CIOB

THE CHARTERED INSTITUTE OF BUILDING

a report exploring

skills

in the UK Construction Industry

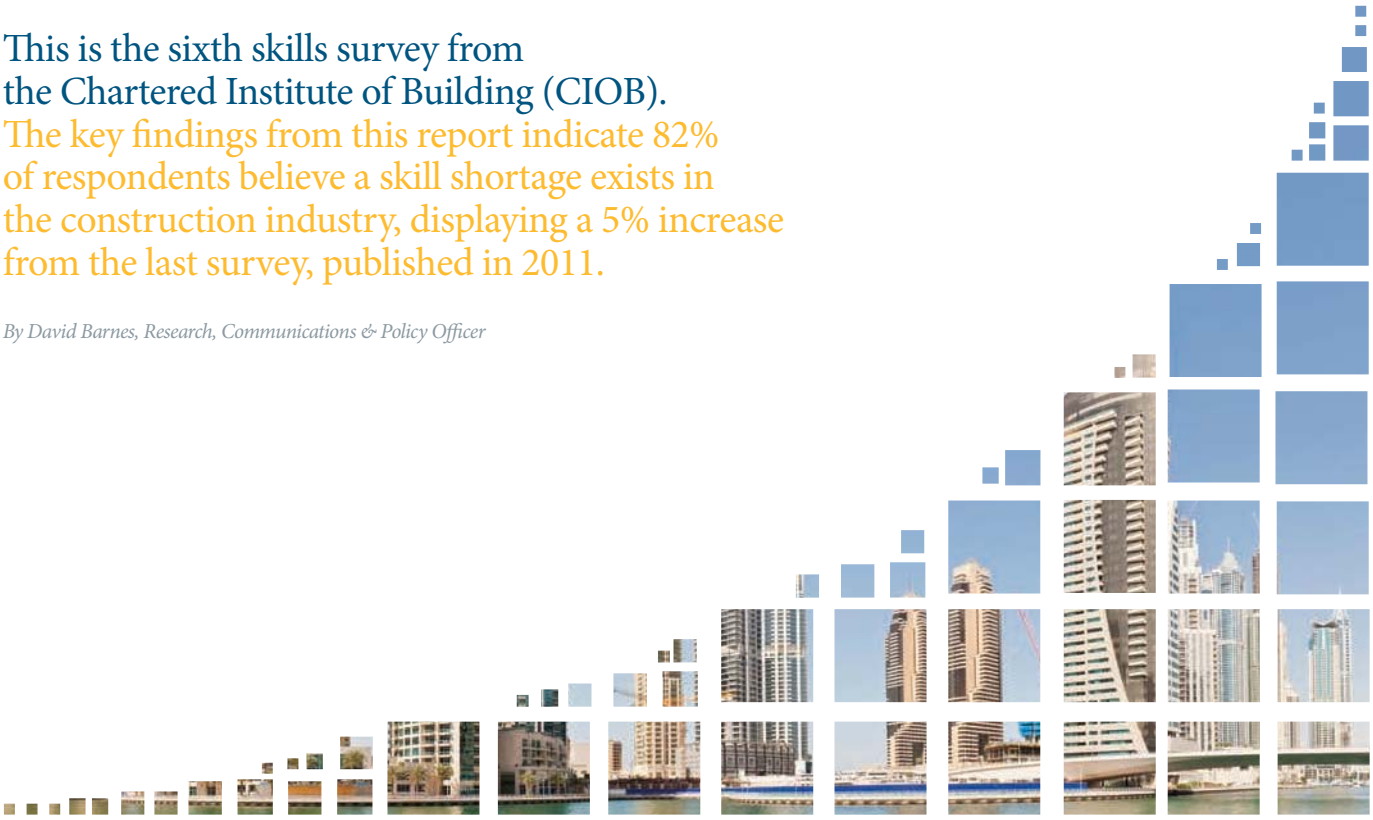
April 2013

Contents

This is the sixth skills survey from the Chartered Institute of Building (CIOB).

The key findings from this report indicate 82% of respondents believe a skill shortage exists in the construction industry, displaying a 5% increase from the last survey, published in 2011.

By David Barnes, Research, Communications & Policy Officer



Apprenticeship training appears to be heading in the right direction, indicating a 7% increase compared to the 2011 CIOB skills survey in the number of organisations recruiting more apprentices. Positively, of those organisations offering apprenticeship schemes, 58% state that courses last 2 years or more. This highlights the ability of the construction industry to take the lead in developing a long-term, career-minded workforce.

This research examines the stance of CIOB members on the current state of construction industry skills. This 2013 report centres on skills shortages, apprenticeship recruitment and opportunities for skills in new initiatives and technologies related to the Green Deal and Building Information Modelling (BIM).

The data gathered from this and previous CIOB skills surveys allows us to map trends over time. The data published in these reports from before, during and after the recession offers a unique insight into the condition of the industry's workforce over the past seven years.

The research indicates that 72% of apprentices are being offered permanent employment within the organisation past the completion of their apprenticeship. However, the industry cannot ignore that 51% of respondents state that their organisations are not actively recruiting apprentices - particularly when 90% believe that apprentices are key in filling skill gaps within the UK construction industry. A failure to attract talented young people to replace the ageing workforce will impede the industry's ability to build a sustainable skills base.

41% of the sample expects that the construction workforce will decrease over the course of 2013/14, as opposed to 18% believing the workforce will increase. Half of the sample does not expect there to be a major change in the levels of demand over the 2013/14 period. Respondents cite a lack of available work and the recession as key reasons for this.

Respondents most commonly cite trade and technical skills as the ones in highest demand, while also highlighting a deficit in leadership and management skills within the industry. Management skills are vital to future development, particularly relating to the government strategy for BIM and other efficiency measures.

New initiatives and schemes such as BIM and the Green Deal, which have gained traction in recent years, may require a mixture of new and refined skills. 59% of respondents believe that the construction workforce will not have the required skills for BIM and 78% see a real need for training. Respondents claim the fast pace of the industry and the provision of quality training will lead to many organisations becoming more competitive. 26% of respondents believe that the Green Deal will lead to greater investment and growth in the energy saving market. However, 44% of respondents do not believe that the construction workforce will have the required skills for the Green Deal.

EXECUTIVE SUMMARY

INTRODUCTION

The Chartered Institute of Building is at the heart of a management career in construction, and our focus is on those entering or already in such a career.

By delivering qualifications and certifications that meet the needs of a changing industry, we work with members, employers, academia and governments across the globe to drive forward the science, practice and importance of management in construction.

The purpose of this research is to investigate the state of skills in construction through the perceptions of industry professionals. The CIOB will use this research to raise awareness about the issues surrounding construction skills within industry and government, and with the public and our members.

What is important is that future generations have access to the skills they need to take advantage of this industry.

BACKGROUND INFORMATION

Previous research from the CIOB into skills indicated that there is a severe skills shortage in the construction industry. Our last skills report in 2011 found that 77% of respondents believed a skills shortage existed in the UK industry alone, representing a 5% increase from the 2010 CIOB skills survey. This was a particularly worrying statistic given the pronounced decline in construction output and the lasting effects of the recession upon the construction industry.

Labour market data from December 2012 by the Office for National Statistics (ONS) indicates the construction workforce has dipped to its lowest level since 2001. A fall of 65,000 construction personnel between September 2011 and September 2012 meant that the industry was left with a total of 1.99 million employees[1]. This decline in personnel can be attributed to the sharp fall in construction output. The ONS estimates that construction output in November 2012 was 9.8% lower than in November 2011[2]. Further data from the ONS indicates that construction firms carried out £23.8 billion of work in the third quarter of 2012, the lowest figure recorded since the second quarter of 1999[3] (£23.7 billion).

Despite a prolonged downturn, an industry report from Construction Skills Network anticipates growth between 2013 and 2015[4], reaching 6.2% above 2011 levels by 2015. Opportunities in building a low carbon economy and increasing efficiencies through innovation and technology have been cited as drivers for growth. However, challenges remain in ensuring that the workforce is equipped with the right skills to deal with the changing needs of the industry. It is also vital that the industry is able to attract and retain talent and provide new entrants with relevant training that is aligned to the current and future needs of the industry.

New policies

The UK coalition Government has implemented a number of policies that are predicted to have a range of effects across the various skills in the construction industry. CIOB's members' views on these topics are explored in the results section of this report.

The Green Deal, the coalition government's flagship energy efficiency scheme, is one such initiative. Officially launched on 28 January 2013 by the Department of Energy and Climate Change (DECC), the initiative represents a significant opportunity for the broader construction industry.

The Green Deal is a framework that enables private businesses to offer consumers the chance to make energy efficiency improvements to their homes and businesses, without the upfront capital costs. Retailers, tradespeople, energy companies and investors will have access to a huge and growing market, with positive implications for jobs and skills across the supply chain within the UK. In June 2012, DECC suggested that "*these policies will boost the burgeoning low carbon economy by supporting up to 60,000 jobs in the insulation sector alone by 2015, up from around 26,000 today*"[5].

The Green Deal has received a mixed reception, reinforced by low levels of initial take-up in the private sector, albeit with a growing market at social housing and Housing Association level. However, in building a green economy, there are opportunities for job creation, innovation and a reduction in spending and energy demands.

This requires a joined-up approach between business, education, professions and the Government in ensuring that the appropriate skills are available to deliver the Green Deal, from the most basic installations to the most complex measures and packages, in small dwellings and large commercial premises alike.

Another policy that came into effect in September 2012, and one that has attracted a great deal of controversy, is the increase in university tuition fees in England and Wales. The policy means that universities are able to charge students between £6,000 and £9,000 per year, which is then paid back once graduates are earning over £21,000 per year (changing annually with inflation).

1. ONS, *Labour Market Statistics*, 12 December 2012
2. ONS, *Output in the Construction Industry*, November 2012, 11 January 2013
3. ONS, *Output in the Construction Industry*, September and Q3 2012, 9 November 2012
4. CITB, *Blueprint for UK Construction Skills 2011-2015*, January 2011
5. DECC, *Government Sets Out Next Steps for Green Deal*, 11 June 2012

University numbers have witnessed a decline in numbers over the past two years. A large proportion of construction managers, architects, engineers, quantity surveys and so on within the industry are university educated and statistics from the University and Colleges Admissions Service (UCAS) indicate that places on built environment related courses slumped in 2012. 35,825 students applied ahead of the 15 January deadline, indicating a substantial drop of 16% compared to the same point in 2011 (by which time, 42,810 prospective students had applied to study built environment related degrees[6]. 2013 figures show a further drop, albeit small, to 35,042 applications[7]. The fee rises are likely to affect the choices that many prospective students make and it is important that high-quality alternatives to universities are in place to cater for these decisions.

The emergence of Building Information Modelling (BIM)

The concept of BIM is not a new one and in recent years it has gained more traction within the UK. A number of conflicting definitions for BIM exist, but a common theme is that BIM involves a digital representation of a structure that brings together all those involved in a project, to share knowledge and to assist in making decisions during a building life-cycle.

The Government Construction Strategy, published in July 2011 by the Cabinet Office, put BIM firmly on the political agenda. The strategy committed to fully collaborative 3D BIM (Level 2 BIM) as a minimum standard by 2016[8]. The programme focuses on driving the adoption of BIM technology by both public and private sector organisations involved in the procurement and delivery of buildings and infrastructure.

The momentum generated around BIM could lead to exciting new career opportunities for the next generation of engineering and construction talent. So far, the Government has had success in encouraging adoption of BIM through official standards and procurement plans. However, it is vital that industry and government work hand in hand to develop talent and education, and to prepare individuals with the skills to be fully operational with BIM now and in the future.

Reduced workloads and a fall in confidence have been cited as reasons for the sharp decline in construction apprenticeship numbers.

Olympic and Paralympic Games

The delivery of the Olympic venues both on time and within budget was undoubtedly a highlight that helped lift the spirits of the country and the industry. The National Audit Office (NAO) stated the event's construction programme supported 177,000 job years of employment between 2007 and 2012[9].

An encouraging feature was the Olympic Park apprenticeship scheme. 457 construction apprentices worked on the Olympic venues, exceeding the Olympic Delivery Authority's (ODA) target of 350 apprenticeships[10]. The majority were recruited from surrounding host boroughs, in order to address unemployment in the area, and benchmarks for gender, ethnicity, and disability were met. Evidence suggests that construction companies that employ a diverse workforce can gain an edge in the procurement process, which can be more productive and efficient due to the range of experience, culture and talent that a diverse workforce can provide[11].

The introduction of specific contractual requirements for the contractors to the ODA to take on apprentices was a welcome boost to the wider industry. Not only did it showcase the construction industry leading on apprenticeship training, but reaffirmed the value of high quality training schemes to the coalition Government. This success should be acted upon and minimum requirements should be established for apprentices on all public sector procurement.

The value of apprentices

With the rise in tuition fees, it has been argued that apprenticeships could be the answer to addressing skills shortages in the UK. An apprenticeship combines college learning and on-site experience to ensure the right balance of technical skills and practical experience. However, diverse views exist on what an apprenticeship is and, more importantly, what it should be going forward. Traditionally an apprentice-reliant industry, construction can only benefit from these initiatives in terms of skills if the appropriate training and badging is established.

In 2011, the coalition Government invested £1.2 billion into apprenticeship programmes. The same year saw 457,200 people start training as apprentices, more than double the average number starting them in the last decade. Industry research from the NAO has suggested that many of these apprenticeships have been created in fast growing areas, such as IT and telecoms, and that a fifth of the apprenticeships took less than six months[12]. Despite this investment, CITB-Construction Skills research shows the number of construction apprentices running at about half the level it did four years ago – from more than 14,000 a year to less than 8,000[13]. Construction programmes are typically 18 months for Level 2 programmes and a further 12 months to progress to Level 3. Construction apprenticeships are a long-term commitment, but they can often lead to long-term sustainable employment[14].

Furthermore, construction apprenticeships are expensive to deliver. Research from the Warwick Institute for Employment Research found that the average net cost to a construction employer of a three year apprenticeship was £22,000, compared to £2,300 for

6. UCAS, *2012 cycle applicant figures – January 2012*, 30 January 2012
7. UCAS, *2013 cycle applicant figures – January 2013*, 30 January 2013
8. Cabinet Office, *Government Construction Strategy*, May 2011
9. NAO, *The London 2012 Olympic Games and Paralympic Games: post-Games review*, 5 December 2012
10. ODA, *Learning legacy*, October 2011
11. The National Skills Academy, *Case Study: Olympic Stadium Female Apprentice*, 2012
12. NAO, *Adult Apprenticeships*, 1 February 2012
13. Building, *The missing apprentices*, 24 August 2012
14. UKCG, *Growing Construction Apprenticeships*, 2012

a similar scheme within retail[15]. Additionally, overly bureaucratic recruitment processes and time delays in employment law can stifle drivers in apprenticeship recruitment.

Despite the sluggish growth, progress has been made in public sector procurement, enabling public authorities to include a commitment by the contractor to provide apprenticeships and skills training[16]. Interestingly, the Richard Review - an independent report by Doug Richard, published on 27 November 2012, concerning apprenticeships - calls on the Government to improve the quality of apprenticeships and asks it to intensify its focus on the needs of prospective employers.

Migrant workers

The EU's expansion into Eastern Europe in 2004 prompted an influx of around a million workers to the UK. Expansion enabled migrants to supplement the skilled and unskilled workforce and plug gaps in the UK labour market. As stated in the 2011 skills survey, migrant workers will always go to where the work is, and the impact of recession and shifts in UK policy have both had profound effects on net migration. Statistics from the ONS indicate a 7.8% decline in net migration in the year ending March 2012; this coincided with a 0.4% decline in UK GDP growth[17]. Explanations highlight a reduction in the number of overseas students coming to study and a fall in employment opportunities for immigrants.

However, a fall in net migration may only be a short-term phenomenon. Even if the UK economy is weaker than it was pre-recession, it is still likely to offer more employment opportunities than other economies. Furthermore, as of 2014, the EU Freedom of Movement directive will require the UK to remove its transitional controls and to allow Bulgarian and Romanian citizens to live and work unrestricted in the UK. The impact upon, and implications for, the population and the workforce are, of course, unknown at present.

Future lessons

The UK Government and industry need to ensure that they do not repeat the mistake of the recession of the early 1990s, which led to long-term skills shortages. A study by the Organisation for Economic Co-operation and Development (OECD), cited by the Learning and Skills Network (LSN), examined the labour market after the early 1990s recession. It was found that countries that actively invested in the labour market, such as Sweden and Demark, but unlike Britain, put themselves into a far better position for the economic recovery of the mid-1990s. As a result, Denmark's long-term unemployment was reduced by 44% over the period[19]. Conversely, the UK shied away from active labour market measures, opting to tighten up benefits and resist regulation – leading to mass unemployment and huge skills shortages during the recovery stages.

The CIOB believes that the Government and industry need to consider a long-term, holistic approach to stimulate the economy. The construction industry cannot afford to resume 'business as usual' and we must not repeat the mistakes of the mid-1990s. It is therefore vital to invest in infrastructure and skills now in a bid to ensure growth and stability. The forthcoming Industrial Strategy by The Department for Business, Innovation and Skills has the potential to provide leadership in these issues.

15. UKCG, *Maintain 'gold standard' apprenticeships*, UKCG says, 07 September 2012
16. House of Commons, *Apprenticeships and Skills (Public Procurement Contracts) Bill*, 14 September 2010
17. ONS, *Migration Statistics Quarterly Report*, 29 November 2012
18. LSN, *UK employment and skills in a global recession – what can we do now?*, 2009

The survey was conducted using an internet-based questionnaire, which respondents could access through the CIOB website *(www.ciob.org.uk)*.

Respondents were asked general demographic questions regarding their age, gender, location, job level, job sector, and the number of employees within their organisation. An email was sent to 23,478 UK-based CIOB members informing them that the survey was online. The survey was also opened to the wider industry through the use of social media channels.

Certain questions were based on previous CIOB skills surveys, in order to track trends within the industry. There were both qualitative and quantitative questions in the survey, allowing respondents the opportunity to openly express their opinions.

The sample

The sample consists of 1,346 construction professionals. Of the sample, 57% are between 41 and 60 years of age (Fig. 2), which highlights that the age profile of the construction workforce continues to rise. In line with previous years, a significant gender gap exists in the construction industry. The majority of respondents, 94%, are male and 6% are female (Fig. 3). Comparison with previous skills research highlights that there has been little or no increase in the proportion of female construction employees. The majority of respondents describe themselves working at a senior management level (Fig. 4) within the contracting and project management sectors (Fig. 5). 37% of respondents work in organisations that employ over 501 staff, followed by 24% that work in organisations that employ fewer than 20 staff (Fig. 6). 97% of the sample are from the UK, with London and the South East of England forming the largest concentration (35%) of respondents (Fig. 1).

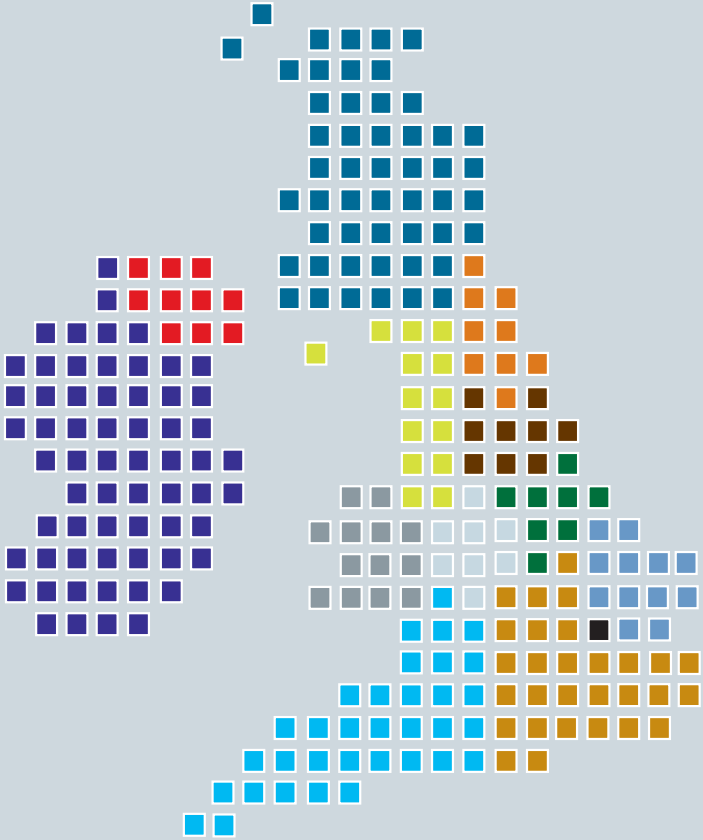


Fig.1
Location:

- Scotland (7.43%)
- Northern Ireland (2.60%)
- Wales (4.75%)
- North East England (3.57%)
- North West England (9.21%)
- Yorkshire (5.13%)
- East Midlands (5.57%)
- West Midlands (8.10%)
- East England (6.17%)
- London (15.30%)
- South East England (19.47%)
- South West England (9.36%)
- Ireland (0.37%)

Fig.2
Age:

20 OR UNDER	**0.67%**
21-30	**10.62%**
31-40	**17.90%**
41-50	**30.24%**
51-60	**27.12%**
61-65	**8.17%**
66 AND OVER	**5.27%**

METHODOLOGY

Fig.1.1
Location:

- Europe (0.30%)
- Middle East (0.89%)
- Africa (0.45%)
- North America (0.15%)
- South America (0.15%)
- Asia (0.15%)
- Australasia (0.15%)
- Other, please specify (0.74%)

Fig.3
Gender:

Fig.4
Job level:

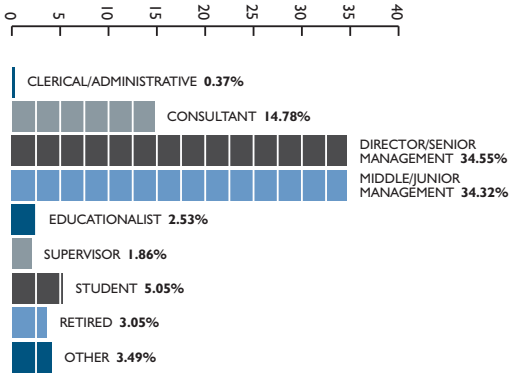


Fig.5
Job sector:

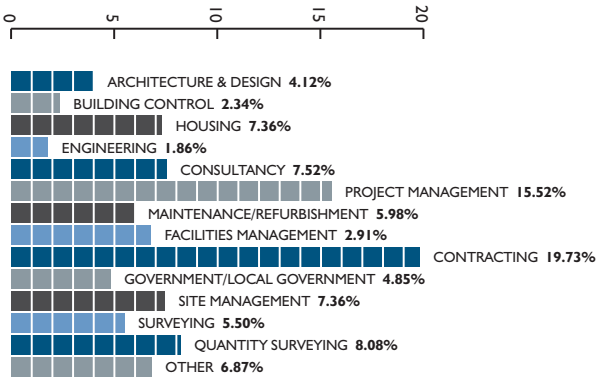
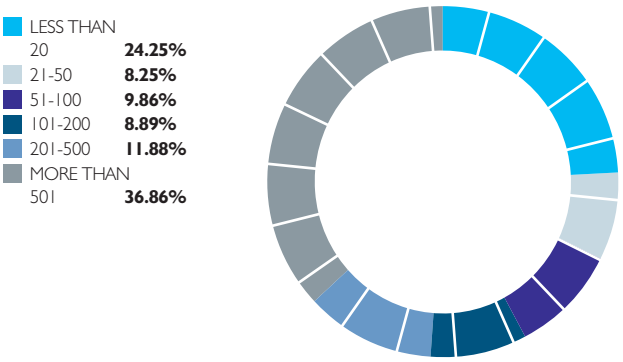


Fig.6
Number of employees in your organisation:



Skills shortage or surplus?

Fig.7: 82% of respondents believe there is a skills shortage in the construction industry, representing a 5% increase compared to the results of the 2011 CIOB skills survey. This figure highlights that the industry is still suffering from skills shortages, even with the widely-reported decline in construction output and the effects of the recession.

Significant research has focused on whether skills shortages are a result of low levels of investment in training. A UK-wide employer survey of 87,500 businesses in 2011 by the UK Commission for Employment and Skills (UKCES) found that 41% of the respondents did not train their staff. This raises questions about the level of demand for skills, and about the ambition being exhibited by employers across the UK[19]. A lack of stability, and an inability to accurately plan workloads, has led to many construction companies being unable to fully invest their resources into training schemes that prepare their staff for projects; this can lead to increased workloads for staff, which can have a knock-on effect to morale and retention. It can be argued, however, that this can encourage employees to learn new skills outside of the remit of their normal jobs. As a result, construction professionals often pursue Continuing Professional Development (CPD) programmes voluntarily, as a means for self-improvement. Few organisations go further than recommending CPD activity, which often leads to financial constraints on employees. This begs the question as to why construction professionals opt to work in an industry where they are solely responsible for their own development, and where there is no real incentive offered by employers.

Fig.7.1: Past CIOB research has examined the rising age profile of the construction workforce, the removal of the UK default Retirement Age (DRA), the educational framework, migration and fluctuations of supply and demand as possible reasons for shortages.

In line with the 2011 skills survey, 55% of the respondents cite a lack of skilled UK domestic construction personnel. Comments highlight the scarcity of, and lack of investment in, quality training and 'traditional' apprenticeship schemes as key factors contributing to skills shortages. These difficulties compound the issue of attracting new talent to the construction industry and establishing a quality skills base. Respondents highlight concerns and perceptions within "young generations" that a career in construction involves long hours and little pay, and that many tasks require manual labour rather than technical skills, all of which act as a barrier to entry. CIOB Novus, which prepares young people to be the next construction leaders, aims to promote careers in the construction industry and enthuse the generations to take opportunities in the field.

Fig.7
Do you believe there is a skills shortage in the construction industry?

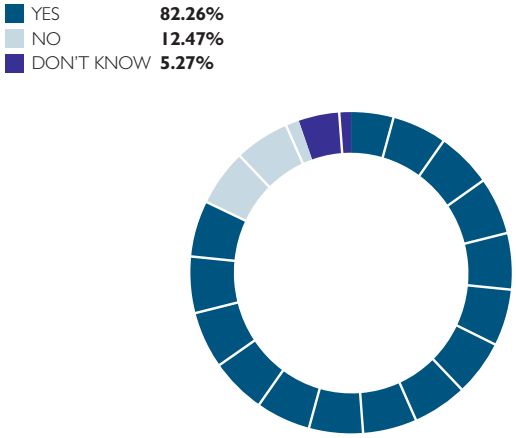


Fig.7.1
Why do you primarily believe that a skills shortage exists?

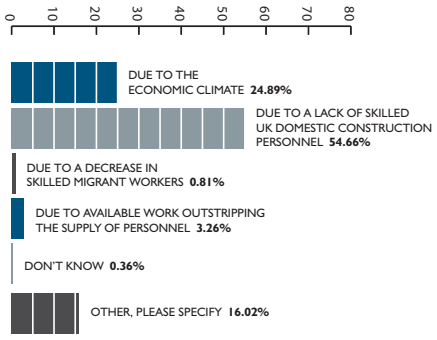
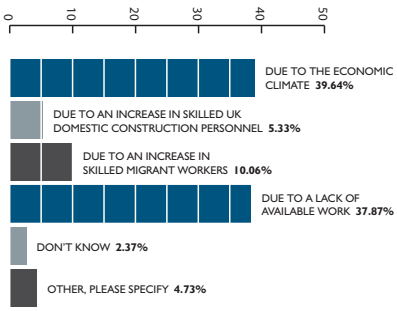


Fig.7.2
Why do you primarily believe that a skills shortage does *not* exist?



19. UKCES, *UK Commission's Employer Skills Survey 2011: UK Results*, July 2012

Fig.8
What do you expect to happen to construction demand in 2013/14?

INCREASE	**32.59%**
DECREASE	**15.44%**
REMAIN THE SAME	**50.26%**
DON'T KNOW	**1.71%**

Fig.9
What do you expect to happen to the construction workforce in 2013/14?

INCREASE	**17.82%**
DECREASE	**41.35%**
REMAIN THE SAME	**38.83%**
DON'T KNOW	**2.00%**

Fig.10
Are you concerned that there may not be enough skilled construction personnel available when the construction economy recovers?

YES	**82.02%**
NO	**16.79%**
DON'T KNOW	**1.19%**

Fig.7.2: 12% of respondents do not believe that a skills shortage exists. The results are in line with that of the 2011 skills survey, in which the economic climate and the lack of available work were cited as primary reasons as to why skills shortages did not exist. It should be pointed out that there are many qualified, and over-qualified, candidates with vast experience and skills who are struggling to find work. However, skills can sometimes be overshadowed by employers who are keen to appoint staff with the right "cultural fit".

Fig. 8, 9 & 10: The majority of respondents believe that construction demand will remain relatively stable, while the level of the workforce decreases, over the course of 2013/14. Research from CITB-Construction Skills shows that construction output is projected to grow by less than 1% year on year until 2017. However, it is suggested that this will not be sufficient for generating an expansion in construction employment, which is projected to fall by nearly 1% a year running up to 2017[20]. This may lead to greater demand being placed upon a smaller and more streamlined workforce to deliver increased workloads.

Despite the bleak outlook, some sectors show some signs of growth moving through 2013/14. Demand for housing is set to grow; albeit at steady rates in London and the south-east. The Chancellor's autumn statement included £1bn of additional funding for roads and rail, which is a welcome investment. Furthermore, the launch of the Green Deal in January 2013 could push recruitment up in the repair, maintenance and improvement part of the construction market over the next few years. This opens up another avenue of potential work for the industry.

20. CITB, *Blueprint for UK Construction Skills 2013-2017*, January 2013

Fig.11
What are the factors limiting your organisation's business at the time of answering this questionnaire?

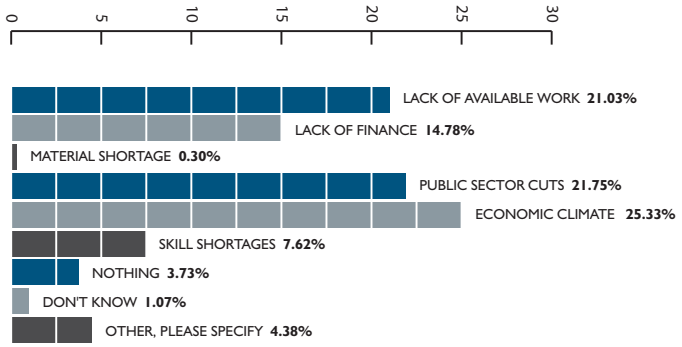


Fig.11: When asked about the main factors limiting business, respondents cited the economic climate, public sector cuts and a lack of available work as the primary reasons. Approximately 40% of the construction industry's turnover is from public sector spending on construction projects[21]. With the construction industry heavily reliant on the public sector for work, it is clear that cuts to capital spending will have a negative impact upon the sector and the economy as a whole. These cuts could also affect the highly competitive private sector, with an inflated number of contractors bidding for fewer jobs and work being awarded on the basis of the lowest tender. These factors have implications for jobs and for skills shortages; SMEs, in particular, may have to take a cautious approach to growth and be forced into cuts to training, as well as staff redundancies.

A lack of finance is also highlighted as a concern for 15% of respondents, with many contractors commenting on cash flow issues. An article in Building magazine found that the net cash holdings of the five largest listed contractors by turnover fell by almost 90% in a year between 2011 and 2012[22]. The fall in workload often limits the ability to hold cash within the business and this can have devastating effects upon the wider supply chain. It can particularly impact the smaller companies that are often reliant upon a small number of contracts that use cash to pay bills and salaries.

Fig 12: Respondents were asked to highlight up to three skills that they believe the construction industry most requires. Responses were then divided by the sample size (1,346) to present a clearer picture of the skills in demand. Trade and technical skills were cited as most needed, particularly in plumbing, electrical and gas specialisms. Explanations for these shortages could include the impact of migrants returning home, or stem from a lack of trade apprentice training, with many young individuals opting for university as a way to build a career. At a higher level, leadership and construction management skills also featured heavily among respondents. Construction managers need to take a strategic view of projects covering finance and resource management, while identifying opportunities in new markets and fostering innovation and leadership skills. Furthermore, any move towards off-site manufacturing will also have implications for the development of current skills, particularly towards precision construction and the methods involved in making this work.

Green Deal a good deal?

Fig.13: The Green Deal, officially launched in January 2013, is a framework enabling private businesses to offer consumers the opportunity to make energy efficiency improvements to their homes and businesses, without the upfront costs. 26% of the respondents believe that the Green Deal will lead to greater investment and growth in the energy saving market. This is positive news for the industry, as the UK has some of the most inefficient housing stock in Europe. In addition, it was estimated in 2010 that 4.75 million households spend over 10% of their income on heating, and therefore live in fuel poverty[23]. Respondents also highlight employment opportunities for Green Deal accredited personnel, as well as for construction personnel more broadly.

While the data in Figure 13 appears to offer a fairly positive outlook on the potential of the Green Deal and its implications for the construction industry, a number of respondents are sceptical about the initiative. These sceptics claim that the Green Deal will create only a short-term impact and spikes in demand that do not offer the stability and longevity that the construction industry so desperately needs. Further concerns raise the possibility of the Green Deal creating an industry for 'rogue' advisers that mis-sell costly products to customers when cheaper options are available. If this happened, it could tarnish perceptions of the Green Deal and the construction industry as a whole.

21. Cabinet Office, *Government Construction Strategy*, May 2011
22. Building, *Running on empty*, 08 March 2013
23. DECC, *Annual Report on Fuel Poverty Statistics 2012*, May 2012

Fig.12

What skills do you believe the construction industry most requires?

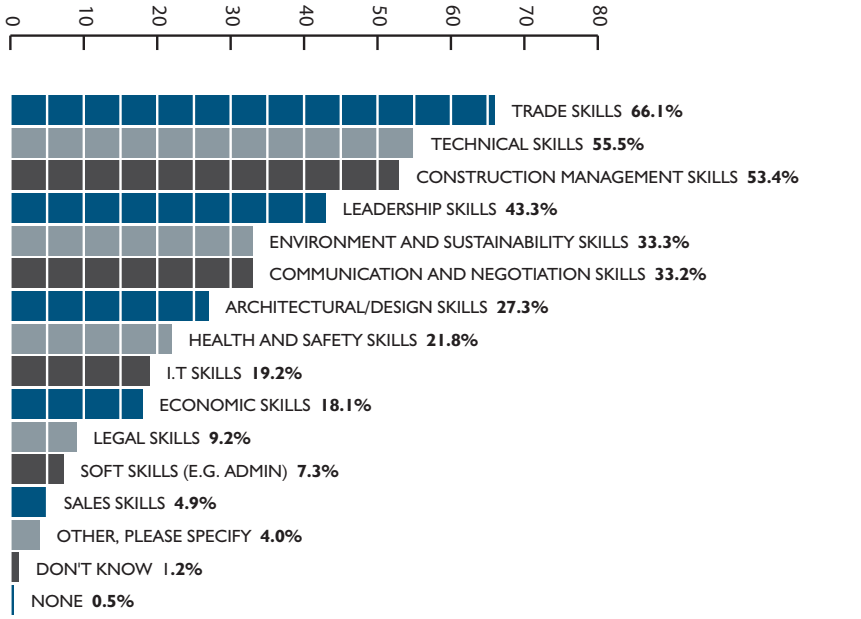


Fig.13

From your understanding of the Green Deal, what do you believe are its implications on the construction industry?

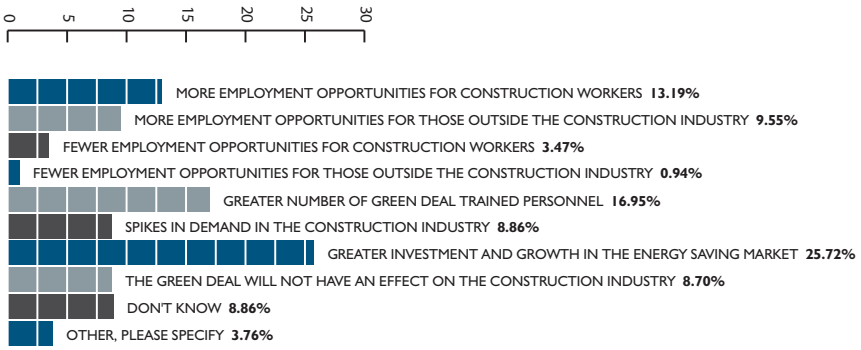


Fig.14
Do you believe that the construction workforce will have the required skills for the Green Deal?

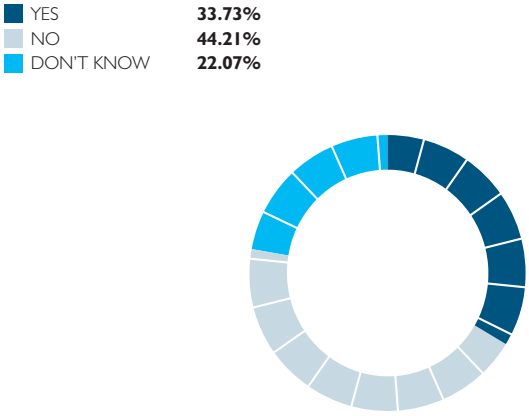


Fig.14.1
How urgent is the need for training in the Green Deal?

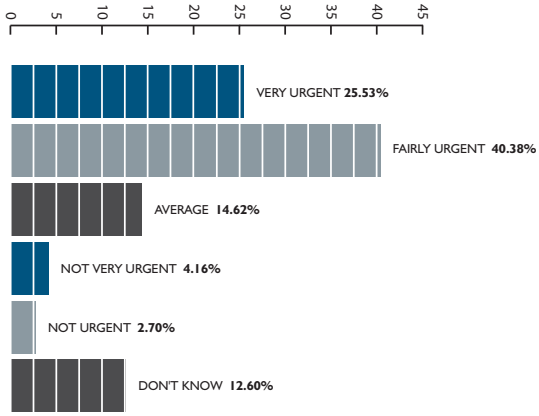


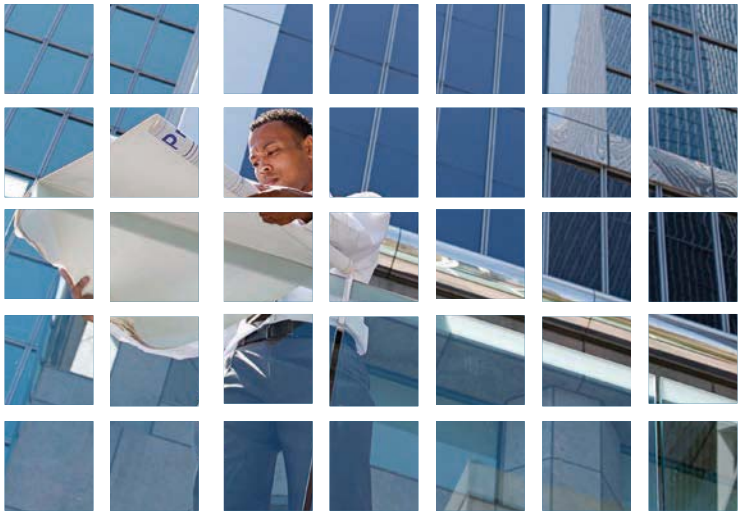
Fig. 14: 44%, the majority of respondents think that that the construction workforce will not have the required skills for the Green Deal. Given that the success of the Green Deal hinges upon their being sufficient levels of accredited installers and assessors to handle the uptake, it is vital that there is support for training and skills. Further analysis suggests that the construction sector needs to develop a new "green focused" workforce that moves away from "generic" construction skills. A report commissioned by the Green Deal Skills Alliance (GDSA) indicates that the construction workforce requires a mixture of technical skills – such as physical installation of measures - combined with softer skills, around customer service and engagement, to implement the Green Deal. Furthermore, the role of the energy assessor will require skills to carry out a comprehensive and effective property assessment, as well as the communication skills to talk about the most effective solutions and advise customers[24].

Fig. 14.1: Most respondents see a real need for training in the Green Deal. The GDSA estimated that under a third of the UK's construction workforce had the necessary skills to install energy efficiency measures. If the Green Deal scheme is to succeed, there must be an urgent move towards accrediting Green Deal Installers under the PAS 2030 standard. Respondents claim that there has been a lack of promotion and information on the competencies and standards required to become Green Deal accredited. Further work must be done to highlight opportunities for younger generations to work towards a low carbon economy and Green Deal apprenticeships could be seen as the first step towards supporting jobs, skills and growth in the low carbon industry.

24. GDSA *research to support the development of a Green Deal Competency Framework*, January 2012

Green Deal apprenticeships could be seen as the first step towards supporting jobs, skills and growth in the low carbon industry.

Almost 60% of respondents believe that that the construction workforce does not currently have the required skills for BIM.



BIM

Fig. 15: Respondents were asked to choose up to three implications for the construction industry in relation to BIM. 24% of respondents believe that BIM will lead to a greater number of personnel entering the workforce with specific training and skills.

BIM will demand and ensure that extra skills evolve, in addition to the more general, traditional skills inherent within the industry at present. Given that BIM is a key driver to efficiency, a natural implication will be that job evaluations and skill requirements also change over time. Undoubtedly, BIM will generate new jobs that are specifically and separately aimed at maximising the use of BIM. The development of various software packages and the need for compatibility will also ensure the requisite skill base for future BIM delivery.

This will help drive greater investment in research and innovation, which can underpin new ways of doing things and change the perception of the industry. This could make it more attractive and position it as a modern and technological industry – transcending geographical boundaries – and giving every BIM user a chance to contribute, regardless of size, role, experience or location.

Fig. 16 & 16.1: Almost 60% of respondents believe that that the construction workforce does not currently have the required skills for BIM and a large majority see a real need for training.

BIM is a central theme in the UK Government Construction Strategy, with a mandate for 'fully collaborative 3D BIM as a minimum by 2016'. It is estimated that the public sector accounts for approximately 40% of overall construction and is therefore hugely important to the construction industry as a whole. This mandate may lead to organisations recruiting workers with BIM skills, as well as up-skilling the existing workforce in order to stay competitive and in line with Government policy.

Despite this public sector shift to BIM being just a few years away, the statistics show that a great deal of work needs to be done. New and existing members of the construction industry must have the right mix of education and training to fulfil the functions of BIM. It is also vital that training and education providers are visible and that they understand the training needs, ensuring a link between industry and academia.

More generally, the CIOB believes there is a key role for itself, and other professional bodies, to help ensure that those in the supply chain are as up-to-date as possible on the requirements of BIM and involved as much as possible in its development.

Fig.15
From your understanding of Building Information Modelling (BIM), what do you believe are its implications on the construction industry?

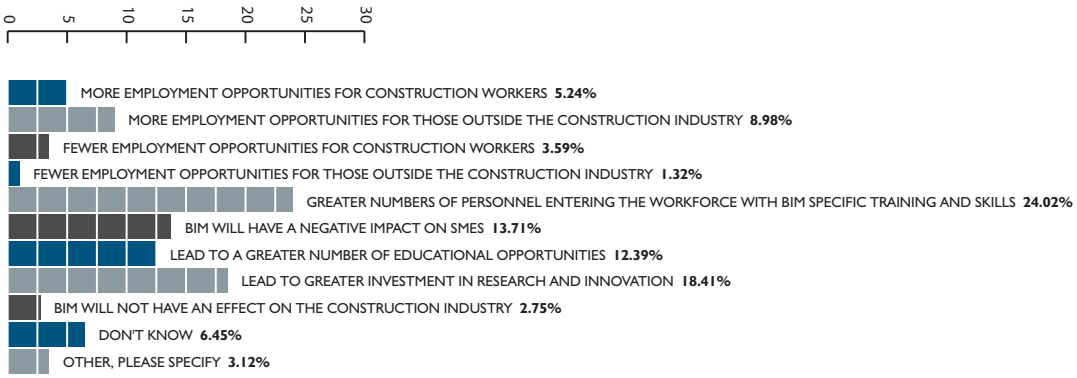


Fig.16
Do you believe that the construction workforce will have the required skills for BIM?

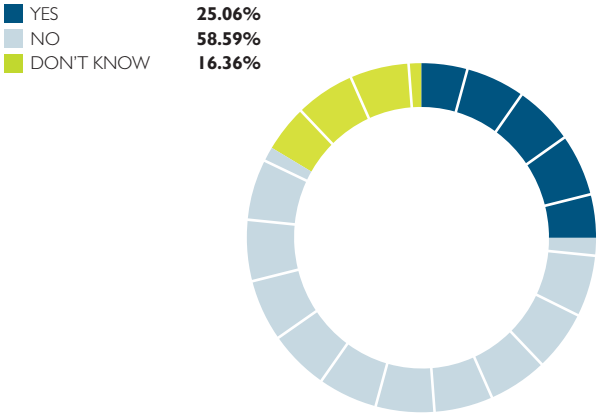


Fig.16.1
How urgent is the need for training in BIM?

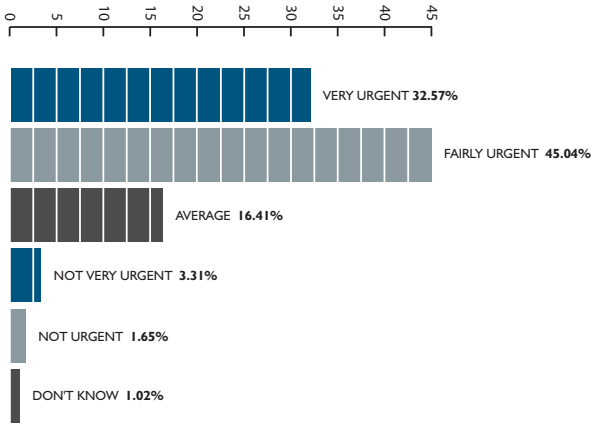


Fig.17
What has happened to the number of migrant workers within your organisation over the past 12 months?

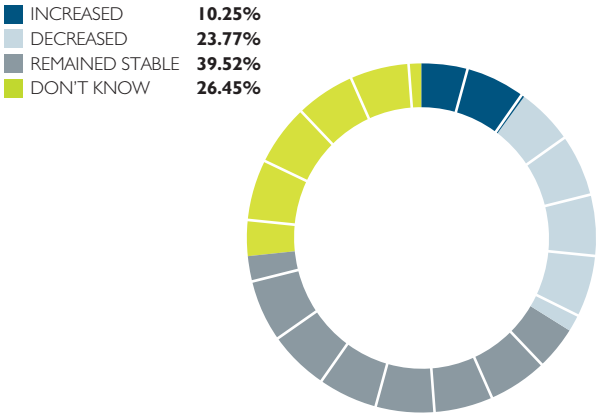
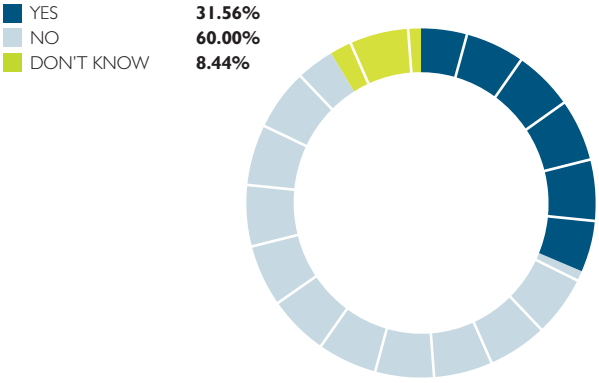


Fig.17.1
If the numbers of migrant workers have decreased, do you believe this has reduced the levels of redundancies in the UK domestic workforce?



the Canadian Government has launched a recruitment drive designed to attract skilled Polish migrants living in Britain

Migration

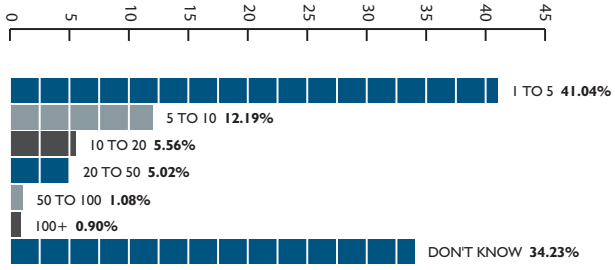
Fig. 17: Data from the 2011 CIOB skills survey indicated that respondents had noticed a decrease in the number of migrant workers employed within their organisations, based on previous CIOB skills surveys. The data in this year's survey shows a further decrease, with 24% of respondents reporting a decline. This corresponds with the fall in net migration in the year ending March 2012 and a decline in UK GDP growth.

Fig. 18 & 18.1: 97% of respondents are from the UK, indicating that the term 'domestic' in this case applies almost wholly to the UK construction workforce. 37% – a slight increase from the 2011 CIOB skills survey – state that more personnel are emigrating to seek construction work abroad, with the most popular destinations being Australia and Canada.
Australia has a well-documented skills shortage in its domestic market; Canada is also facing a similar shortage of labour, particularly in construction and transport. Interestingly, the Canadian government has launched a recruitment drive designed to attract skilled Polish migrants living in Britain because they already speak English. Historical links between Poland and Canada have also made it an attractive option for many Polish construction workers[25].

Fig.18
In the past 12 months, have you noticed a change in domestic construction personnel emigrating in order to seek work abroad?

YES, MORE PERSONNEL ARE EMIGRATING	**37.37%**
YES, FEWER PERSONNEL ARE EMIGRATING	**4.46%**
NO, THERE HAS NOT BEEN A CHANGE	**33.66%**
DON'T KNOW	**24.52%**

Fig.18.1
If known, approximately how many domestic construction personnel in your organisation have emigrated to seek construction work abroad?



25. The Sunday Times, *Canada goes to the Poles*, November 2012

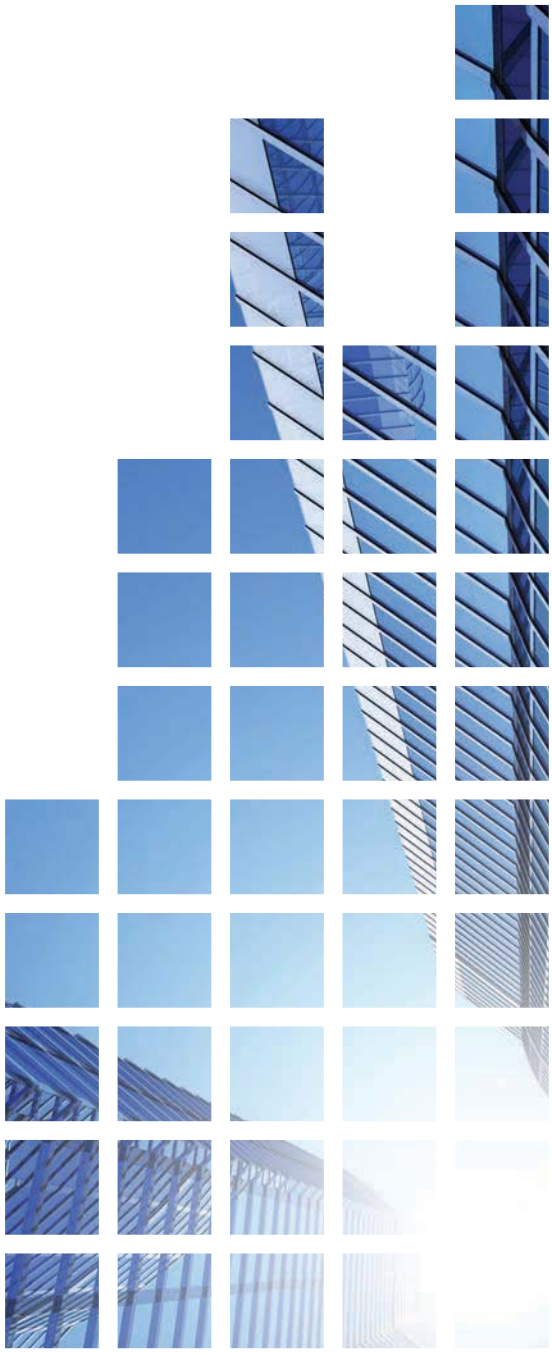
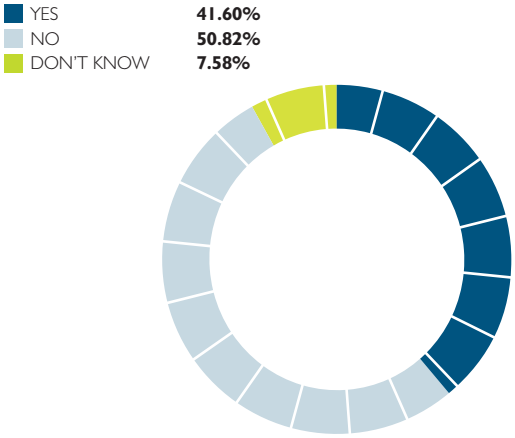


Fig.19
Does your organisation actively recruit apprentices?



Apprentices and training

Fig. 19 & 19.1: In the 2011 CIOB skills survey, 21% of respondents reported an increase in apprenticeship recruitment; in 2013 the figure has risen by 7%. Despite the welcome increase in activity, the industry cannot ignore that 51% of respondents stated that their organisation does not actively recruit apprentices, though these respondents may be in consultancy organisations or sectors where apprentices are not commonplace.

Of course, financing an apprentice is expensive, particularly when contractors are experiencing a slowdown in construction activity, as well as fluctuations in demand and increased margin pressures. Government initiatives have been launched to offer benefits to the employer and the apprentice but this is not enough. The industry has a responsibility for ensuring the next generation of construction professionals are already in place, as and when the economy recovers.

Fig. 19.2 & 19.3: 40% of respondents state that apprenticeships last 2-3 years within their organisation, and that 72% of apprentices are offered permanent employment within the organisation past this period. These statistics offer positive reading, particularly in the light of the growing trend towards short-term schemes that take advantage of cheap labour to plug skill gaps, rather than equipping the next generation with relevant long-term skills. Also, the figures are positive when compared to those issued by the Department for Business Innovation and Skills, which revealed that there were just 24,000 apprenticeship starts in Construction, Planning and the Built Environment in 2011/12, a decline of 14.6% on the previous year[26].

26. BIS cited in House of Commons library, *Apprenticeship statistics*, 8 February 2013

Fig.19.1

What is happening to the number of apprentices within your organisation?

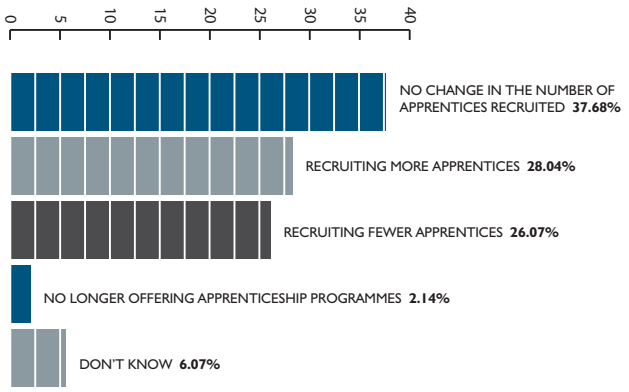


Fig.19.2

Generally, what is the standard length of appointment for apprenticeships within your organisation?

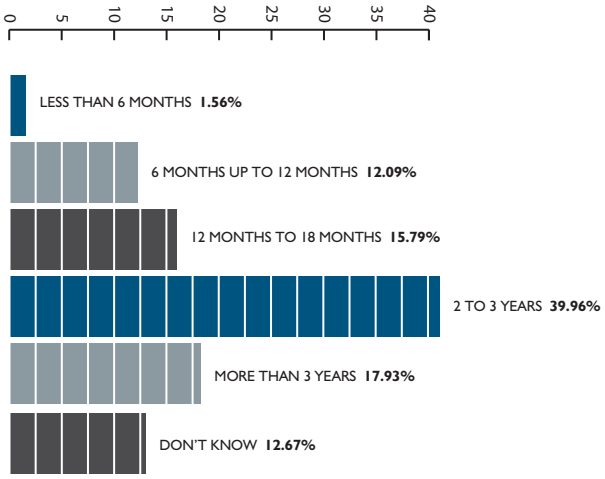


Fig.19.3

What generally happens to apprentices within your organisation after completion of their period of apprenticeship?

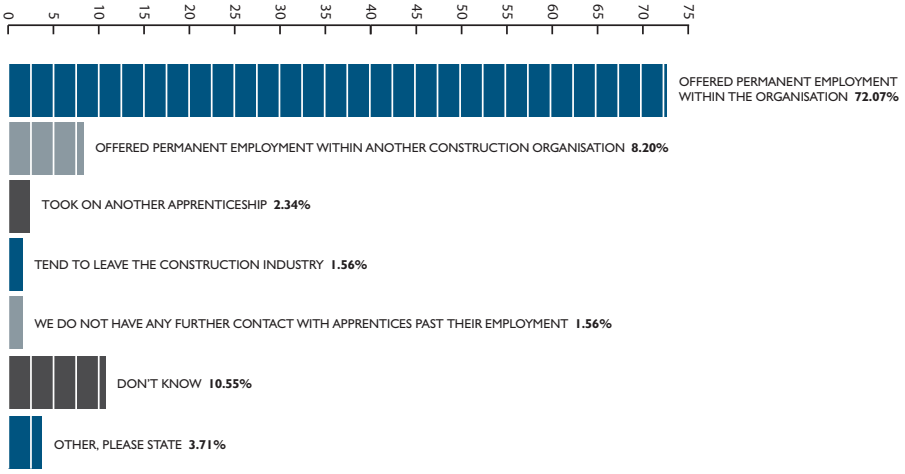


Fig.19.4
Do you believe that there is value in short-term apprenticeships?

YES	**48.96%**
NO	**44.13%**
DON'T KNOW	**6.91%**

Fig.20
Do you believe that the demand for apprenticeships is currently outstripping supply?

YES	**39.60%**
NO	**40.12%**
DON'T KNOW	**20.28%**

Fig.21
Do you believe that apprenticeships are part of the answer to fixing the skills gap in the UK construction industry?

YES	**90.34%**
NO	**6.98%**
DON'T KNOW	**2.67%**

Fig. 19.4: Responses do not give a clear indication as to whether there is value in short-term "apprentices". The CIOB believes that there is a strong case for the UK workforce to be properly trained and equipped with the right skills. This was underpinned in 2012 by the Holt Review, the BIS Select Committee's report and the Richard Review in November. This argument was also enhanced in Lord Heseltine's report into economic growth and it is likely to be examined in further detail in the Government's forthcoming industrial strategy.

Kick-starting economic growth and providing jobs that the UK needs has seen the term 'apprenticeship' used to describe training activities which, though no doubt of some value, fall short of delivering the skilled personnel that we urgently need.Often the term seems to be used to describe additional training for existing staff, or short-term introductory training. An apprenticeship is neither of these and describing them in this way risks devaluing what it means to be an apprentice. The Richard Review suggests that some training schemes, currently termed apprenticeships, should more accurately be called pre-apprenticeship training, as they only provide a starting point to be built upon[27].

Apprenticeships in construction are not an easy option and should not be considered so. Considerable commitment and the support of employer and staff are crucial, as is the dedication and perseverance of the learner, and the expertise of a high quality training provider. These steps take a long-term commitment to ensure that the individual has the technical expertise and practical skills so valued in a focussed apprenticeship programme.

The construction industry will have a key role to play as the UK emerges from recession, and a rigorous apprenticeship programme will help underpin this. Of course, training is also a vital ingredient, but it is not an apprenticeship and this distinction needs to be clear.

27. Doug Richard, *The Richard Review of Apprenticeships*, November 2012

Fig.22
Has your organisation made redundancies in the past year?

YES	**52.60%**
NO	**40.27%**
DON'T KNOW	**7.13%**

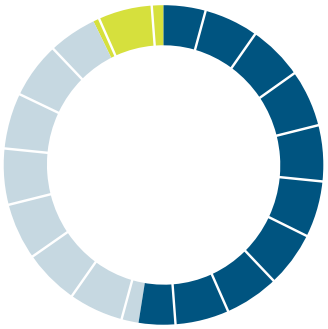


Fig.22.1
If yes, what percentage of the workforce was made redundant?

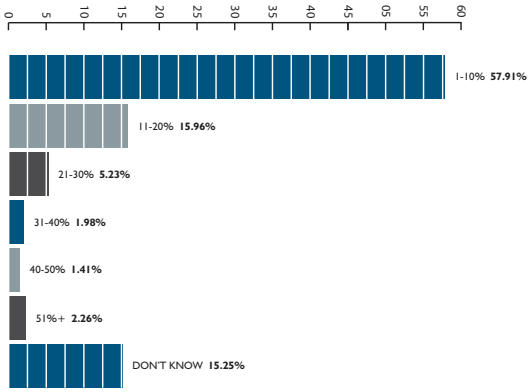


Fig.23
Is your organisation planning to make any redundancies in the coming year?

YES	**16.64%**
NO	**37.59%**
DON'T KNOW	**45.77%**

Fig. 20: A slight majority does not believe the demand for apprenticeships is currently outstripping supply. This indicates that the current levels are appropriate, although it raises the question whether young people are fully aware of apprenticeship opportunities in their regions and are educated about these career choices.

Fig. 21: The large majority of respondents believe that apprenticeships are a major contributing factor to filling the skill gaps in the UK construction industry. As stated earlier, the coalition Government has invested heavily in apprenticeship training, but questions remain about why the construction industry has suffered a decline in apprenticeship recruitment. Large numbers of construction companies are keen to employ apprentices, but often find barriers in accessing grants. These companies can only offer these opportunities if they are confident about there being a sustainable pipeline of new work.

Redundancies

Fig. 22 & 22.1: 53% of respondents report that their organisation made redundancies in the past year. Of these respondents, 58% state that between 1-10% of the workforce were made redundant. This is in line with the employment figures from the ONS which show construction losing 25,000 jobs in the final quarter of 2012[28].

In time, this will affect the industry's skills base. Previous recessions have shown that when people leave the construction industry they tend not to return. We must learn from the past, so that we ensure the industry is 'fit', as and when we emerge from the recession.

Fig. 23: The data shows uncertainties for organisations in being able to forecast their redundancies for the coming year. On further analysis, 50% of those working at a director or senior management level state that their organisations are not planning to make any redundancies in the next year.

28. Green, B., Building, The figures point to more job losses for construction over the year ahead, 20 February 2013

Challenges and opportunities

Fig. 24: A lack of investment from industry and government is highlighted by the majority of respondents (46%) as the biggest threat to the future skills agenda. This indicates a 4% rise from the 2011 CIOB skills survey. Comments from this year mirror previous research that concluded there has been no long-term investment in skills, and not enough public sector projects, to promote growth in the industry.

An ageing workforce (41%) and a lack of education about the industry from school level (37%) are also noted as threats to the future skills agenda. The 2011 CIOB skills survey highlighted that 57% of the respondents believed that the removal of the UK default retirement age (DRA) would lead to an ageing workforce. Clearly, there is still a concern that we are not attracting enough young people to the industry from an early stage.

Fig.24
What do you think are the biggest threats to the future skills agenda in the construction industry?

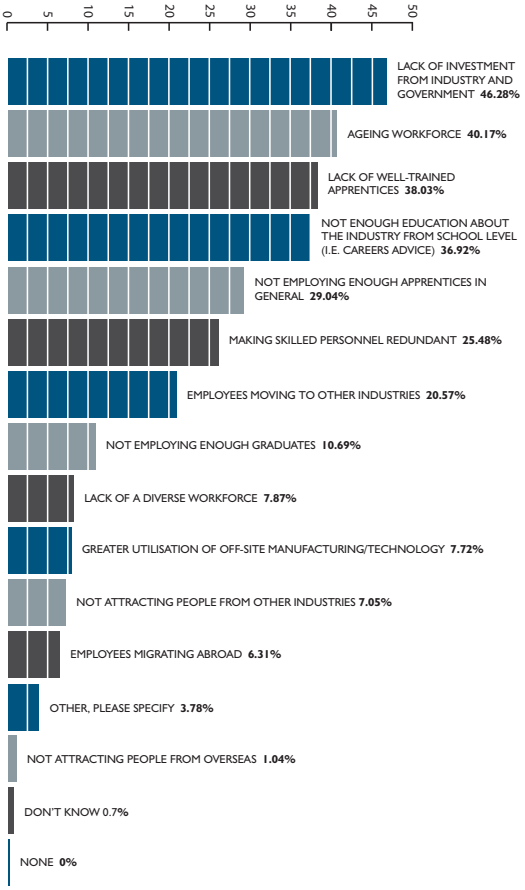


Fig.25
What actions can the coalition Government take to resolve the skill shortages in the UK construction industry?

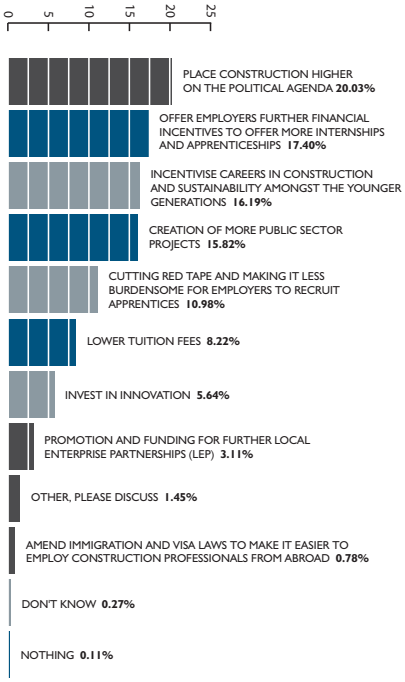


Fig. 25: Respondents were asked for their opinions on up to three actions that the coalition Government should take to resolve skills shortages within the industry. Skills shortages are seen as a complex problem; predominantly respondents would like construction to be higher on the political agenda. With construction output contributing around 7% of total GDP, the coalition Government should seek to follow up on the opportunities for further investment, particularly on large-scale infrastructure projects. Local Enterprise Partnerships should also play a role in ensuring local jobs are sourced at a local level, but evidence so far has been mixed.

Increasing the provision and quality of education and training was cited as a key issue for government to address. Respondents also called for stricter action regarding immigration laws, suggesting an immigration cap could help utilise the current UK workforce and reverse the trend of searching abroad for immigrants to plug skill gaps. The launch of the industrial strategy in June 2013 has the potential to integrate a highly fragmented industry more closely.

There was consensus that a long-term strategy that fosters collaboration between industry and government is vital for a sustainable and successful construction industry.

CONCLUSIONS & RECOMMENDATIONS

Public sector spending cuts and a lack of investment in the private sector led to 2012 being another difficult year for construction. Austerity measures are likely to continue limiting infrastructure investment in the UK. This outlook is backed up by the majority of respondents, who expect construction demand and the workforce to either decline or remain similar in 2013/14.

The CIOB view

1 The construction industry is in a prime position to take up the challenge of providing high quality, sustainable apprenticeship training:

Access to high quality training programmes is integral to the development of new skills and the long-term sustainability of the construction industry. The higher education fee debacle has aided "earn and learn" programmes and, as our research indicates, 90% of our respondents believe it is crucial to capture the next wave of talented individuals and plug them into the industry. Of course, stimulating organisations to invest in skills and training schemes is difficult given the tough economic climate, but successful businesses are invariably based upon talented individuals; without such talent, companies will not survive.

2 The potential of BIM and collaborative tools to plug the gap in leadership and project management skills:

BIM is one of a number of influential drivers that will encourage greater understanding and use of digital technologies in the construction industry. It is also one of the key facets of the Government Construction Strategy. The challenge for the industry and academia will be to ensure that the emphasis on making construction faster, cheaper and more innovative - by stripping out waste – is understood and exploited by the professions and industry. This will be a particular issue for SMEs rather than bigger organisations, which will naturally have a more refined and well-resourced vehicle for training. The CIOB recognises that there is a key role for professional bodies to ensure that all organisations in the supply chain have the resources to engage with BIM, regardless of their size. Our research indicates that respondents do not feel the industry has the skills required and that urgent training is needed at all levels to support the growth and development of this technology.

3 The construction industry and the government must embrace the opportunities of the green agenda:

The growth of the green economy can be said to be a rare story of growth within a time of economic uncertainty. Figures from 2011 indicate that the green goods and service sector was valued at £122bn and employed almost one million people. The launch of the Green Deal has sparked some interest in the green economy, but more needs to be done to add incentives to the initiative. Low carbon training, and challenging young people to deal with the issues, can have a knock-on effect, not just on the environment, but on long-term skills gaps and economic growth too.

Investment in skills is crucial to avoiding a repeat of the skills gap in the wake of the 1990s recession

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