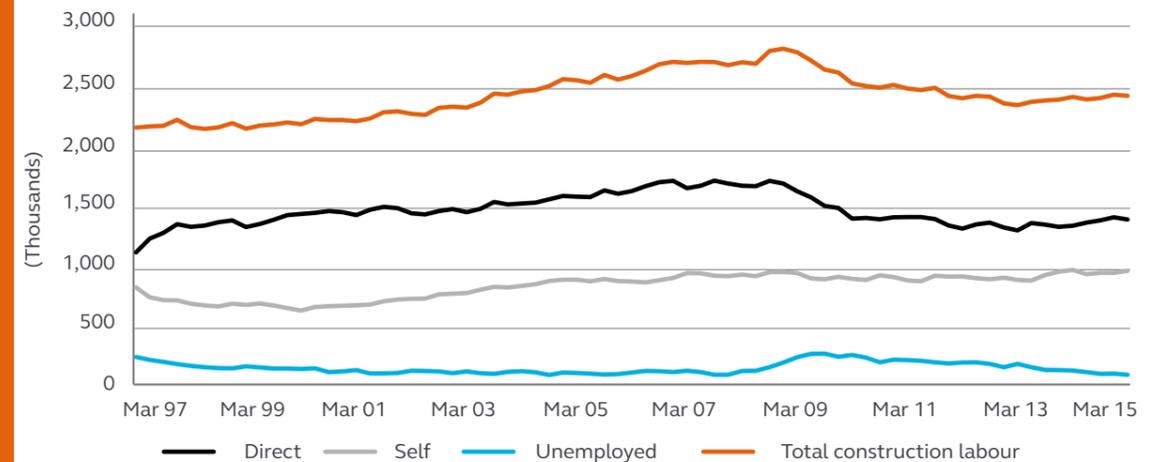


Figure 6 shows how the bricklaying workforce has shrunk in line with the collapse in house-building after 2008. Rebuilding this skills base will be a significant challenge. Our assessment of the requirement to build 200,000 homes is around 53,000 extra bricklayers. To deliver this volume of housing, either over 80% of the existing workforce will be needed, or alternative methods of construction must be adopted that will reduce the house-building industry's dependence on scarce, specialist labour.

Unfortunately, it is not just bricklaying that is a potential labour constraint. Other trades including plasterers and professions such as architecture and quantity surveying are also in demand. We have estimated the share of the labour force needed to deliver current levels of production as well as rates of build to deliver 200,000 and 250,000 homes to the UK per annum. Figure 7 shows the percentage shares of the existing workforce that housebuilding will absorb - from construction and from all industries where construction-related skills can be accessed.

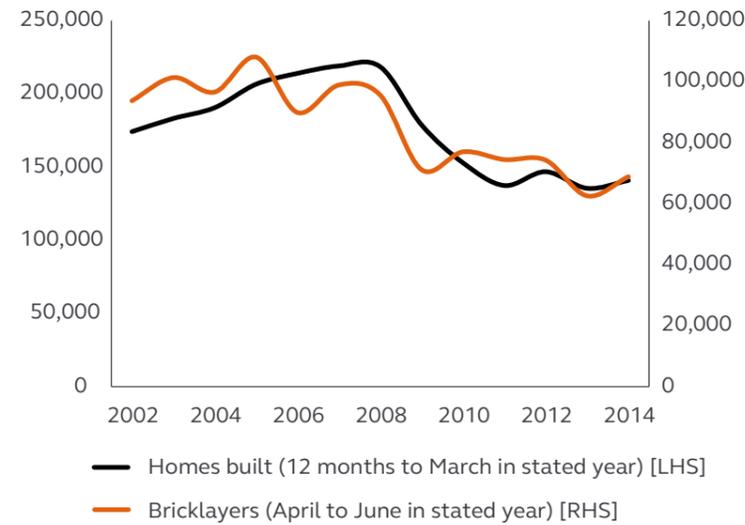
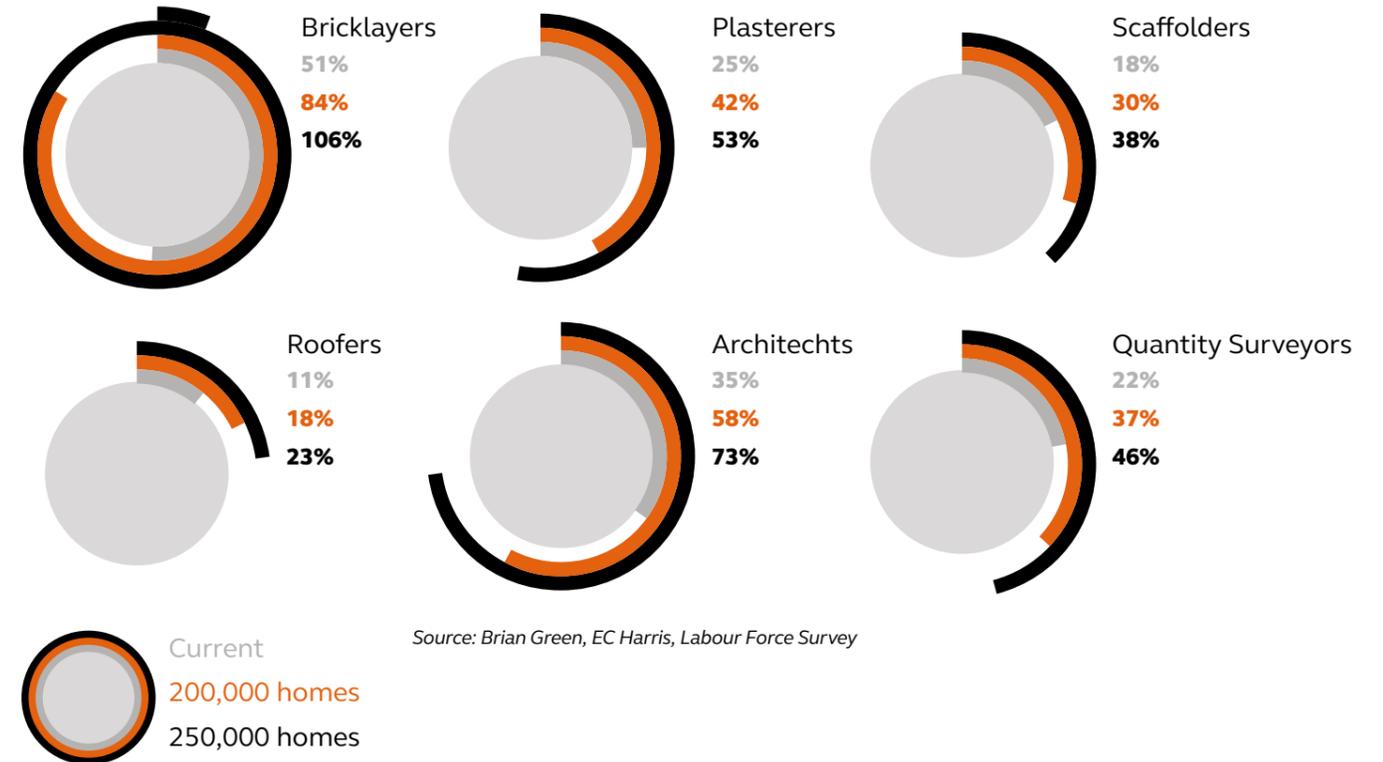


Figure 6. Bricklayers and homes built in the UK

## % of construction industry workforce required to deliver increased home production

Figure 8. Which trades and professions are under the greatest demand?



Source: Brian Green, EC Harris, Labour Force Survey

Figure 7. House-building's share of construction employment

House-building share of trades and occupations (%)	Current (UK)		At 200,000		At 250,000	
	All Industries	Construction	All Industries	Construction	All Industries	Construction
<b>SITE</b>						
Bricklayers	47	51	79	84	98	106
Plasterers	24	25	40	42	50	53
Scaffolders	16	18	26	30	32	38
Roofers	11	11	18	18	22	23
Painters & Decorators	7	9	11	15	14	18
Glaziers	3	9	6	14	7	18
Wood trades	6	7	9	11	12	14
Plumbers	5	6	8	10	10	13
Floorers	3	4	5	6	7	8
Electricians	1	3	2	5	3	6
<b>OFFICES</b>						
Quantity Surveyors	13	22	21	37	26	46
Architects	3	35	4	58	5	73
Draughtspersons	1	10	2	17	3	21
Civil Engineers	1	2	1	3	2	3

Source: Brian Green, Arcadis, Labour Force Survey

Our analysis shows that there are four key trades and two professions where house-building already relies upon a disproportionate share of the labour force. Pressure on the availability of these occupations will grow significantly - even under the 200,000 house scenario. This could result in market failure - where too many firms chase too few resources - disrupting production on site and contributing to an inflationary wage spiral.

Site management is also known to be a source of constraint but there is no data on the size of the problem. Management capability will be critical in ensuring increased productivity and improved quality control. Looking forward, and without a ready supply of management recruits coming

through the trades, future growth in housing output could be even more constrained.

Outside of core house-building trades, the proportion of the labour force needed in connection with increased volumes of home building are lower, but these trades are in significant demand elsewhere. Growth in house-building is likely to have a knock-on effect on labour cost levels in other parts of the industry. House-building could grow at expense of the wider industry, so construction has to attract new blood if it is to be able to deliver more homes cost effectively.

### THE UNEMPLOYED CONSTRUCTION INDUSTRY WORKFORCE

The existing pool should be the first source of labour in a recovery. However, the pool of unemployed construction labour peaked at 250,000 in Autumn 2009 and has since declined to 80,000 - a rate of 3.4%, which is no higher than levels seen in 2008. Some trades and professions have much lower levels of unemployment. There are for example fewer than 1,500 unemployed bricklayers in the UK and only 840 in England and Wales.

In 2015, after only 18 months of expansion, the industry's pool of unemployed labour is practically exhausted. The house-building industry's ability to attract, recruit and train a new workforce will be a critical aspect of its ability to meet the demands of the recovery.

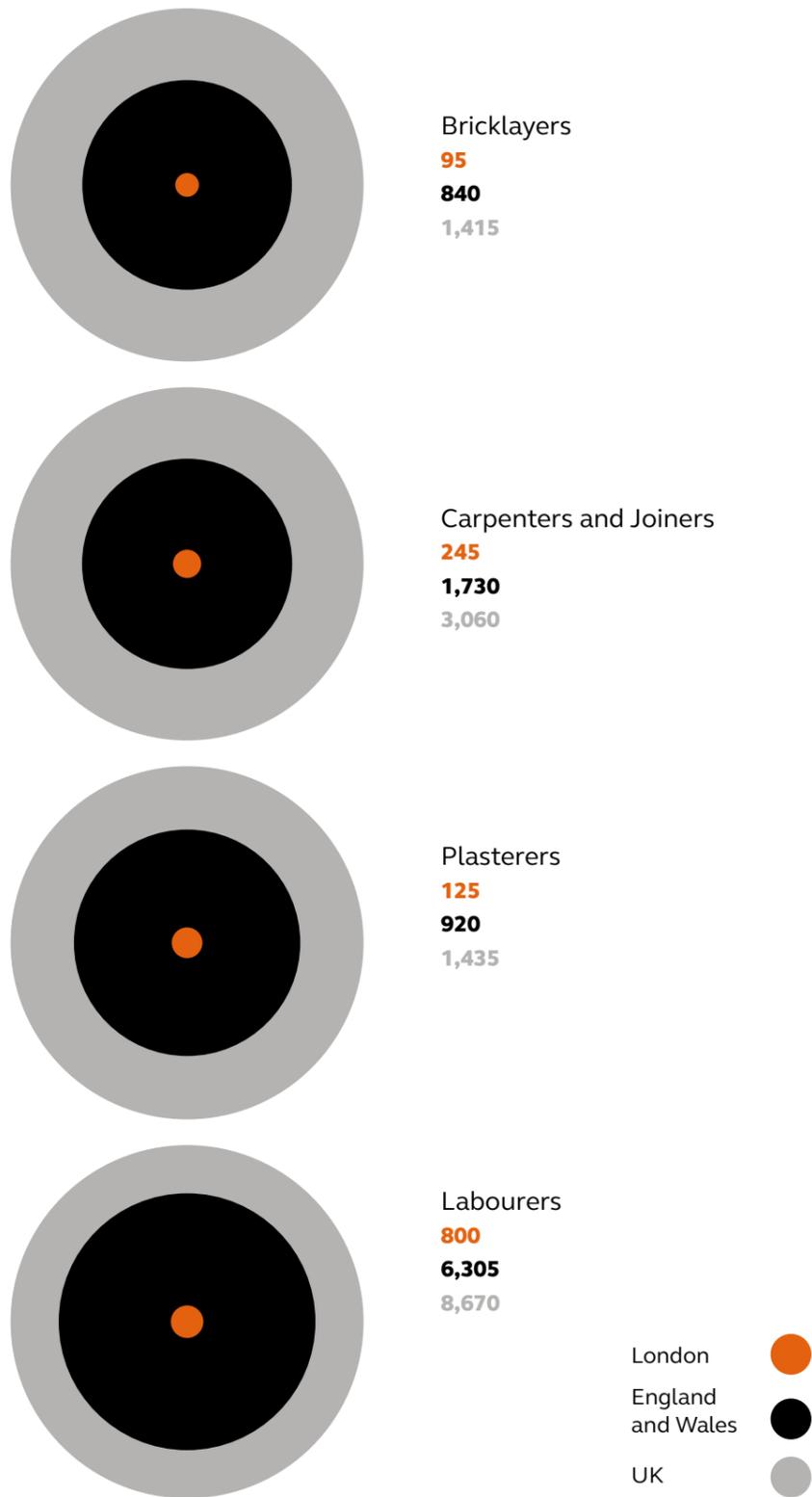


Figure 9. Sources of additional labour - the number of unemployed workers in specific trades in London, England and UK as a whole

### EXISTING SKILLS FROM OUTSIDE OF THE CONSTRUCTION INDUSTRY

Looking outside construction for skilled labour could offer house-builders another route to finding much needed talent. Many people with construction skills work in other industries. According to recent labour force survey data, roughly 50,000 to 60,000 plumbers and heating and ventilating engineers, 60,000 to 70,000 carpenters and joiners, and 10,000 bricklayers work in other industries. Our analysis is simplistic, and these workers have an important role in their existing jobs, but they could be used to deliver housing.

There are also workers with related skills that could be attracted into the industry. Manufacturing employment is shrinking as productivity rises, and according to the UK Commission for Employment and Skills, skilled jobs are set to fall by over 125,000 in the 10 years to 2022. Similarly, some of the 24,000 former soldiers leaving the armed forces each year could also be employed in house-building.

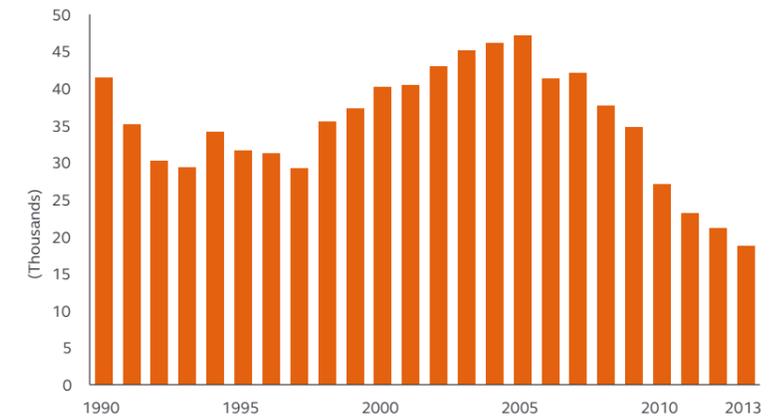


Figure 10. The number of first-year construction trainees in the UK

Construction attracted fewer than 20,000 first-year trainees in 2013 - 5% of the number needed to meet the 1 million worker target

### TRAINING NEW ENTRANTS TO THE INDUSTRY

House-builders cannot rely on the existing pool of construction labour, so the expansion of the workforce will be crucial. Training will play a key role, either in topping up existing skills, or by developing new entrants with no skills or experience.

Unfortunately, data on numbers of trainees joining the industry points to a weak pipeline of talent. Construction attracted fewer than 20,000 first-year trainees in 2013 - 5% of the number needed to meet the 1 million worker target. The severity of the situation can be seen in figure 10, taking data from the CITB, showing numbers of first-year trainees falling by half between 2005 and 2013.

The data shows that even at peak levels of entry in 2005, the industry

was attracting fewer new entrants than will be needed just to replace the 700,000 workers who plan to leave in the next 10 years. Unfortunately, house-building in particular is simply not structured in a way that supports investment in long-term training and skills development.

As a result, ramping up existing training provision from its current low point will take time. New trainers will need to be recruited - taking away capacity from the front-line, which will be difficult and expensive. Most importantly, much more work is needed to attract people into the construction industry.

Promoting house-building as a good career option is a long-term project in itself.

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## MIGRANT LABOUR

As the construction industry struggles to respond to the synchronised recovery, migrant labour is likely to be one of the best options for extra manpower. Migration is a fraught political issue in the UK, but for many years it has been the most effective short-term fix for the UK's construction labour shortages. Inward migration may be the only practical way to get Britain building in the short-term - even though it takes away the immediate pressure to put in place long-term training and skills development programmes.

Deriving estimates of the number of migrants in the workforce is not easy, as many workers do not appear in official surveys. Census data for England and Wales from 2001 and 2011 suggests a rise in the proportion of construction workers born outside the UK from about 5% to 10.6%. This means that approximately 220,000 non-UK born migrants were employed in construction in England and Wales in 2011. The implied growth suggests that migrants provide on average 12,000 new recruits to the construction industry a year. Clearly many more might be needed if the 80,000 house challenge is to be met in the short-term.

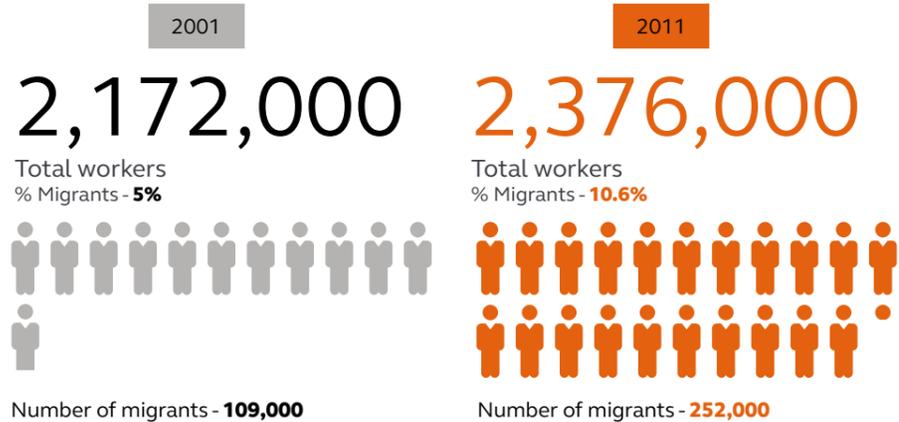


Figure 11. The numbers of migrant workers in the UK construction industry

Migration will clearly play a major role in any future expansion of house-building, but it is an increasingly sensitive issue and can only be part of the story - UK construction needs to develop home-grown solutions in order to sustain delivery of over 200,000 houses per annum

## SOLUTIONS TO THE WORKFORCE CHALLENGE

Our analysis suggests that 120,000 additional workers will be required to deliver the 80,000 extra homes required to meet current need. The wider construction industry also needs to recruit over 100,000 new people each year. The solutions available are as follows:

### HIRING FROM WITHIN THE EXISTING LABOUR POOL

For many trades, house-building employs less than 10% of the workforce and although employers will have to compete by offering better pay and conditions, they should be able to secure the labour. However, these are trades including bricklaying where house-building employs a much larger share of the workforce and other solutions are needed.

Specialist trades, particularly structural concrete and high quality finishes associated with the prime residential sector in London, are also in high demand and house-builders and developers find themselves in the position of price and capacity takers. Trades with highly developed skills such as these cannot expand quickly without additional, experienced labour.

### FINDING NEW SOURCES OF SKILLS AND CAPACITY

The construction industry is large and diverse, and although it is growing quickly, this growth is uneven. House-building is currently the most dynamic segment in the industry - growing nationally by over 20% in 2014, and in London by over 50%. The house-builders and contractors delivering work in these overheated markets have their own, specific supply chains but there are other supply chains that could do this work.

House-builders have to incentivise investment in capacity, find new sources of skills, or will need to reduce their labour requirements by changing their product mix

All of these solutions depend on reducing uncertainty within the industry, which points to the strategic need to diversify away from the build-for-sale model Housing Associations, for example, can access a completely different market of contractors and sub-contractors. Broadening the range of participants in the UK housing market to include self-build, the SME house-builder sector, housing associations and institutionally-funded developers, will help to engage a wider range of construction enterprises in meeting the UK's housing demand.

### CHANGING THE PRODUCT TO EASE LABOUR CONSTRAINT

The introduction of even simple forms of modern methods of construction (MMC) such as timber frame or pre-cast panels will reduce overall labour requirements, improve build quality and increase safety on site. Our analysis of workforce data suggests that overall labour force requirements for builders with a well-established timber-frame product are 25% lower than for a comparable conventional housing construction.

Build solutions that are less reliant on scarce trades will be easier to resource but may involve new supply chains and development of new installation and site management skills. Furthermore, some off-site solutions such as precast wall panels may become so popular that they also become a constraint. MMC doesn't necessarily align well with the volume house-builder model either, which values the ability to phase production with sales rather than optimisation of the manufacturing process. The wider adoption of MMC is most likely to be driven through the build-to-rent segment, where clients benefit directly from the faster, better quality construction. These clients in particular will have a critical role in providing volume, visibility and certainty of workload necessary to unlock investment into MMC.

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## BUILDING A NEW WORKFORCE

Training is a complicated area for the house-building segment due to very high levels of self-employment and the fragmentation of the supply chain. The house-builders have their own training programmes, but with most labour employed in the supply chain, the responsibility for training usually rests with subcontractors. The contracting segment of the industry - more often associated with house-building for developers and housing associations - has a more mature supply chain which will be better equipped to invest in training than the house-builders. Like MMC, current training models do not necessarily align well with the volume house-builder model where long-term incentives for subcontractors to invest in training are weak.

Relying on migration is of course a short-term solution. If the industry is to set a trajectory towards the delivery of over 200,000 homes per annum, then UK plc must take steps to ensure that our people and the domestic economy benefit. The best way to do this is to invest heavily in the training and development of new UK domestic workers, as well as the retention of existing workers in the industry. The UK will always be an open market and migrant workers will continue to play a part in the UK's economy. However, opportunities on the scale of the UK's house-building challenge should be delivered mostly using domestic resources. Migrant labour should be a pressure valve for UK plc, not a long-term solution to our failure to recruit and train.

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## CREATING THE CONDITIONS TO INVEST IN PEOPLE

It is often said that UK clients get the construction industry they deserve. In the residential segment, the dominant role of build-to-sell house-building, delivered mostly by large, national house-builders has created an industry structure that is not optimised to meet housing need.

Critically, the private sale market is already struggling to deliver 80% of 2007/2008 production despite high levels of central support such as Help to Buy. Looking forward, demand from other market segments - particularly market rent, intermediate ownership and later living is likely to drive the expansion of the UK's house-building capacity.

Volume house-builders will continue to compete with other industry segments for scarce labour - driving up wages and creating pinch-points associated with key occupational groups. However, without certainty in respect to long-term workload and the elimination of the boom-bust cycle in housing, there is little incentive for them to invest in more productive solutions.

In the final analysis, it is support to long-term, cross-cyclical demand for housing that will unlock access to new supply chains and additional labour. By levelling out the supply and demand fluctuations inherent in the build-to-sell industry, greater confidence can be built to invest in training, skills development and off-site solutions that are known to deliver high quality, cost-effective housing.

With institutional funds seeking to take a greater role in the delivery of rental housing in the UK, and Registered Providers positioning themselves to diversify their housing offering, we can anticipate that the approaches

to delivery of volume housing will also evolve. This evolution will provide opportunities for building contractors and other players to take a greater part in the delivery of housing, opening up the market to a wider supply chain. Increasing the diversity of the UK house-building industry is an essential step to build the capacity to deliver another 80,000 homes per annum.

Based on a mixed housing economy, the UK delivered over 250,000 homes has focused more and more on a single tenure, housing output has not only fallen, but has also become more volatile. Inevitably it is new sources of money that must underpin this shift to a more mixed housing market. Institutional funding, increased freedom for housing associations to borrow, as well as greater funding flexibility for local authorities will all play a role in enabling a fit-for-purpose industry to evolve.

For the UK house-building industry, people and money are inseparable. New sources of finance and new housing models have the potential to unlock investment in skills and capability whilst labour market constraints are the most significant barrier to increased housing delivery. In the short-term, the industry in its current form can cope with growth. However, this model is self-limiting and reforms to planning and land markets will not change this fundamental supply side constraint. The development, investment and construction sectors now need to work together supported by appropriate government policy, to create the conditions in which production can expand. Only by considering people and money together are solutions likely to be developed which break the logjam.

## CREATING THE CONDITIONS FOR INCREASED OUTPUT THROUGH COLLABORATION

This report has demonstrated that urgent solutions to the housing crisis cannot be delivered using existing business models. Both build-for-sale and grant-funded development can only deliver a finite number of homes. Expansion will be delivered through the collaboration of a wider range of developers, investors and constructors and the innovation of new delivery approaches backed by different sources of funding.

Bringing these players together is in itself a complex business, requiring an understanding of the objectives of each participant, constraints that might limit their room for manoeuvre and their ability to identify opportunities.

Our experience is that opportunities are increasingly created through collaborative models which address the constraints that are built into current ways of working and other external factors. By aligning long-term income-led investment with viable collaborative development models, we can help create the right investment climate for innovation in the supply chain and the labour market that will create the step-change in the delivery of housing that the UK so desperately needs.

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*Approaches to delivery of housing will evolve and provide opportunities for building contractors, opening up the market to a wider supply chain*

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## CONTACT US

We have extensive experience and market leading insight in the development and delivery of alternative housing business models from supporting public sector land-owners in the establishment of asset-backed residential schemes through to helping build-to-rent developers and investors in the creation of new business models and supply chains. Please get in touch to find out how we can help you.

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