

The Chartered Institute of Building

submission to the

All Party Parliamentary Group for Excellence in the Built Environment

on the inquiry into

Quality of New Build Housing in England

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APPG for Excellence in the Built Environment: Inquiry into Quality of New Build Housing in England

Introduction

The Chartered Institute of Building (CIOB) is at the heart of a management career in construction. We are the world's largest and most influential professional body for construction management and leadership. We have a Royal Charter to promote the science and practice of building and construction for the benefit of society, which we have been doing since 1834. Our members work worldwide in the development, conservation and improvement of the built environment. We accredit university degrees, educational courses and training. Our professional and vocational qualifications are a mark of the highest levels of competence and professionalism, providing assurance to clients and authorities who procure built assets.

Professionalism at all levels and stages within the construction industry is at the core of our work. We play a leading role in the development and continued improvement of standards in the industry at a national and international level. We recognise the challenges facing the built environment, such as skills shortage in the professions, the ageing workforce and the complexity of developing policy that improves coordination, design and the overall decision-making process, and we work with government and industry to outline and implement solutions.

We welcome the opportunity to respond to this inquiry and are happy to be involved in the debate as it develops.

General comments

The inquiry into housing quality makes reference to the National Productivity Plan, also known as *Fixing the Foundations*, with the specific mention of increasing housing supply.

The CIOB fully recognises the scale of the housing shortage and therefore supports measures to increase housing supply. However, we emphasise that new homes must not fall short on build quality. We welcome this inquiry because it is essential that there is a focus on ensuring quality in the built environment to meet the needs of communities both now and in the future.

However, we do not believe that we will achieve either the desired quality or quantity of new housing without curtailing the skills gap that currently exists across the sector. The Housing and Enterprise Bills present opportunities for the industry to ensure there is a steady flow of skilled recruits available to meet the housing challenge, from apprenticeship level through to senior management. We recommend that investment in housing developments be tied to training and job creation, and we urge the industry to consider, and possibly government to regulate and/or incentivise, innovative methods of construction where appropriate to improve both quality and housing supply.

Productivity and quality

On a simple measure of productivity – output per hour worked – UK construction underperforms most other industries. In the 20 years from 1994 to 2014 there was a 9% increase in productivity in construction, but a 25% increase for the economy as a whole¹.

Productivity itself is strongly linked to quality. A traditional view is that higher quality results in increased production costs, higher prices and, therefore, reduced productivity. This could be argued as having applied to the construction industry when looking at the relatively slow growth in productivity since 1994, though it may well also be the case that most of the productivity gains in construction have actually gone into making better buildings (more energy efficient, more accessible, better access to technology and infrastructure etc.), the value of which will have been derived in higher productivity within the economic activity of the building users themselves. In other words, while the construction industry has not necessarily improved its productivity by much, it has had a major impact on the productivity of other sectors of the economy.

Among some businesses, it is now more widely accepted that there is in fact a positive relationship between productivity and quality. Essentially, as quality improves, costs decrease because of less rework, fewer mistakes and fewer delays, while staff themselves become more skilled at producing higher quality products and then pass these skills onto others within the organisation.

It is not clear, however, whether the current relationship between productivity and quality in house building, and construction generally, is positive or negative and we would therefore recommend that further research into this takes place.

We would also note that the industry cannot know how little it can build quality for until waste is driven out of the design and construction process. We consequently need to learn what works (for example, by means of a feedback loop and evaluation process) and then replicate it, share it and teach it.

The 1998 report *Rethinking Construction* (colloquially known as the Egan Report), aimed at driving change in the construction industry, makes specific reference to improving the efficiency and quality of house building. It presented the view that the industry was neither as productive nor capable at producing high quality homes as it could be². The report considered that the scope for improving performance is as great in housing development as in other forms of construction, but also recognised that house building is affected by some significant factors that distinguish it from other sectors of the construction industry.

¹ Calculations based on ONS, [Labour Productivity, Q1 \(Jan to Mar\) 2015](#), 1 July 2015

² The Construction Taskforce, [Rethinking Construction](#), 1998

Indeed, it is the case that house building is a quite different subset of the construction industry. To name three of the more noticeable variances:

- Housing operates in a different regulatory environment, both in terms of building regulations and the planning system;
- The high-demand nature for housing in some areas of the country means land prices have a larger impact on costs than that of many other types of construction;
- House builders who sell to the private market function as business-to-customer operations, rather than the business-to-business operation practiced in the rest of the industry. The Egan Report noted that this disaggregated client base typically means that house purchasers may not be as concerned or knowledgeable about build quality or efficiency of performance as a business client might be, instead prioritising location and/or other factors.

Whereas the construction industry is generally understood as producing individual buildings and structures as a 'one-off' dependent on the needs and demands of the client, house building, particularly on high-rise and large-scale low-spec developments, is fairly repetitive by its nature. This repetition presents major opportunities for modern methods of construction (MMC) and off-site manufacturing to improve both productivity and quality, and we are aware that some house builders are taking advantage of this. Building high-rises presents a very different operational demand for house builders compared to houses. New build flats are typically sold off-plan and to the growing build-to-rent market, so there is a need to sell them before building them; MMC improves build speed and quality and is therefore highly applicable on these developments.

It is important to note that houses, particularly those geared to the mid- and high-end of the market, are normally built to demand and often in phased production, as well as the fact that they can sometimes be bespoke, which makes MMC less applicable. Some aspects of the build, such as bathroom or kitchen 'pods', can be manufactured off-site, but the current business model of volume house builders does not necessarily encourage major investment into MMC as it does not benefit from being so reliant on the manufacturing process.

Professional bodies have a role to play in improving build quality and productivity, either directly through qualifications and CPD that increases the skills and capability of the workforce (e.g. by promoting latest practice and sharing new developments/technology), or indirectly through the implied trust that comes with employing a chartered professional.

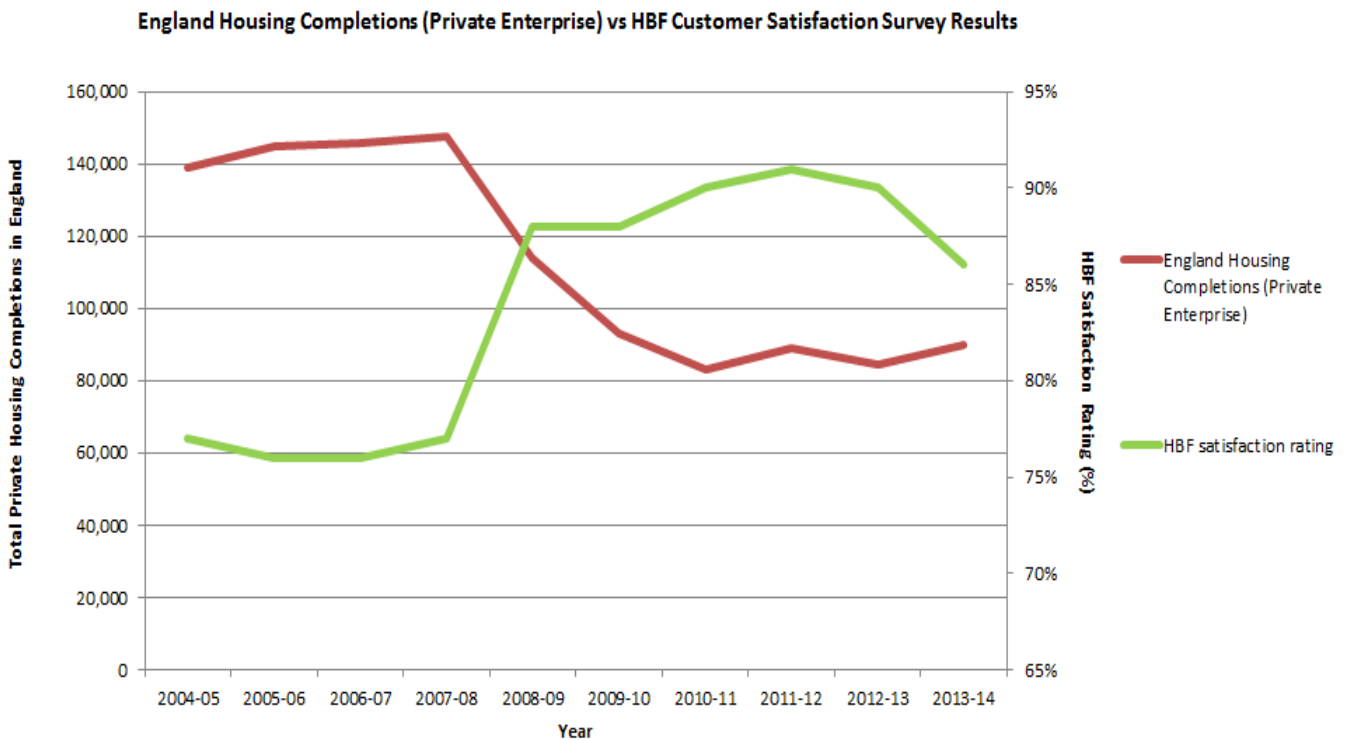
DCLG recognises the role of professionals in the compliance process, with one KPI in the government's annual *Report and Analysis of Building Control Performance Indicators* being the proportion of staff in a building control body who are chartered members of professional bodies.

Housing quality

An exact definition of what constitutes ‘quality’ with regards to a new build home is difficult to ascertain. Housing Quality Indicators measure the quality of housing schemes funded by the Homes and Communities Agency, but do not include the private market. The new set of Housing Standards and Building Regulations provide a compliance approach with anything at least meeting those standards deemed as ‘good enough’. Another way of measuring design quality is through the Building for Life standard (more on this is contained later in this response) though this is limited to the external environment of a housing development. In terms of construction quality, good practice should be seen as building a new home that is defect-free; utilising ISO 9000 standards is one such way to achieve this.

Another way of ascertaining quality is asking the consumers themselves for their views. The Home Builders Federation (HBF) have, since 2005, sent new homeowners a survey with one particular question asking: *"Taking everything into account, overall how satisfied or dissatisfied are you with the quality of your home?"* Below we have compared the responses to this question where respondents answered “very satisfied” or “fairly satisfied” (as opposed to “neither”, “fairly dissatisfied” and “very dissatisfied”), against the number of total private housing completions in England.³

Figure 1 – graphical representation of total private housing completions in England between 2004 and 2014 compared to HBF customer satisfaction rating.



³ Note that the HBF customer satisfaction survey did not start until 2005, and that the very first survey was conducted for the period April to September 2005, whereas all subsequent surveys have run from October 2005 to September 2006, October 2006 to September 2007, and so on.

Figure 2 – data on total private housing completions in England between 2004 and 2014⁴ compared to HBF customer satisfaction ratings 2005 – 2014⁵.

| | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| TOTAL PRIVATE HOUSING COMPLETIONS IN ENGLAND | 139,130 | 144,940 | 145,680 | 147,710 | 114,100 | 93,030 | 83,180 | 89,120 | 84,550 | 89,690 |
| HBF SATISFACTION RATING* | 77% | 76% | 76% | 77% | 88% | 88% | 90% | 91% | 90% | 86% |

While this does represent a relatively rudimentary comparator and does not take account of other housing tenures besides private (although this is the biggest tenure type, representing 79% of all housing completions in England between Q3 2013 and Q3 2014), housing completions in Wales, nor indeed what ‘quality’ is defined as, there is a clear pattern that demonstrates that more homes built correlates with a decline in homebuyers’ satisfaction in terms of quality.

The most obvious increase in customer satisfaction came in 2008-09, one year after the recession at a time when housing completions fell to their then-lowest ever post-war level. This general trend then continued until the most recent set of figures, when housing completions increased by 6% and saw customer satisfaction decrease by 4%.

We stress that these figures are in terms of volume and not productivity, but it is important for parliamentarians, policy makers and indeed the public at large to be aware of the circumstances, based on the data here, where an increase in housing supply over the coming years intensifies the possibility of a decline in overall housing quality.

External Space and Design Standards for New Housing

There are two initiatives already in play for design standards, namely Building for Life 12 and the new Housing Standards. The former, which is government-endorsed, considers spatial and external design that is specific to new housing. It has been in existence since 2012 and in January 2015 underwent a further review (third edition)⁶. It provides all involved in the design process (i.e. from conceptual design to eventual planning approval for a scheme) with a means of assessing external design quality. Whilst not mandatory, as an assessment tool specific to the development under consideration it provides a measure of design quality that can prove to be of considerable benefit when discussing project proposals with a Local Planning Authority (LPA). The intention is for this assessment tool to be refined and finessed by relying on its continuous application and subsequent feedback. However, ‘design’ can be personally subjective; one of the competing requirements in England (as well as Wales) in terms of external space and layout design is the need for land-use efficiency. In recognition of such, LPA planning policy and/or an LPA-imposed design brief can have considerable influence. We may see a scenario where LPA-imposed briefs increase due to the Government’s proposals to significantly

⁴ DCLG, [House Building: March Quarter 2015, England](#), May 2015

⁵ HBF, [Customer satisfaction surveys 2005 – 2014](#)

⁶ Birkbeck, D & Kruczowski, S, Nottingham Trent University, [Building for Life 12 \(third edition\)](#), January 2015

streamline the length and process of Local Plans, which could impact on housing quality – this could be either positive or negative dependent on what is contained in the brief.

In terms of internal space standards for new housing, these were considered as part of the Housing Standards Review and came into effect on 1 October 2015. LPAs will set their required standard for the internal size of a new dwelling by relying on needs-based evidence, with any intended standard subjected to viability testing and public consultation before it can be allowed to become a material planning consideration. This process therefore has the potential to be quite lengthy and it could take years before an agreed internal space standard is in place. Moreover, LPAs will have to consider land-use efficiency because any increase in internal space requirements ultimately affects site layout density (i.e. a reduction in housing numbers). This in turn leads to greater pressure to release further land to ensure a readily identifiable five-year land supply, which is a key Government requirement for all local plans as set out in the NPPF. Additionally, increases in internal space standards escalate the cost of a home, creating the unintended consequence of making access for first-time buyers even more difficult.

With such pressure on land-use efficiency and a cost and general market dynamic that works against high-rise (other than in London and major city centres) this is a difficult conundrum to solve and raises a key question, at least in the short-term: can both high housing quality and quantity exist side-by-side?

The current answer appears to be negative when considering the current business and funding models, and the spectre of the boom/bust cycle which leads to an ever-present uncertainty within the industry. Levelling out supply and demand variations, through for example collaboration and new funding models that create long-term demand, is therefore vital to ensure both supply and quality exist side-by-side.

Skills

It is rare that all resources needed to deliver a programme – the people, the money and the materials – are readily available at the same time. A report, *People & Money: fundamental to unlocking the housing crisis*, from construction consultancy Arcadis illustrates that over the past 15 years, labour has been seen as the biggest source of capacity constraint for the construction industry⁷. This was only relieved by high levels of migration from Eastern Europe from 2004 onwards; a CIOB report, *CIOB Perspectives: An analysis of migration in the construction sector*, provides more context in this respect and findings from the report are outlined later in this response⁸. Now in 2015, a strong recovery from the construction industry is placing an even greater strain on resources than seen in previous upturns. Current forecasts published by the Construction Products Association (CPA) anticipate that overall new build output will be up 26% by 2017 from 2012, with private housing activity

⁷ Arcadis, [People & Money: fundamental to unlocking the housing crisis](#), June 2015

⁸ CIOB, [An analysis of migration in the construction sector](#), March 2015

forecast to grow by 55% over this period. With construction's well-documented skills shortage, labour availability can therefore be expected as the biggest constraint on expansion over the next five years.

Management professions, particularly site managers and construction managers, are also commonly seen to be a source of constraint. Management capabilities are critical to ensure increased levels of productivity and improved quality control. The UK Commission for Employment and Skills (UKCES) in its *Future of Work: Jobs and skills in 2030* report projects that the construction industry in 2022 will employ more people than at any time since 1990, with the biggest growth rates in management and technical occupations rather than in more 'traditional' site skills⁹. If the industry is to make this shift in job roles, it must seek to attract young people from higher education backgrounds as well as upskill and progress those from trade backgrounds. The government and industry should look to the professional bodies as a mechanism for this scale of upskilling.

Arcadis puts the scale of the skills challenge into tangible statistics. As stated previously, construction's productivity has not hugely improved in the past 20 years and, while many industries have invested in labour-saving technologies or methods in that time, construction – and house building in particular – is typically as dependent on labour now as it was then. Historically, the house building industry has employed 1.5 full time equivalent (FTE) workers for a year to build a typical dwelling¹⁰. Of this, 1.1 FTE is associated with actual construction and 0.4 with management and administration. Based on this data, Arcadis estimates that the house building industry currently employs approximately 165,000 site workers, as well as a further 50,000 supervisors, managers, technical staff and administrators. If the industry were to deliver 80,000 more housing units, taking the total to 230,000 homes per year, it will therefore require a further 120,000 workers.

Hence it is clear that we will not achieve either the desired quantity or quality of new build housing without first curtailing the skills gap that exists across the sector.

Construction quality is nearly always at risk when market dynamics change for the better, in particular when there is the prospect of a sustained period of economic and market stability; Figure 1 previously showcased this with the 'boom' period of 2004 to 2007 seeing lower customer quality satisfaction ratings. In a housing context, the UK construction workforce is typically poor at responding. The last financial downturn saw a total of 400,000 people, including many experienced tradespeople and professionals, leave the industry. This was accompanied by a reduction in the number of quality subcontractors, with a disproportionate amount of specialist companies going out of business.

House builders themselves cannot rely on existing sources of construction labour, so the expansion of the workforce will be crucial. Training will play a

⁹ UKCES, [Future of Work: Jobs and skills in 2030](#), February 2014

¹⁰ Home Builders Federation, [The Economic Footprint of UK House Building](#), March 2015

key role, either in topping up existing skills, or by developing new entrants with no skills or experience. However, the numbers of trainees joining the industry demonstrates that there is a weak pipeline of talent – construction as a whole attracted fewer than 20,000 first-year trainees in 2013.

Crucially, house building at the moment is not structured in a way that supports investment in long-term training and skills development. Any attempt to improve new build quality needs chiefly two vital components: time and experienced supervision. Unfortunately, time is in short supply when the tight margins that many contractors operate under mean that financial returns are prioritised far above other aspects of the business. And experienced supervision means taking the most skilled personnel away from the front-line, which presents cost, time and quality issues of its own.

In terms of quality, one of the paradoxes of the short-term focus is that the cost associated with remedial work, through either directly fixing defects or via arbitration/litigation if a particular subcontractor/consultant/supplier was at fault, is often a result of poor workmanship.

The skills crisis is exacerbated by the fact that 19% of the construction workforce is set to retire within the next five to ten years¹¹. This includes many experienced professionals (including chartered professionals) and will occur at a time when the building physics agenda is becoming more complex; for example, the issues associated with thermal bridging as Building Regulations become more stringent is likely to prove difficult to overcome without the appropriate experience. As a result, the propensity for construction quality to be compromised still further is very real. We recommend that the industry must find ways to retain these older workers and enable them to pass their skills to others in their firm, through mentoring schemes for example.

As previously mentioned, in March 2015 the CIOB produced a report analysing the effects of migration on the construction sector. Migration has always existed in the industry and the very nature of construction means a flexible workforce, which migrant workers provide, is necessary. The following conclusions from the report can be applied to the house building sector:

- Migration is crucial to construction. It dampens the harmful effects of having a volatile labour market. Tight regulation of migration would damage construction activity in the UK.
- Construction firms will be attracted, or in some cases forced, to draw more heavily on migrant workers in the short-term as the industry continues its growth following the recession.
- Without regulatory control, the most effective way to reduce migration into construction jobs is to invest heavily in training, mentoring and developing young UK citizens. This in the process reduces the burden of youth unemployment.
- To reduce skills shortages, the industry must find ways to retain older workers.

¹¹ ONS, [Labour market statistics, July 2013](#)

- To reduce the migrant flows into and out of the construction industry, investment in the built environment needs to be such that it reduces volatility in demand nationally, locally and by sector.

Effective Control and Implementation of Regulations

The Building Control Performance and Standards Advisory Group (BCPSAG) run an annual survey to assess the performance of building control bodies. The most recent report for 2013-14 produced a number of headline findings that have implications for building control bodies' capability to effectively implement building regulations, including on new build homes (which typically account for 10% of a building control bodies' workload depending on their location in the country).¹² The three primary risks that were identified as having implications for quality are:

- reductions in building control body staff numbers;
- difficulties recruiting appropriately qualified staff;
- the age profile of staff increasingly becoming a problem, with over 17% of building control body staff aged over 55.

These skills issues are endemic and well documented elsewhere in the industry, but it is important to note that they affect not only the site and managerial workforce but also those who enforce quality checks and controls. This is perhaps even more vital when considering regulatory changes in the form of the new set of Housing Standards that came into force on 1 October 2015.

A key issue around quality to address is the so-called design vs. as-built performance gap. A 2014 study by the Zero Carbon Hub discovered that there was widespread evidence of a performance gap in new build housing¹³. The report concluded that all stages of the process of providing new homes – from site acquisition through to commissioning – have the potential to contribute to the performance gap, be it inadvertently, as a consequence of conflicting drivers within the industry, through poor practice, or as a combination of all three.

Three cross-cutting themes were identified as primary contributors to the problem: a lack of understanding, knowledge and skills; unclear allocation of responsibility; and inadequate communication of information.

In relation to quality, the report encouraged design continuity, identifying responsibility within a design team and on-site for championing energy performance, and to implement improved learning and feedback loops. We would encourage the commission to read the report and also ask for evidence from the Zero Carbon Hub in relation to this if it has not already.

¹² DCLG, [Annual report and analysis of the performance of building control bodies against the building control performance indicators for 2013 to 2014](#), February 2015

¹³ Zero Carbon Hub, [Closing the Gap Between Design & As-Built Performance](#), July 2014

Cutting operational and maintenance costs for the homeowner and improving new homeowner experience

An agreed Code of Practice (<http://consumercodeforhomebuilders.com>) for reducing operational and maintenance costs, containing a comprehensive level of information not just relating to the operation of a new home but also specific to the buying process and the customer journey, has been in place for a number of years between home builders and customers, and is subject to continuous review. In addition, both the government and industry's focus has been on minimising operational and maintenance costs for new home owners, such as the gradual tightening of Part L (Thermal Performance) and Part G (Water Usage) of the Building Regulations, and the use of energy-saving technology installed on new developments such as solar panels, ground source heat pumps and district heating schemes.

While not explicitly related to new homeowner experience, rather as something that has longer-term implications, we would like to raise attention to the issue of flood prevention and permeable paving. Recent initiatives to encourage permeable paving for driveways and other hard-standing ground as part of the SuDS (sustainable drainage system) concept are often imposed by Lead Local Flood Authorities and LPAs without due regard to ground conditions in some parts of the country. Water infiltration in these areas could adversely affect house foundation integrity as well as present the need for repetitive maintenance of the driveway to ensure effective drainage operation. We are aware that the foundation issue is a growing concern for the NHBC.

Final comments

Smoothing out labour market constraints, with pinch-points especially prevalent at specialist trade (e.g. bricklayers, plasterers) and management levels, is vital to ensure increased housing supply and improved housing quality.

Removing these pinch-points and creating more certainty in the labour market is crucial; until then, house-builders will remain in competition both within their own market and with other sectors of the industry for labour, which in turn drives up wages and funnels finance away from improving build quality and training more staff.

The CIOB therefore believes that the ultimate solution to improve housing quality is support from industry, developers, investors, lenders, central government and local government for a long-term demand model that will essentially eradicate the boom/bust cycle. This is not an easy or quick fix and will require buy-in and collaboration from multiple parties, alongside acknowledgment that the existing funding and business models, while profitable for many larger house builders in 'boom' times, are not capable of delivering both supply and quality in the long-term.

Levelling out the supply and demand variations that are rife in the house building industry will provide firms and their supply chains with the

confidence to invest in training, skills development, innovation and MMC solutions that will deliver high quality, yet still cost-effective, housing.