Construction Skills Network

Blueprint for Construction 2013-2017

Labour Market Intelligence

Contents

CITB-ConstructionSkills is tasked by Government to ensure the UK's largest industry has the skilled workforce it requires. Working with Government, training providers and employers, it is responsible for ensuring that the industry has enough qualified new entrants and that the existing workforce is fully skilled and qualified, as well as for improving the performance of the industry and the companies within it.

Chairman's message

2012 was a spectacular success for UK construction in terms of quality achievements. Nothing could have done more to enhance the industry's international reputation than the delivery of the ground-breaking Olympic and Paralympic venues and major projects like the Shard and Birmingham Library.

Construction contributes 8% to GDP and employs 2.47 million workers across its supply chain. Delivering these iconic projects demonstrates that, given commitment and investment, our industry has the potential to stimulate the economy and play a leading role in delivering growth.

But the industry found itself at the heart of a 'perfect storm' in 2012 – hit hard by a combination of public sector spending cuts and a lack of investment in the private sector. With 60,000 jobs lost, and a 9% fall in output, 2012 saw UK construction tip back deep into recession.

As the figures in this publication show, the outlook doesn't give cause for optimism, in the short term at least. Nearly every sector of the industry will continue to struggle with only private housing, repair and maintenance and industrial sectors predicted to achieve anything like consistent growth.

By 2017, construction output will still be 12% down on its 2007 peak. This will, it is predicted, lead to falling employment in construction until 2016, reaching a low of 2.36m – the lowest employment level in the industry since 2000. The evidence suggests the industry will take until 2022 to get back to 2007 levels.

Taking this challenge head-on, over 1,400 construction bodies and employers have joined forces in the CITB-ConstructionSkills inspired Construction4Growth campaign. By developing a consistent approach and workable solutions, the campaign aims to engage Government and demonstrate that construction remains the only industry that can kick start the economy in the short, medium and long term. We know that for every £1 invested in construction, £2.84 is generated for the wider economy. There are currently over 150,000 unemployed construction workers. This potentially costs the economy £2.1bn a year in unemployment benefit and lost tax revenue. The actions we are proposing are straightforward, easy to implement and will deliver the results that re-establish construction as an essential element of economic growth.

Central to the campaign, the well-being of the industry and success of individual companies, is an understanding of the labour market. That is what the CSN forecasts give us.

These annual forecasts provide a unique evidence base for the industry. They enable organisations to examine demand and its drivers, utilising robust labour market intelligence to inform strategy and business planning.

Forecasting in the current volatile environment is extremely complex and challenging. Our CSN projections continue to leverage influence across a broad cross-section of industry stakeholders. Their contributions have played a key role in ensuring that the forecasts have a strong track record and reputation for accuracy, relevance, insight and usability.

The financial turbulence of recent years has served to reinforce the need to predict skills requirements and understand the complex environment in which construction is operating. The CSN Forecasts for 2013-2017 are our eighth set of five-year forecasts of output and employment. I do hope that you will find them of value.

Judy Lowe
Chairman, Construction Skills Network

The big picture

The road to sustained recovery for the UK construction industry, and for the economy as a whole, is proving longer and rockier than anyone anticipated.

Shocks to business and consumer confidence in 2012 have weakened the outlook for economic growth going forward and this is impacting on the prospects for expansion in the private construction sectors – private housing, industrial and commercial – especially in the short term.

Construction output is projected to grow by less than 1% a year over the five years to 2017.

This rate of output growth is not enough to generate expansion in construction employment, especially as the industry currently has excess capacity in labour terms, therefore employment is projected to fall by nearly 1% a year on average over the next five years.

2012 has proved to be a very bad year for UK construction, with an estimated output decline of nearly 9% in real terms. While the poor performance of the public housing and public non-housing sectors had been expected given ongoing expenditure cuts, recovery in the private sectors was hit by a resurgence of the sovereign debt crisis in the eurozone in the middle of the year, which impacted very negatively on consumer and business confidence.

The UK and other European economies seem to be stuck in a particularly vicious economic spiral, which consists of a period of quiet on the sovereign debt crisis front, followed by a period of market panic raising fears of debt default and disorderly exits from the eurozone.

It is true that the European Central Bank's actions in recent months to stabilise the euro have calmed the markets; however the risk remains of further resurgence of the problem.

A further risk to the global economy is US economic policy. A failure by the White House and Congress to agree a deal to avert the so-called 'fiscal cliff' in January 2013 would have seen some £600bn of demand drain away from the US economy in federal spending cuts and tax rises. Despite reaching agreement, the fiscal deal is no long-term fix and risk remains that low growth in the US will have a negative impact on world trade.

The central forecast around which this prognosis for the UK economy and construction industry is based assumes that the eurozone continues to 'muddle through' and the US economy remains relatively stable, having pulled back from its fiscal cliff. Both remain significant downside risks to these forecasts, however.

In the light of events in 2012, economic growth in the UK is likely to be weaker than forecast a year ago over the medium term. GDP growth is projected to average 1.7% per annum over the five years to 2017, not much more than half its level in the five years immediately prior to the financial crises of 2008/09 (3.1%) and well below the long-term average of around 2.5%.

Three out of the four largest sectors in the UK economy – finance and insurance, professional and other private services, and public services – which account for 51% of output in the economy, are projected to perform worse over the five years to 2017 than they did in the five years to 2007. Finance and insurance and professional and other private services grew very strongly in the earlier period, by 6% and 5.2% a year on average, but their growth rates are predicted to range around 2% to 2.5% a year over the forecast period. While public services did not grow quite as strongly, at 2.3% a year over the five years to 2007, budgetary constraints are likely to keep growth down to less than 0.5% a year on average from 2013 to 2017.

Among the top four sectors, manufacturing could be the exception to this trend. The sector grew by 1.3% a year on average in the five years to 2007 and it could do slightly better than this in the five years to 2017 with 1.5% per annum. This could reflect renewed emphasis on the manufacturing sector after years of relative neglect, the view of the UK as a largely service-sector economy having been severely damaged by the events of 2008/09.

Household consumption is estimated to have grown by 0.5% in 2012 against a background of weak wage rises and still relatively high inflation. A similar performance is expected this year before growth rises to around 1.7% in 2014 as economic conditions improve. However, it is likely to be 2016 before this measure pushes its way beyond 2% growth a year on average.

Gross investment will have experienced five poor years by the end of 2012 but the prospects for growth do improve significantly through 2013 and 2014.

The Labour Force Survey (LFS) unemployment rate is now expected to peak in mid-2013 at around 8.3% as the poor performance of the economy between the fourth quarter of 2011 and second quarter of 2012 filters through to the labour market. Thereafter, the rate should start to subside and is projected to fall to around 6.6% in 2017, although this will still be well above its 2004 lowest point of 4.7%.

The impact of the more muted economic growth forecasts on the construction industry is twofold. First, there are direct effects on the private sectors as weaker domestic demand and export growth act as a drag on investment decisions for new facilities for longer, and consumers see little reason to take on more debt in the way of new mortgages.

Total employment by occupation - UK

Annual recruitment requirement (ARR) by occupation - UK

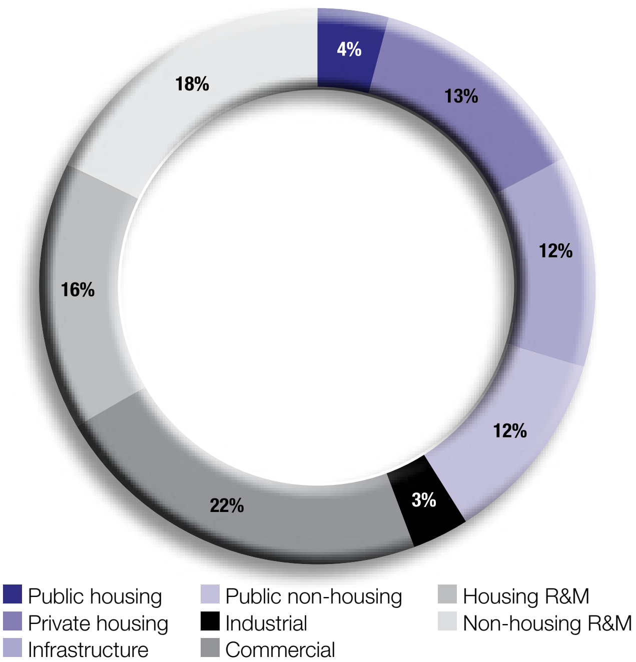
	2013	2017	ARR
Senior, executive, and business process managers	120,240	115,420	870
Construction managers	223,800	216,410	3,190
Non-construction professional, technical, IT, and other office-based staff	311,010	303,270	1,840
Wood trades and interior fit-out	262,020	262,580	3,980
Bricklayers	81,810	77,440	2,260
Building envelope specialists	86,670	84,520	640
Painters and decorators	116,500	112,610	950
Plasterers and dry liners	43,570	43,760	740
Roofers	34,710	32,670	220
Floorers	39,260	39,250	1,790
Glaziers	37,640	37,200	1,550
Specialist building operatives nec*	47,960	44,560	440
Scaffolders	19,990	19,480	340
Plant operatives	42,210	41,210	2,580
Plant mechanics/fitters	40,280	40,570	200
Steel erectors/structural	28,640	27,460	160
Labourers nec*	94,410	92,320	2,640
Electrical trades and installation	183,440	173,360	580
Plumbing and HVAC trades	160,030	156,450	270
Logistics	30,740	28,000	1,210
Civil engineering operatives nec*	63,020	61,490	790
Non-construction operatives	32,150	30,390	0
Civil engineers	49,690	50,870	1,000
Other construction professionals and technical staff	163,360	163,840	490
Architects	45,570	47,140	220
Surveyors	67,810	65,400	100

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

The big picture *(continued)*

Second, the indirect impact on the construction industry comes from the fact that a lower tax take makes reaching budget deficit reduction targets more difficult. Government borrowing in 2012/13 will exceed the total predicted by the Office for Budget Responsibility (OBR) at the time of the Budget by a significant margin as corporate tax receipts dipped and benefit payments continued to rise. Latest figures show UK public sector net borrowing in the period April-October well up on the 2011/12 figure for the same period. Therefore the Chancellor has already indicated in his Autumn 2012 Statement that austerity measures will be extended to 2018, assuming the current administration remains in power. The squeeze on public spending is therefore likely to last longer than originally anticipated and this will have implications for public construction.

Construction Output UK – 2011 % share



Source: ONS, Experian

UK construction output is estimated to have fallen back down to close to 2009 levels in 2012 and, given that activity in the public housing and public non-housing sectors will continue to decline in 2013 and the private sectors will struggle to take up the slack in the short term, construction output is predicted to fall again this year, albeit by a more modest 3%. Marginal growth of around 1% is projected for 2014, as the worst of the falls in public construction should be over by then and the prospects for private construction improve a little. It will now be 2015 before output growth accelerates to a level that might start to drive any employment growth under normal conditions. However, the indication is that levels of underemployment, that is those not working at full capacity in terms of hours, have risen in the construction industry over the past five years. This 'slack' will need to be taken up before sustained growth in employment re-emerges and this is likely to lengthen the normal lag that would be expected between the start of output growth and rising employment.

Whereas output is estimated to have dropped by 16% in the five years to 2012, construction employment has only fallen by 11% over the same period. Add in the fact that in normal circumstances some growth in productivity would have been expected year-on-year, and these figures suggest that the level of excess capacity in the industry has been growing.

Therefore, while output is projected to start to rise from 2014 onwards, UK construction employment continues to fall to 2016 and only grows marginally in the following year. Overall employment in the industry is forecast to be a little over 100,000 lower in 2017 than in 2012, at 2.367 million, its lowest level since 2000.

Changes in the structure of the construction industry and working practices tend to be long term. While there are firms in the industry at the cutting edge of technology, it should always be remembered that the industry is a fragmented one, with the vast majority of firms micro or small. For these enterprises, the very task of survival, particularly in the current economic climate, takes up most of their energies. They neither have the resources nor the inclination to expend much time or money on research and development unless it can be demonstrated to have immediate value to them. Therefore it generally takes a long time for innovation in the industry to filter down the supply chain. It is not surprising, therefore, that changes in the occupational mix in the industry are slow and long term.

Over the current five-year forecast period to 2017, wood trades and interior fit-out, civil engineers, other construction professionals, and architects are forecast to gain employment share, while bricklayers, specialist building operatives nec and electrical trades and installation are expected to lose share. However, the changes over the period are marginal at ±0.4% at most.

Having risen slightly last year, the five-year annual recruitment requirement (ARR) is much smaller this year. The ARR for the 2013 to 2017 period, at 29,050, is considerably smaller than the 46,240 predicted for the 2012 to 2016 period. The ARR brings together increases in demand for employment based on anticipated levels of workload, with the supply-side 'churn' in the industry, i.e. those moving in and out of the industry for one reason or another – retirement, death, movements between industries, etc. – but not including flows in from training. The ARR represents the levels of recruitment required over and above the normal 'churn' rates in a particular period. One of the main reasons for the low ARR over the current forecast period is that there will be a considerable level of normal inflow from unemployment once the industry starts to show sustained recovery.

Comparing the sectors

Public and private new housing

In 2011 public housing output reached its highest level in real terms since 1980, however, given the much lower level of public funding available to social housing providers going forward, it could be a long while before this peak is approached again. Output has already tumbled by an estimated 20% in 2012 and the decline is likely to continue into 2013, with new orders for the first three quarters of 2012 13% down on the same period of 2011. Nevertheless, social housing providers are adjusting to the new regime, with bond financing becoming relatively more important in the funding mix. With overall funding for social housing providers in England running at well over 2011 levels in the first half of 2012 and the devolved nations also putting significant emphasis on the delivery of new affordable homes, the National Housing Trust set up in Scotland and the Social Housing Grant programme in Wales, activity in the sector is expected to stabilise around 2014 and start to rise again in the latter part of the forecast period.

The private housing market remains weak. There has been some upward movement in the number of transactions, loans and mortgage approvals during 2012, but all remain well below what would be considered normal levels, while house price data is showing differing trends, with the ONS generally reporting small rises on an annualised basis in 2012, but both the Halifax and Nationwide's indices mostly negative. The problem with all house price indices at present is that they are working off relatively small levels of sales and are tending to show higher levels of volatility than would normally be expected. Experian's latest forecasts for house prices is for very modest growth of 2% a year on average over the five years to 2017. This suggests that the housing market will continue to struggle. We are forecasting growth for the sector, but at a moderate rate, as economic conditions slowly improve, credit conditions ease and households become more confident about their financial prospects.

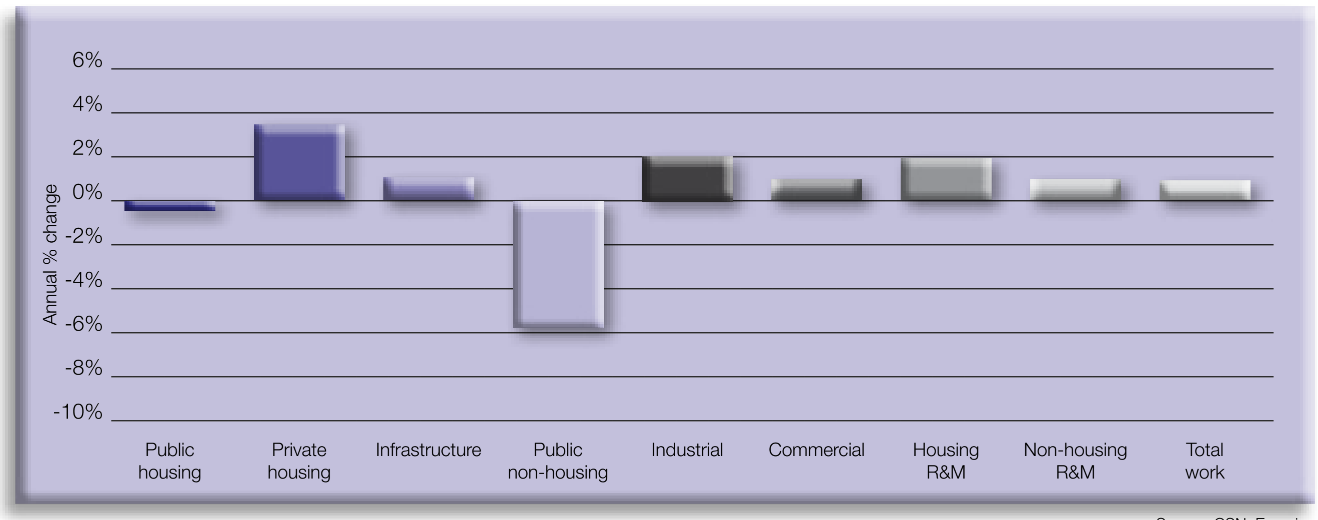
Infrastructure

The poor performance of the infrastructure sector during 2012 came as something of a surprise. While some hiatus in growth had been expected due to the completion of the A1 upgrade to Leeming and the latest tranche of M25 widening, activity on Crossrail is still building up, and the size of the fall was unexpected. However, the infrastructure sector is expected to recover from its downturn in 2012, and grow again to 2015. The main drivers of further expansion are likely to be the electricity, rail and road sub-sectors. Some 15,000MW of new gas-fired generating capacity currently has planning consent and this, along with continued increases in renewable energy and the likely start on the new nuclear plant at Hinkley Point in 2014 and Wylfa in 2015/16, should provide growth for the sub-sector. In the rail sub-sector activity on Crossrail has yet to peak and some £4.2bn of extra funding is to be provided by government over the 2014 to 2019 period for a number of electrification projects across England and Wales. It should be noted that these forecasts were locked before the Autumn Statement, and the announcement to bring forward a number of roads projects will probably mean that the outturn over the forecast period will be stronger than put forward in these forecasts.

Public non-housing

The education sub-sector has come to dominate public non-housing construction output in recent years, accounting for 57% of output in the sector in 2011. Therefore activity in this sub-sector will impact heavily on public non-housing as a whole. As Building Schools

Annual average construction output growth 2013-2017 – UK



Source: CSN, Experian
ref. CSN Explained, Section 3, Note 2

for the Future (BSF) legacy projects complete, at least six schemes were due to do so in 2012, education construction activity is falling sharply. Of the £2.4bn in the Priority School Building Programme (PSBP), only £400m is public funding, and the extra £1.3bn for schools and colleges announced in the Autumn Statement pales into insignificance against the £55bn that was going to be available over the lifetime of BSF. Therefore further large declines in output are projected for this year and next before public non-residential output starts to stabilise in 2015. However, with the austerity programme now extended to 2018 we could see further pressures on capital expenditure in the sector post-2015.

Industrial

The prospects for industrial construction are among the brightest of the new work sectors. There are a number of high profile factory projects, the biggest of which is Jaguar Land Rover's new £350m engine facility in the West Midlands, either on site or in the pipeline. Furthermore, as mentioned earlier, of the four largest economic sectors manufacturing is the only one expected to perform better over the five years to 2017 when compared with the five years to 2007. However, manufacturing output growth is expected to average just 1.5% a year over the forecast period, which is not enough to drive a requirement for extra capacity. It is likely that over the whole of the forecast period the warehouse sub-sector will provide the most sustained prospects for growth. Work has already begun on the £1bn London Gateway Logistics Park, which will service the new port and there are a number of smaller projects in the pipeline linked to new and improved transport hubs and links. Also, growth of online retailing will continue to create demand for new distribution facilities to service this market.

Commercial

Annual average growth for the commercial construction sector is projected to be a very pallid 0.9% a year on average to 2017. This disguises declines in activity in the first half of the forecast period, and then recovery in the second half. None of the three major sub-sectors in commercial construction – office, retail and leisure – are currently performing well. The office development pipeline in the main regional centres remains weak and demand has been reducing in London, the traditional driver of the market, as economic conditions fail to improve.

Further pressure on disposable incomes, with CPI inflation possibly ticking back up to 3% in the first few months of 2013, combined with the rise of online retailing, will impact negatively on retail construction. At the end of September 2012 there was only one major retail-led development on site, and it could well be that a significant proportion of the large mixed-use projects mothballed at the start of the recession may never take place. In the leisure sub-sector, brewers and restaurateurs continue to struggle, except at the top end of the market. Hotels remain the one bright spot, albeit at the budget end of the market.

Repair and maintenance

In the housing repair and maintenance (R&M) sectors, it could be the public one that makes more use of the Green Deal in its early stages to drive forward retrofitting housing stock. Local authorities and social housing providers are combining in a number of areas to extract economies of scale for the installation of energy efficiency and renewable generation measures, although recent feedback has suggested that the cuts in the feed-in tariffs early in 2012 may well have had a negative impact on the financial viability of some schemes. In the private sector, householders will be cautious in the short term about spending on improvements, such as extensions and conversion, as they are about moving house in the current economic climate. There is also uncertainty about the impact of the Green Deal on overall expenditure on private housing R&M in the short term as consumers are likely to adopt a 'wait and see' attitude to the scheme. However, with a dormant new housing market and only moderate improvement predicted over the forecast period, householders may decide that a move is unlikely and improvements to their current property may be the way forward.

Little growth is expected in the non-housing R&M sectors in the short term given the budgetary constraints that public bodies are working under which could be exacerbated by a moratorium on NHS work over the next 12 to 18 months; combined with falling infrastructure R&M expenditure in that sector and large companies postponing maintenance in poor economic conditions. However, in the medium term this sector should also benefit from rising expenditure on energy efficiency and renewable energy generation measures, whether through the Green Deal or other financing mechanisms.

Construction output – UK (£ million, 2005 prices)

	Estimate	Forecast annual % change					Annual average
	2012	2013	2014	2015	2016	2017	2013-2017
Public housing	3,701	-12%	2%	5%	2%	2%	-0.4%
Private housing	13,661	3%	7%	4%	2%	1%	3.4%
Infrastructure	11,351	3%	3%	1%	-1%	-1%	1.0%
Public non-housing	10,170	-19%	-10%	0%	1%	1%	-5.8%
Industrial	3,340	2%	3%	3%	1%	1%	2.0%
Commercial	21,815	-4%	-2%	3%	4%	4%	0.9%
New work	**64,038**	**-4%**	**0%**	**3%**	**2%**	**2%**	**0.5%**
Housing R&M	16,299	1%	2%	3%	3%	1%	2.0%
Non-housing R&M	19,096	-2%	0%	2%	2%	2%	0.9%
R&M	35,395	-1%	1%	2%	2%	2%	1.4%
Total work	99,432	-3%	1%	3%	2%	2%	0.8%

Source: CSN, Experian

Comparing the UK regions and nations

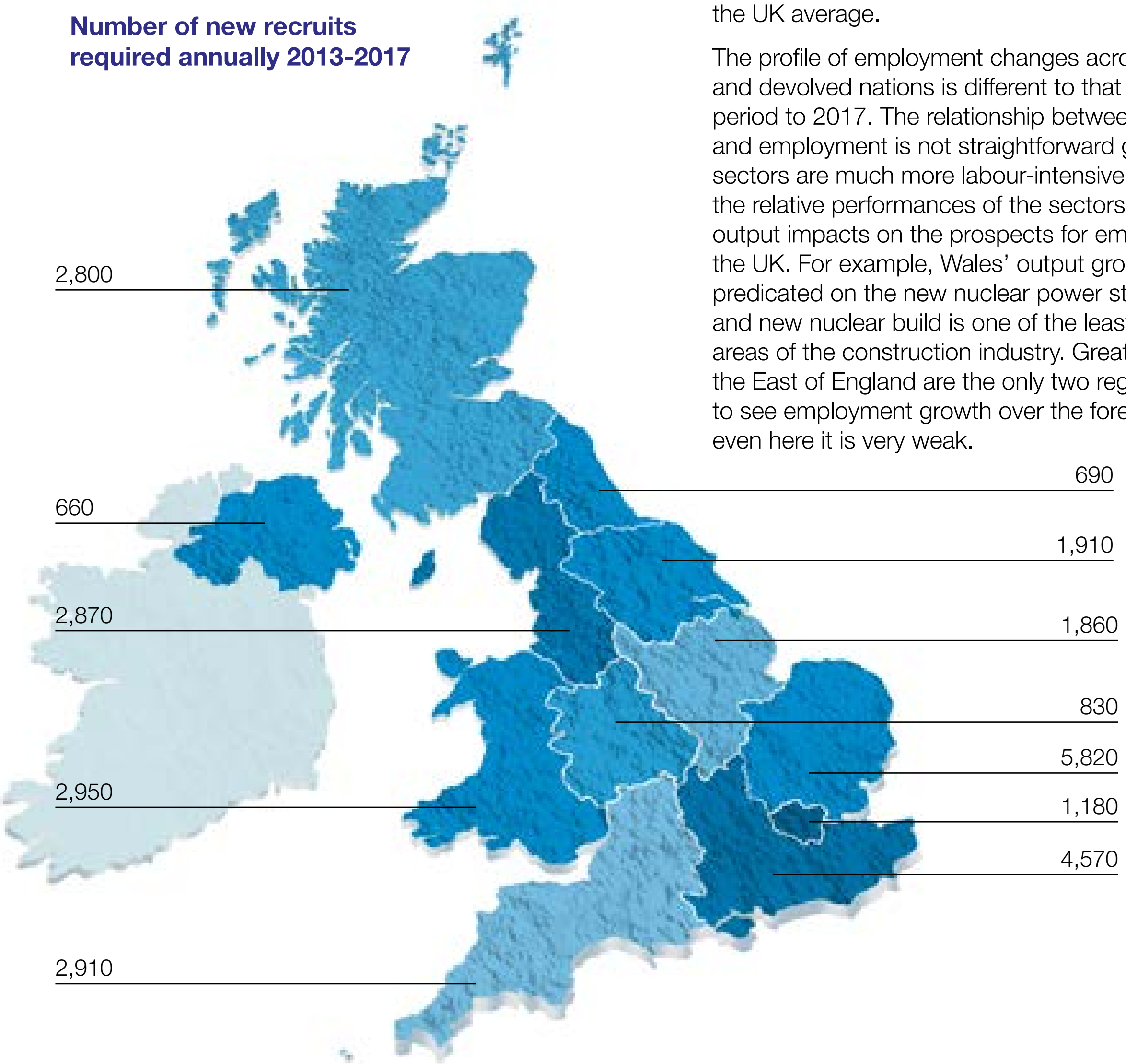
In output terms the majority of regions and devolved nations (8) are expected to experience some output growth on average over the five years to 2017.

Interestingly, the profile of output growth at regional and devolved nation level over the 2013-2017 period is not as south-east centric as we might have expected, with Wales forecast to have the strongest average annual growth. However, Wales' growth is almost entirely due to the new nuclear power station planned at Wylfa in Anglesey, with average annual growth of just 0.6% if the project is removed from the forecast period. Although Hitachi's technology, the Advanced Boiling Water Reactor (ABWR) will need to go through a generic design assessment, construction is still expected to start during the current forecast period.

The North East is coming back up from a very low base – the region saw the worst fall of all the English regions between 2007 and 2012, with output declining by 30% over the period – hence the relatively stronger outlook for the region over the forecast period. In comparison, Scotland's decline over the same period was just 17%. To demonstrate how the greater south-east has weathered the last five years better than elsewhere, the best three performing regions were Greater London (+13%), the South East (-1%) and the East of England (-7%). Northern Ireland, in contrast, is coming back from an even lower base – output declined by 36% between 2007 and 2012. This, combined with the fact that it saw a fall off in public sector work a year before the other regions and devolved nations (2010 compared with 2011) meaning smaller declines going forward, indicates that the outlook for Northern Ireland may be a little better than the UK average.

The profile of employment changes across the regions and devolved nations is different to that of output over the period to 2017. The relationship between overall output and employment is not straightforward given that some sectors are much more labour-intensive than others, and the relative performances of the sectors within overall output impacts on the prospects for employment across the UK. For example, Wales' output growth is largely predicated on the new nuclear power station at Wylfa and new nuclear build is one of the least labour-intensive areas of the construction industry. Greater London and the East of England are the only two regions predicted to see employment growth over the forecast period, and even here it is very weak.

Number of new recruits required annually 2013-2017

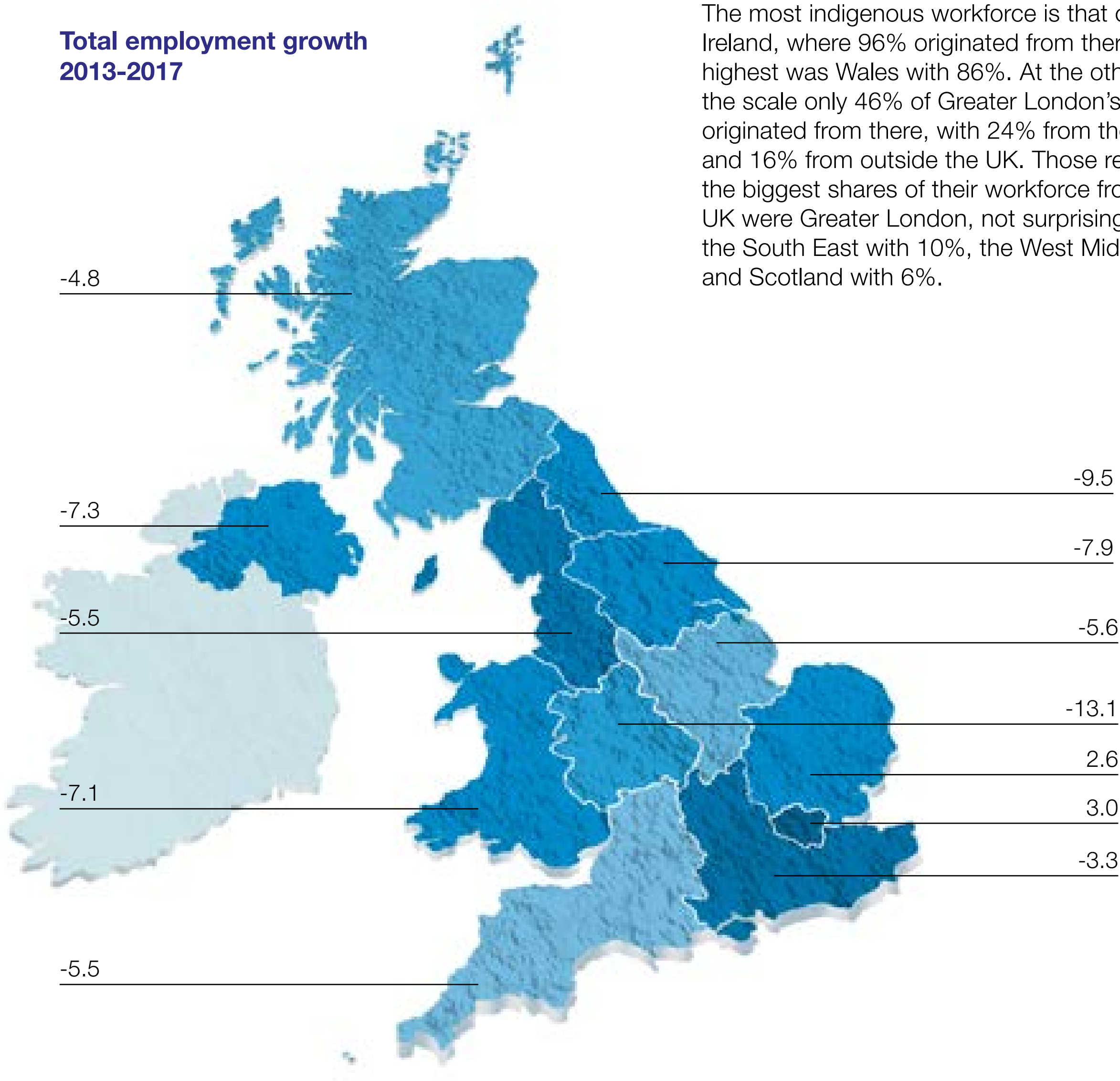


There is also the issue of underemployment in the industry coming to the fore, which will impact on the speed with which construction employment in a particular region and devolved nation returns to growth. For example, the North West saw output fall by an estimated 29% between 2007 and 2012 in real terms, whilst employment declined by just 11% over the same period. This substantial output and employment 'gap' suggests that firms in the region have not been shedding staff at the same rate as activity has been dropping. Job shedding is likely to continue in the region for some time after output starts to improve. A similar profile of output and employment declines has been seen across a number of regions and devolved nations to various degrees, with the 'gap' widening outside of the greater south east. It appears to be the case that parts of the UK with more directly employed labour have seen this effect more than those with a more labour-only sub-contractor focus in terms of construction employment.

Wales once again has the largest ARR in terms of its ratio to base employment. While the UK's average ratio is 1.2% of 2013 base employment, that for Wales is 3.1%. Wales traditionally suffers from quite a large net outflow of its workforce, either to other industries or to other geographical areas. In contrast, Greater London has the lowest ARR as a ratio of base employment at just 0.3% as London tends to act as a magnet for employment from around the country and elsewhere and therefore has little requirement for further recruitment.

CITB-ConstructionSkills' latest mobility study, which took place last year, provides some interesting data on the geographical mobility of the construction workforce. The most indigenous workforce is that of Northern Ireland, where 96% originated from there. The next highest was Wales with 86%. At the other end of the scale only 46% of Greater London's workforce originated from there, with 24% from the South East and 16% from outside the UK. Those regions attracting the biggest shares of their workforce from outside the UK were Greater London, not surprisingly, with 16%, the South East with 10%, the West Midlands with 8% and Scotland with 6%.

Total employment growth 2013-2017



Scotland

Scotland's annual average output growth rate, over the 2013 to 2017 period, at 1.1% is a little higher than the UK average of 0.8%. The repair and maintenance sectors (R&M) are forecast to do better than the new work sectors, with an annual average growth rate of 2% in the former but only 0.6% in the latter. Despite slowly rising output, construction employment north of the border is predicted to fall by 1% a year on average over the forecast period. Scotland's annual recruitment requirement, at 2,800, is 1.3% of projected base 2013 employment, close to the UK average of 1.2%.

Total employment by occupation – Scotland

Annual recruitment requirement (ARR) by occupation – Scotland

	2013	2017	ARR
Senior, executive, and business process managers	8,680	8,020	80
Construction managers	18,520	17,060	280
Non-construction professional, technical, IT, and other office-based staff	25,830	24,980	140
Wood trades and interior fit-out	25,580	25,850	440
Bricklayers	5,820	5,550	130
Building envelope specialists	3,790	3,650	-
Painters and decorators	13,610	13,080	-
Plasterers and dry liners	2,990	3,010	70
Roofers	4,570	4,310	-
Floorers	3,600	3,690	160
Glaziers	1,730	1,750	90
Specialist building operatives nec*	3,530	3,450	90
Scaffolders	2,130	1,960	<50
Plant operatives	7,010	6,900	490
Plant mechanics/fitters	2,320	2,220	-
Steel erectors/structural	2,360	2,310	<50
Labourers nec*	10,790	10,550	210
Electrical trades and installation	16,450	16,080	160
Plumbing and HVAC trades	12,130	12,190	-
Logistics	3,400	3,100	170
Civil engineering operatives nec*	8,560	7,990	110
Non-construction operatives	2,400	2,480	-
Civil engineers	6,130	6,160	140
Other construction professionals and technical staff	16,630	16,470	-
Architects	4,000	4,030	-
Surveyors	5,700	5,240	-

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

After a year of strong expansion in 2010 the Scottish construction industry has fallen back into a deep recession, with a 5% decline in construction output in real terms in 2011 and an estimated fall of 15% in 2012. Construction output in 2005 prices is estimated at £8.07bn for 2012, the lowest annual figure since 1991. The resurgence of the sovereign debt crisis in the eurozone in the middle of last year has had a negative impact on demand in the private sectors, and therefore it is not only public sector construction that has experienced a sharp decline.

Gross Value Added (GVA) growth in Scotland is predicted to remain under 2% a year in 2013 and 2014, providing little impetus for a recovery in demand in the private sectors in the short-term. The offices market across the three major centres in Scotland – Aberdeen, Edinburgh and Glasgow – remains dormant in development terms and there is little incentive to take forward retail and leisure projects while the prospects for consumer spending growth remain weak. Combine this with still sharply falling activity in the public housing and public non-housing sectors and it is likely that output growth will not materialise until 2014 and even in that year will be modest.

The prospects for the medium term are a little better, with output projected to growth by an annual average of 1.1% over the five years to 2017, largely driven by expansion in the private housing and housing R&M sectors. The private housing market seems finally to be turning the corner, with the level of starts strongly up in the first half of 2012. However the sector will be coming back from a very low base and even with annual average growth of 3.5% output will still be over 52% below its 2005 peak in 2017. Housing R&M should benefit over the medium term from the Green Deal and the more stringent building regulations due to be introduced north of the border in 2014.

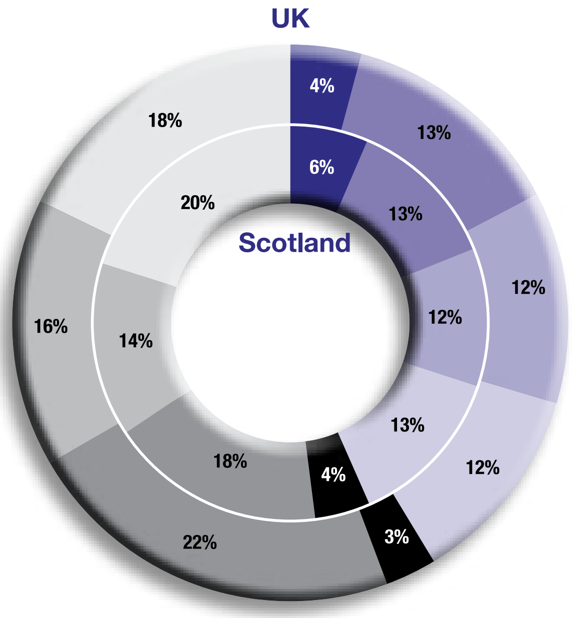
Despite the 1.1% annual average growth rate projected for construction output in Scotland, employment in the devolved nation is expected to fall by around 1% a year on average over the five years to 2017. Output growth is forecast to return in 2014, but employment is predicted to stabilise only in 2016/17. This is due to a relatively high level of underemployment in the industry, which is having the effect of extending the lag that would normally be expected between output and employment growth.

While the overall trend in construction employment is down, there are a handful of occupations that could see modest growth over the forecast period including floorers and glaziers, with 0.4% annual average growth, and plasterers and dryliners (0.1%).

Scotland's Annual Recruitment Requirement (ARR) for the five years to 2017, at 2,800, is substantially lower than the 4,480 predicted in 2011 for the 2012 to 2016 period. This is because the current ARR is entirely a replacement requirement, with a negative impact from the demand side.

> Scotland's annual average output growth rate at 1.1%, is a little higher than the UK average of 0.8%

Construction industry structure 2011 – UK vs. Scotland



Public housing
Private housing
Infrastructure
Public non-housing
Industrial
Commercial
Housing R&M
Non-housing R&M

Source: ONS, Experian

North East

The North East is predicted to see a modest rise in construction activity over the forecast period with an average annual output growth rate of 1.7%, performing better than the UK as a whole where annual average growth of 0.8% is projected. Construction employment is estimated to be 76,140 in 2017, 6% lower than in 2013. The North East accounts for 2.4% of the total UK annual recruitment requirement (ARR) and it represents 0.9% of total projected base 2013 employment in the region, slightly lower than the UK figure of 1.2%.

Total employment by occupation – North East

Annual recruitment requirement (ARR) by occupation – North East

Occupation	2013	2017	ARR
Senior, executive, and business process managers	2,720	2,800	<50
Construction managers	5,640	5,640	90
Non-construction professional, technical, IT, and other office-based staff	9,390	8,660	-
Wood trades and interior fit-out	8,530	8,040	<50
Bricklayers	2,630	2,190	<50
Building envelope specialists	1,880	1,710	-
Painters and decorators	4,300	4,030	-
Plasterers and dry liners	1,050	1,190	60
Roofers	2,830	2,410	-
Floorers	1,440	1,290	<50
Glaziers	1,450	1,380	<50
Specialist building operatives nec*	2,080	1,860	<50
Scaffolders	1,020	990	<50
Plant operatives	1,360	1,120	<50
Plant mechanics/fitters	2,750	2,510	-
Steel erectors/structural	1,160	1,020	-
Labourers nec*	4,110	3,690	60
Electrical trades and installation	4,450	3,920	-
Plumbing and HVAC trades	5,770	5,210	-
Logistics	1,880	1,790	80
Civil engineering operatives nec*	2,810	2,830	70
Non-construction operatives	2,420	2,010	-
Civil engineers	680	690	<50
Other construction professionals and technical staff	7,000	7,060	-
Architects	480	570	<50
Surveyors	1,310	1,530	50

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

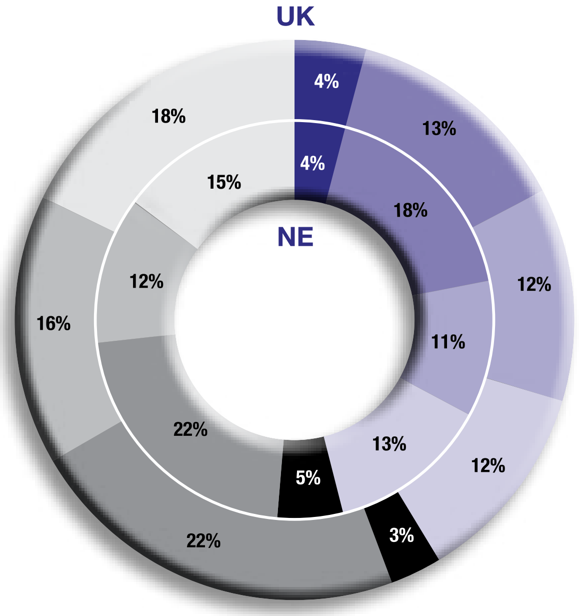
The public non-housing and public housing sectors are the only ones projected to see falls in annual average output over the five years to 2017. The region was allocated £217m under the 2008-2011 Affordable Homes Programme (AHP) to construct a total of 5,626 homes. During the 2011-2015 period lower levels of funding worth £181m will be made available for the North East and Yorkshire and Humber combined where is anticipated that approximately 8,100 new affordable homes will be built in the two regions.

The public non-housing sector benefitted heavily from the early stages of the Building Schools for Future (BSF) programme. Since the scheme has been scrapped there has been a lack of projects coming through into the sector resulting in heavy declines being forecast.

In contrast the industrial construction sector is forecast to experience the greatest annual average growth of 8.9% over the next five years. However by the end of 2017 output in the sector will still be 14.7% below the most recent peak levels seen in 2007.

The infrastructure sector is projected to see a rise of 3.8% per year on average over the period to 2017. More activity will be seen over the short term with projects such as the 300MW biomass plant by MGT Power Ltd and Tyne Renewable Energy Plant contributing to the majority of this growth. In the Autumn Statement 2012 it was announced that £64m of funding would go towards the A1 upgrade works at Lobby Hill. Output in the sector could reach new a new high by 2017.

Construction industry structure 2011 – UK vs. North East



Public housing
Private housing
Infrastructure
Public non-housing
Industrial
Commercial
Housing R&M
Non-housing R&M

Source: ONS, Experian

Although annual average output growth of 1.7% is estimated for the North East, employment is expected to fall by 2% each year on average over the forecast period, with almost all this fall taking place in the first two years.

Employment is projected to fall in the majority of occupations over the five year period to 2017 with plant operatives experiencing the greatest annual average decline of 5.7%.
In contrast, surveyors are predicted to see the largest annual average rise of 4.4%.

The latest mobility report from CITB-ConstructionSkills shows that 85% of the construction workforce in the North East originated there, which is substantially higher than the UK average of 65.8%.The second biggest contribution to the region's construction workforce was from Yorkshire and Humber at 10.7%.

The region's ARR at 690 represents 0.9% of total projected base 2013 employment, slightly lower than in the UK as a whole (1.2%). The largest absolute requirement is for construction managers (90), but as a share of 2013 base employment, at 6%, plasterers and dry liners will be the most sought after.

> The North East is predicted to see a modest rise in construction output, with average annual growth of 1.7%

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North West

Construction output in the North West is forecast to decline at an average rate of 0.4% per year over the five years to 2017, in contrast to annual average growth of 0.8% for the UK as a whole. The repair and maintenance (R&M) sectors are expected to fare better than the new work sectors, with average growth of 1.3% in the former but an average contraction of 1.6% in the latter. Given this weak overall output performance, it is not a surprise that employment in the region is expected to fall by 1.1% per year on average. The North West's annual recruitment requirement is 2,870, equivalent to 1.1% of base 2013 employment, in line with the UK average.

Total employment by occupation – North West

Annual recruitment requirement (ARR) by occupation – North West

Occupation	2013	2017	ARR
Senior, executive, and business process managers	12,070	11,490	-
Construction managers	24,810	23,330	350
Non-construction professional, technical, IT, and other office-based staff	29,410	30,480	330
Wood trades and interior fit-out	29,060	27,770	200
Bricklayers	9,150	8,640	170
Building envelope specialists	8,540	8,430	<50
Painters and decorators	12,220	11,510	180
Plasterers and dry liners	5,260	5,070	120
Roofers	2,820	2,770	60
Floorers	2,920	3,070	150
Glaziers	3,150	3,270	170
Specialist building operatives nec*	4,800	4,510	<50
Scaffolders	1,980	1,990	80
Plant operatives	4,410	4,370	290
Plant mechanics/fitters	4,440	3,950	-
Steel erectors/structural	4,360	4,360	<50
Labourers nec*	10,740	10,320	190
Electrical trades and installation	22,990	22,370	130
Plumbing and HVAC trades	13,380	13,590	<50
Logistics	2,070	1,940	130
Civil engineering operatives nec*	5,560	5,240	110
Non-construction operatives	4,490	4,300	-
Civil engineers	5,930	5,950	100
Other construction professionals and technical staff	16,850	15,870	-
Architects	3,740	3,680	-
Surveyors	10,460	9,090	-

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

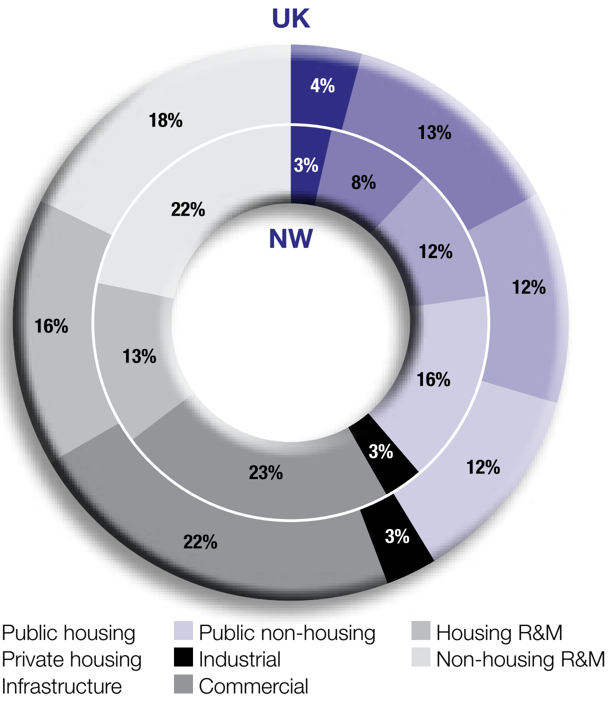
Key findings

The North West's construction sector returned to growth in 2010, but expansion has been short-lived with a 3% fall in output in 2011 followed by an estimated drop of 13% in 2012. The short-term prospects for the region's construction sector are weak, with a further two years of contraction expected in 2013 and 2014, albeit much more modest. This reflects weakness across the majority of sectors, with only the industrial one expected to see any substantial increase in the short term.

Medium term prospects are better, with output expected to return to growth in 2015 and rise in the remaining years of the forecast period, albeit only weakly. The region benefitted strongly from the early stages of the Building Schools for the Future (BSF) programme, which drove marked growth in the public non-housing sector between 2007 and 2011, with output almost doubling over the period. Therefore, the sector is expected to decline markedly over the five years to 2017 as output returns to more 'normal' levels.

The private construction sectors continue to be affected by weakness in the wider economy with poor business and consumer confidence providing little impetus for investment in new developments. Conditions should pick up over the next year or so and will provide some boost to demand. Preliminary construction works at Moorside nuclear power station are due to start in 2017, driving strong growth in the infrastructure sector at the end of the forecast period. In addition, the sector will benefit from work starting on the new Mersey Crossing, expected in 2013, and the Liverpool 2 deep-water container terminal at the Port of Liverpool.

Construction industry structure 2011 – UK vs. North West



Source: ONS, Experian

The underemployment issue in the North West suggests that, although output in the region will return to growth in 2015, employment will continue to decline over the forecast period to 2017. At 247,360 in 2017, construction employment in the region is expected to be slightly below its level in 2001 and 17% below its 2008 peak.

Although overall construction employment in the region is forecast to fall over the five years to 2017, there are some occupations which are still expected to see employment rise over the forecast period. The strongest increase in employment is expected to be for floorers (5.6%) and glaziers (3.2%). In contrast, the number of surveyors employed in the North West is forecast to fall by 18.6% and plant mechanics/fitters by almost 15%.

The annual recruitment requirement (ARR) for the North West is 2,870, which is equivalent to 1.1% of base 2013 employment. As a proportion of base 2013 employment, the largest requirements are for plant operatives, glaziers, floorers and logistics personnel.

The short term prospects for the North West's construction sector are weak with output expected to return to growth in 2015

Yorkshire and the Humber

Yorkshire and the Humber is predicted to see a decline in construction activity in the five years to 2017 with average annual output falls of 0.9%, performing worse than the UK as a whole, where annual average growth of 0.8% is expected. Construction employment is predicted to be 188,440 in 2017, 5% lower than in 2013. The region accounts for 6.6% of the total UK annual recruitment requirement (ARR) and it represents 1% of total projected base 2013 employment in Yorkshire and the Humber, just below that of the UK as a whole (1.2%).

Total employment by occupation – Yorkshire and the Humber

Annual recruitment requirement (ARR) by occupation – Yorkshire and the Humber

	2013	2017	ARR
Senior, executive, and business process managers	5,930	5,390	-
Construction managers	16,270	14,790	140
Non-construction professional, technical, IT, and other office-based staff	26,030	24,490	-
Wood trades and interior fit-out	20,620	21,000	380
Bricklayers	8,410	8,370	370
Building envelope specialists	5,660	5,250	-
Painters and decorators	8,300	7,730	-
Plasterers and dry liners	3,660	3,620	50
Roofers	3,280	2,920	-
Floorers	4,150	4,230	210
Glaziers	2,470	2,250	<50
Specialist building operatives nec*	2,530	2,320	<50
Scaffolders	2,810	2,540	-
Plant operatives	3,120	3,070	190
Plant mechanics/fitters	6,030	5,640	-
Steel erectors/structural	3,370	3,380	<50
Labourers nec*	7,740	7,840	270
Electrical trades and installation	15,780	14,570	-
Plumbing and HVAC trades	18,710	17,380	-
Logistics	2,050	1,750	60
Civil engineering operatives nec*	5,550	5,130	<50
Non-construction operatives	3,790	3,460	-
Civil engineers	4,670	4,950	150
Other construction professionals and technical staff	12,110	11,740	-
Architects	1,440	1,450	-
Surveyors	3,490	3,180	-

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

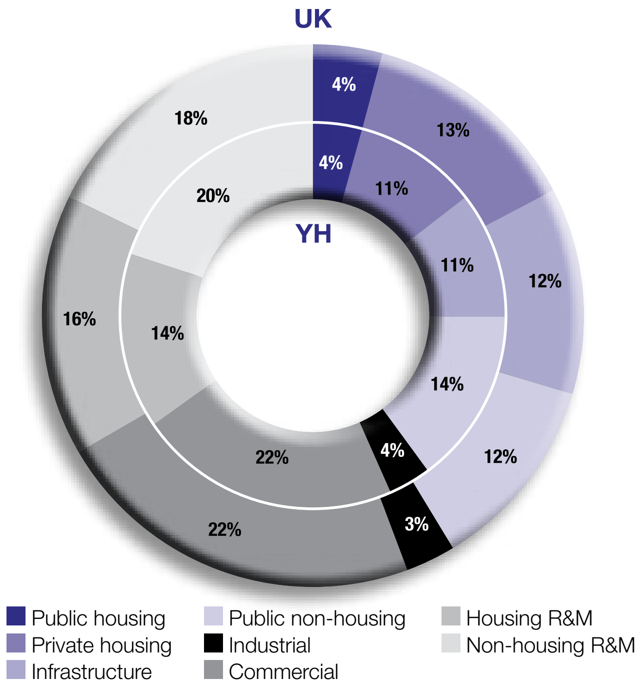
The public non-housing sector is projected to experience the greatest drop in output, of 10% per year over the five year period to 2017. This is much stronger than the UK decline of 5.8% per year on average. The sector's output is expected to fall for six consecutive years before a marginal rise of 2% is seen in 2017.

The infrastructure sector is also projected to perform poorly, with annual average falls of 5.1% over the forecast period, the largest contraction of all English regions and devolved nations. Completion of the A1 upgrade in the first half of 2012 is likely to lead to a double digit decline for the sector this year due to the lack of large projects in the pipeline. Over the longer term, announcements made in the Autumn Statement 2012 may lead to the sector stabilising earlier than initially predicted.

A moderate annual average rise of 3.8% per year is projected over the next five years for the private housing sector. House builders will benefit from the upturn in the UK economy which should materialise in 2014. As real incomes and confidence increase, the private housing market should see growth in new project starts.

The annual average output fall of 0.9% predicted for the region is projected to lead to a 1.6% per year decline in employment on average in the region over the forecast period. The largest drop in employment is projected for this year (3.2%) with stabilisation in the final year of the forecast period.

Construction industry structure 2011 – UK vs. Yorkshire and the Humber



Source: ONS, Experian

The logistics occupation is forecast to see the largest employment fall over the five year period to 2017 as annual average declines of 4% are predicted. Roofers (-3.5%) and scaffolders (-3.1%) are also projected to see heavy declines over the same timeframe. There are only a few occupations expected to see growth, with civil engineers due to experience the greatest annual average employment rise of 1.3% taking its share of total employment from 2% in 2013 to 3% in 2017.

The latest mobility report from CITB-ConstructionSkills provides some good indications of geographic flows for the construction industry. According to the survey, 80% of the construction workforce in Yorkshire and the Humber originated there, which is much higher than the average UK figure of 65.8%.The second biggest contribution to the region's construction workforce was from the North West at 6.5%.

The region's ARR, at 1,910, represents 1% of total projected base 2013 employment, just below the UK as a whole (1.2%). The largest absolute requirement is for wood trades and interior fit-out (380), but, as a share of 2013 base employment, with an ARR of 6.1%, plant operatives will be the most sought after.

Yorkshire and the Humber is predicted to see a decline in construction activity, with average annual output falls of 0.9%

East Midlands

The East Midlands is predicted to see a marginal decline in construction output over the five years to 2017 with an average annual fall of 0.4%, performing worse than the UK as a whole, where annual average growth of 0.8% is projected. Repair and maintenance (R&M) output is expected to grow by 0.9% per year on average, a better performance than new work, with an average annual decline of 1.2%. Construction employment is estimated to be 144,900 in 2017, 25% below its peak 2008 level. The East Midlands' annual recruitment requirement (ARR) is 1,860, which represents 1.2% of total projected base 2013 employment in the region, in line with the national average.

Total employment by occupation – East Midlands

Annual recruitment requirement (ARR) by occupation – East Midlands

Occupation	2013	2017	ARR
Senior, executive, and business process managers	3,790	3,550	<50
Construction managers	10,090	9,350	80
Non-construction professional, technical, IT, and other office-based staff	18,310	17,710	-
Wood trades and interior fit-out	16,360	16,450	390
Bricklayers	9,920	9,280	260
Building envelope specialists	4,730	4,540	-
Painters and decorators	8,780	8,010	-
Plasterers and dry liners	3,000	2,940	<50
Roofers	2,120	1,970	-
Floorers	2,350	2,440	150
Glaziers	3,410	3,180	110
Specialist building operatives nec*	3,510	3,170	<50
Scaffolders	660	670	<50
Plant operatives	2,670	2,660	180
Plant mechanics/fitters	2,410	2,280	-
Steel erectors/structural	2,980	2,610	-
Labourers nec*	6,100	5,860	210
Electrical trades and installation	11,670	11,210	<50
Plumbing and HVAC trades	10,740	10,410	-
Logistics	2,270	2,090	90
Civil engineering operatives nec*	4,460	4,350	70
Non-construction operatives	2,780	2,680	-
Civil engineers	3,190	3,370	110
Other construction professionals and technical staff	9,060	8,990	<50
Architects	1,940	2,150	50
Surveyors	3,270	2,980	-

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

An estimated decline of 11% in construction output in 2012 is expected to be followed by two further years of contraction, albeit more modest, before the East Midlands construction sector returns to growth in 2015. Although the region was not one of the main beneficiaries of the Building Schools for the Future (BSF) programme, no region or devolved nation will be immune from the public spending cuts which will impact on the public housing and non-housing construction sectors. The marked funding cut for the public housing sector will lead to substantial falls in output, certainly in the shorter term.

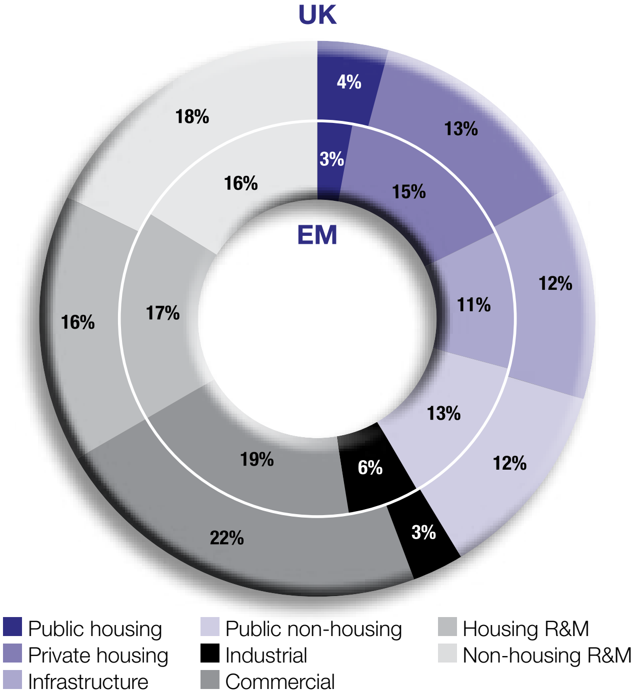
The medium term outlook for the region's construction sector is better, with growth expected to return in 2015, although the pace of increase will be only muted. Ongoing weakness in the macro economy and poor business and consumer confidence is impacting on the private construction sectors, with little incentive for investment in new retail and leisure developments while consumer spending remains downbeat. A more sustained economic recovery is expected by 2014 and with concerns over unemployment abating, this should boost demand in the private housing market and drive some investment in new commercial developments.

The private housing and industrial sectors are the only two expected to see average annual output growth over the forecast period, with the industrial construction sector continuing to recover from its recent low. In contrast, infrastructure construction output will see an average annual decline of 3.3%, with short term prospects for the sector particularly weak. Overall construction employment in the East Midlands is forecast to decline at an average rate of 1.1% per year over the forecast period. Employment is projected to fall in the majority of occupations over the five years to 2017 with steel erectors/structural expected to see the strongest annual average decline of 3.8%. However, employment in a number of occupations is projected to rise, with architects predicted to see the largest annual average employment increase of 2.9% over the same period.

The region's ARR at 1,860 represents 1.2% of total projected base 2013 employment, which is in line to the UK average. The largest absolute requirement is for wood trades and interior fit-out (390), but as a share of 2013 base employment, at 6.7%, plant operatives will be the most sought after.

GVA in the East Midlands is projected to grow at an annual average rate of 1.7% between 2013 and 2017

Construction industry structure 2011 – UK vs. East Midlands



Source: ONS, Experian

West Midlands

The West Midlands is forecast to see output fall by 1.4% per year on average over the five years to 2017, making it the worst performing of all the regions and devolved nations. Whilst new work output is expected to decline at an average annual rate of 2.8%, repair and maintenance (R&M) work is forecast to fare better with average growth of 1.0% per year. Growth will return in 2016 and 2017 but will be only moderate. Construction employment in the region is expected to decline by 2.8% per year on average, falling in each year of the forecast period, not surprisingly considering the weak prospects for overall output in the region.

Total employment by occupation – West Midlands

Annual recruitment requirement (ARR) by occupation – West Midlands

Occupation	2013	2017	ARR
Senior, executive, and business process managers	9,740	8,540	-
Construction managers	17,570	15,760	-
Non-construction professional, technical, IT, and other office-based staff	21,920	19,660	-
Wood trades and interior fit-out	17,570	16,060	150
Bricklayers	4,600	4,390	60
Building envelope specialists	7,440	6,700	-
Painters and decorators	7,380	6,610	-
Plasterers and dry liners	3,430	3,170	-
Roofers	2,810	2,480	-
Floorers	2,930	2,720	120
Glaziers	3,540	3,090	<50
Specialist building operatives nec*	3,380	2,890	-
Scaffolders	550	440	-
Plant operatives	1,620	1,540	120
Plant mechanics/fitters	2,030	1,860	-
Steel erectors/structural	2,030	1,940	-
Labourers nec*	6,060	5,500	220
Electrical trades and installation	12,080	10,960	-
Plumbing and HVAC trades	14,780	13,370	-
Logistics	4,840	3,970	50
Civil engineering operatives nec*	3,950	3,860	70
Non-construction operatives	1,690	1,530	-
Civil engineers	3,180	2,980	-
Other construction professionals and technical staff	8,590	7,970	-
Architects	1,690	1,550	-
Surveyors	5,450	4,420	-

Source: CSN, Experian
ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

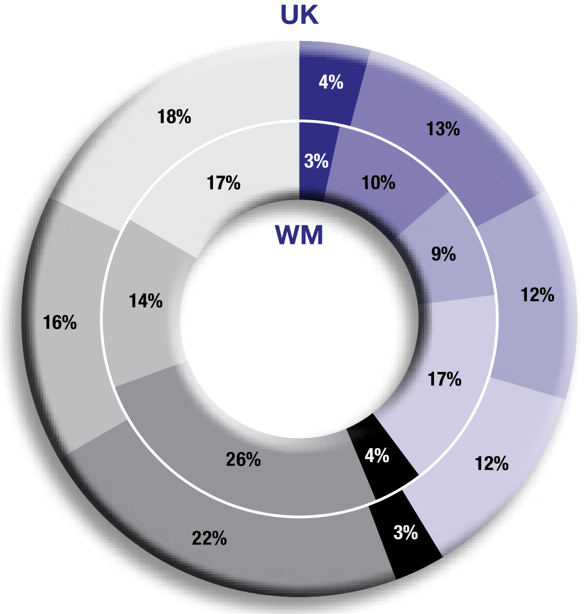
The public non-housing sector is forecast to be the worst performing in the region over the 2013-2017 period, with an average annual decline of 10.9%. This is stronger than the UK decline of 5.8% per year on average. The region benefitted heavily from the early waves of the Building Schools for the Future (BSF) programme and thus output in the sector has further to fall to return to more 'normal' levels.

Public spending cuts will also impact on the public housing sector over the forecast period, with output expected to fall by 1.7% per year on average. The region benefitted from £622m of funding under the 2008-2011 National Affordable Housing programme but will receive funding of just £190m to build 9,047 units over the 2011-2015 period. This will inevitably lead to falling output in the shorter term, but there is likely to be some boost to output towards the end of the forecast period when registered providers have adapted to the new ways of raising funds from private sources.

The best performing sector is forecast to be the private housing one with average annual growth of 1.7% over the period to 2017. The sector will benefit from gradually improving economic conditions over the next few years, which will stimulate demand for housing as concerns over unemployment abate.

Industrial construction output will also increase in each year, on average, over the five years to 2017, albeit by only a modest 1.1%. In the shorter term the sector will benefit from work on the new Jaguar Land Rover plant in South Staffordshire, which is due to be ready for business in 2014, before improving economic conditions will provide some incentive for investment in new facilities elsewhere.

Construction industry structure 2011 – UK vs. West Midlands



Source: ONS, Experian

Construction employment in the West Midlands is forecast to decline in each year of the forecast period, falling to 153,960 by 2017. This is 30% lower than its recent 2007 peak. The lagged effect between output and employment means that job shedding is likely to continue in the region for some time after output returns to growth in 2016.

Employment will decline across all 26 occupations between 2013 and 2017, with the most marked falls expected for surveyors (-25%) and scaffolders (-23%). In contrast, civil engineering operatives not elsewhere classified (nec) and plant operatives are forecast to see the weakest declines.

The Annual Recruitment Requirement (ARR) for the West Midlands is 830, one of the lowest of the regions and devolved nations in absolute terms. It is equivalent to just 0.5% of base 2013 employment, substantially weaker than the UK figure of 1.2%. Wood trades and interior fit-out is the trade occupation with the largest ARR – at 150 it is equivalent to 18% of the region's total ARR.

The construction industry in the West Midlands is forecast to see output decline at an average rate of 1.4% per year over the five years to 2017

Wales

The Welsh construction industry is expected to see output rise at an average rate of 2.7% per year over the five years to 2017. This is largely predicated on main construction work starting at Wylfa in Anglesey towards the end of 2016. New work output is forecast to rise by 3.6% per year on average, compared with a weaker increase of 0.3% for the repair and maintenance (R&M) sectors. Construction employment in Wales is expected to decline at an average rate of 1.5% per year over the same period, as strong growth in output comes towards the end of the forecast period and it is in a low labour-intensive sector. The annual recruitment requirement (ARR) is 2,950, which is equivalent to 3.1% of base 2013 employment in Wales.

Total employment by occupation – Wales

Annual recruitment requirement (ARR) by occupation – Wales

Occupation	2013	2017	ARR
Senior, executive, and business process managers	3,560	3,540	110
Construction managers	5,300	5,510	190
Non-construction professional, technical, IT, and other office-based staff	7,620	7,720	400
Wood trades and interior fit-out	12,720	12,330	330
Bricklayers	4,250	3,980	380
Building envelope specialists	4,330	4,150	250
Painters and decorators	5,670	5,140	-
Plasterers and dry liners	1,820	1,940	50
Roofers	940	880	-
Floorers	1,280	1,180	50
Glaziers	2,270	2,300	100
Specialist building operatives nec*	2,950	2,590	-
Scaffolders	480	500	<50
Plant operatives	1,580	1,420	200
Plant mechanics/fitters	1,530	1,640	-
Steel erectors/structural	2,250	2,020	-
Labourers nec*	5,220	4,870	460
Electrical trades and installation	5,330	4,770	50
Plumbing and HVAC trades	7,940	7,440	140
Logistics	1,190	1,140	80
Civil engineering operatives nec*	2,340	2,310	<50
Non-construction operatives	3,010	2,710	-
Civil engineers	3,210	3,150	<50
Other construction professionals and technical staff	6,770	6,590	<50
Architects	1,040	1,090	-
Surveyors	1,860	2,000	<50

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

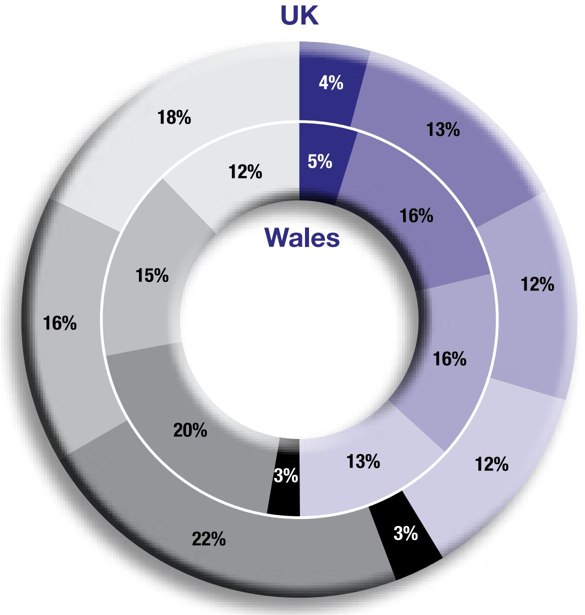
Key findings

Construction output in Wales returned to growth in 2010 and saw a further year of growth before returning to contraction in 2012 with an estimated decline of 13%. Output is expected to have fallen across the board in 2012, with the exception of the industrial sector, although that sector is recovering from a particularly low base. Short term prospects are weak, with a further contraction of 5% expected in 2013 before a weak return to growth in 2014.

As is the case across most of the UK, the private sectors continue to be affected by the weakness in the wider economy. Poor business and consumer confidence is providing little incentive for investment in retail and leisure facilities, particularly in light of muted consumer spending growth, whilst it remains difficult to know when to bring new office space to the market. Weak demand is affecting the private housing sector, with concern over employment prospects and the ongoing squeeze on household incomes both having an impact. We expect the economic situation to improve over the next couple of years, which should provide some stimulus for investment in new developments. Public spending cuts in the devolved nation are likely to be less than for the UK as a whole, with the capital budget for health, for example, expected to decline to 2013/14 but then pick up slightly in 2014/15.

The main driver of the strong performance from the Welsh construction industry over the forecast period is the planned new nuclear power plant at Wylfa in Anglesey. The project was cast into doubt when Horizon, the developer, was put up for sale, but its recent purchase by Hitachi has put it back on track. Hitachi's technology still needs to go through the generic design assessment, but it is still expected that work on the nuclear power station will start during the current forecast period. Without this project, the average annual growth rate for construction in Wales falls to just 0.6% over the five years to 2017.

Construction industry structure 2011 – UK vs. Wales



Source: ONS, Experian

The fact that the strong growth in construction output is towards the end of the forecast period, and taking into account the lag between output and employment growth, exacerbated by the rise in underemployment, means that construction employment in Wales is expected to decline by 1.5% per year on average over the 2013-2017 period. The construction workforce in Wales is forecast to total 92,910 in 2017, 23% below its 2007 peak. Although employment is expected to decline overall, a number of occupations are projected to see employment rise over the period, with plasterers and dry liners forecast to see average annual growth of 1.4% and surveyors an average increase of 1% per year. In contrast, an average annual decline of 4.3% is forecast for specialist building operatives nec.

Wales tends to have a high recruitment requirement, and it is no different for the 2013-2017 period. At 2,950, the ARR for the principality is equivalent to 3.1% of base 2013 employment, substantially above the UK figure of 1.2%.

The Welsh construction industry is expected to see output rise at an average rate of 2.7% per year over the five years to 2017

East of England

Construction output in the East of England is forecast to rise at an average rate of 1.2% per year over the five years to 2017. New work output is expected to see growth average 0.9% per year compared with a stronger figure of 1.5% on average per year for repair and maintenance (R&M). The strongest performing sector is forecast to be the industrial one, boosted by work on the logistics park adjacent to the London Gateway Port. The region is expected to be one of only two regions and devolved nations to see construction employment rise each year on average, albeit by only a weak 0.5%. The East of England has an annual recruitment requirement (ARR) of 5,820, the largest in absolute terms across the UK.

Total employment by occupation – East of England

Annual recruitment requirement (ARR) by occupation – East of England

Occupation	2013	2017	ARR
Senior, executive, and business process managers	14,670	14,840	270
Construction managers	22,060	22,580	750
Non-construction professional, technical, IT, and other office-based staff	35,340	36,880	710
Wood trades and interior fit-out	24,790	25,600	700
Bricklayers	8,860	9,060	370
Building envelope specialists	9,970	10,350	150
Painters and decorators	10,580	11,080	260
Plasterers and dry liners	3,700	3,710	80
Roofers	3,450	3,480	80
Floorers	4,490	4,880	330
Glaziers	4,910	5,190	290
Specialist building operatives nec*	2,580	2,590	80
Scaffolders	2,000	2,080	60
Plant operatives	4,170	4,240	270
Plant mechanics/fitters	4,110	4,420	50
Steel erectors/structural	2,650	2,750	50
Labourers nec*	8,960	9,570	420
Electrical trades and installation	19,570	19,230	150
Plumbing and HVAC trades	17,620	18,360	120
Logistics	2,660	2,570	130
Civil engineering operatives nec*	6,390	6,260	70
Non-construction operatives	2,070	2,040	-
Civil engineers	5,380	5,670	160
Other construction professionals and technical staff	18,210	18,860	220
Architects	2,350	2,590	<50
Surveyors	6,640	6,710	<50

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

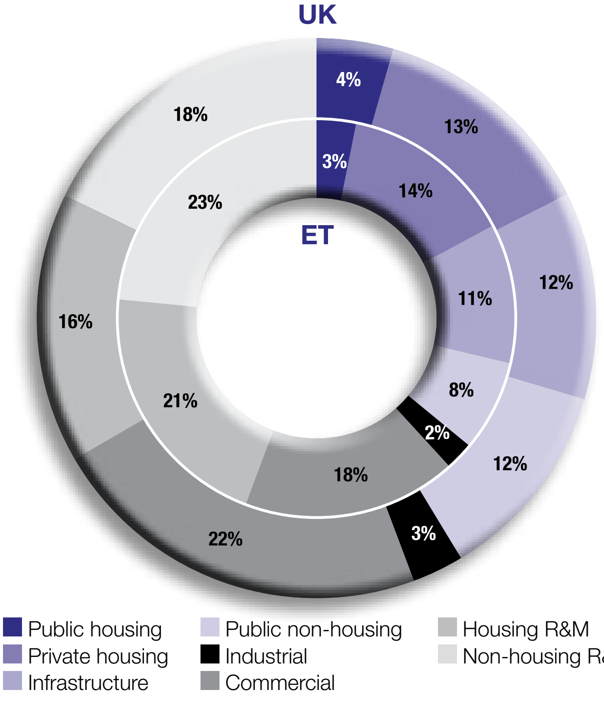
Key findings

The industrial construction sector is forecast to see average growth of 6.1% per year over the forecast period to 2017. It is expected to benefit strongly from work on the London Gateway logistics park, in addition to improving economic conditions providing some impetus for investment in manufacturing and other distribution and logistics facilities.

Average annual growth of 3.5% is forecast for the private housing sector. At present, demand is being dampened by concerns over unemployment and the continued squeeze on households. The steadily improving macro-economic conditions and the increasing availability of credit should provide some boost to demand over the next couple of years. Plans for up to 10,000 new homes at Northstowe in Cambridgeshire are back on track, after the masterplan was approved by the council. The first phase of work on the scheme is due to start in the second half of 2013.

Output in the public non-housing sector is expected to decline by 3.6% per year on average over the forecast period, as work on the remaining Building Schools for the Future (BSF) legacy completes and public funding cuts continue to bite. However, this is a weaker decline than for the UK as a whole (-5.8%), as the region saw a smaller increase in output between 2007 and 2010. The East of England's public non-housing sector saw output rise by 52% over that period, compared with a national figure of 72%; therefore it has less far to fall to return to its pre-BSF levels of output.

Construction industry structure 2011 – UK vs. East of England



Source: ONS, Experian

Construction employment in the East of England is expected to return to growth in 2014, a year before output in 2015. This is because the fall in output in 2014 is largely due to a weak outlook for less labour-intensive sectors such as infrastructure. In contrast, the private housing and R&M sectors, which are more labour intensive, are expected to see robust growth that year. Despite average annual growth of 0.5% over the period to 2017, construction employment in the region is projected to still be 7% lower than its 2008 peak at 255,590 at the end of the forecast period.

The number of architects employed in the region is expected to rise by 12% over the five years to 2017, whilst floorers are forecast to see employment rise by 10% over the same period.

The East of England's annual recruitment requirement (ARR) for the 2013-2017 period is 5,820. This is equivalent to 2.3% of base 2013 employment, substantially above the UK average of 1.2%. In absolute terms, construction managers and wood trades / interior fit-out are the two occupations expected to be most in demand. However, in terms of base 2013 employment, the largest recruitment requirement is forecast to be for floorers and plant operatives.

Construction output in the East of England is forecast to rise at an average rate of 1.2% per year until 2017

Greater London

The capital is predicted to see growth in construction activity over the forecast period with average annual increases of 1.9%, performing better than the UK as a whole, where annual average growth of 0.8% is expected. Construction employment is estimated to be 346,250 in 2017, rising at an average annual rate of 0.6% over the five years to 2017. The annual recruitment requirement (ARR) for Greater London is 1,180, which is equivalent to just 0.3% of base 2013 employment, much lower than the national average (1.2%).

Total employment by occupation – Greater London

Annual recruitment requirement (ARR) by occupation – Greater London

	2013	2017	ARR
Senior, executive, and business process managers	24,640	24,290	190
Construction managers	36,740	37,220	-
Non-construction professional, technical, IT, and other office-based staff	51,180	50,990	-
Wood trades and interior fit-out	33,070	35,240	190
Bricklayers	4,050	3,690	-
Building envelope specialists	12,010	11,960	180
Painters and decorators	10,710	10,900	90
Plasterers and dry liners	5,360	6,100	180
Roofers	2,660	2,810	<50
Floorers	5,250	5,290	110
Glaziers	2,690	3,030	170
Specialist building operatives nec*	7,170	6,920	<50
Scaffolders	3,950	3,920	-
Plant operatives	3,340	3,350	<50
Plant mechanics/fitters	4,990	5,580	-
Steel erectors/structural	2,040	1,940	-
Labourers nec*	10,470	10,530	-
Electrical trades and installation	28,650	27,370	-
Plumbing and HVAC trades	19,880	20,000	-
Logistics	1,630	1,580	-
Civil engineering operatives nec*	6,830	7,330	-
Non-construction operatives	2,660	2,600	-
Civil engineers	5,810	6,290	-
Other construction professionals and technical staff	25,370	27,110	-
Architects	16,890	17,740	-
Surveyors	11,840	12,470	-

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

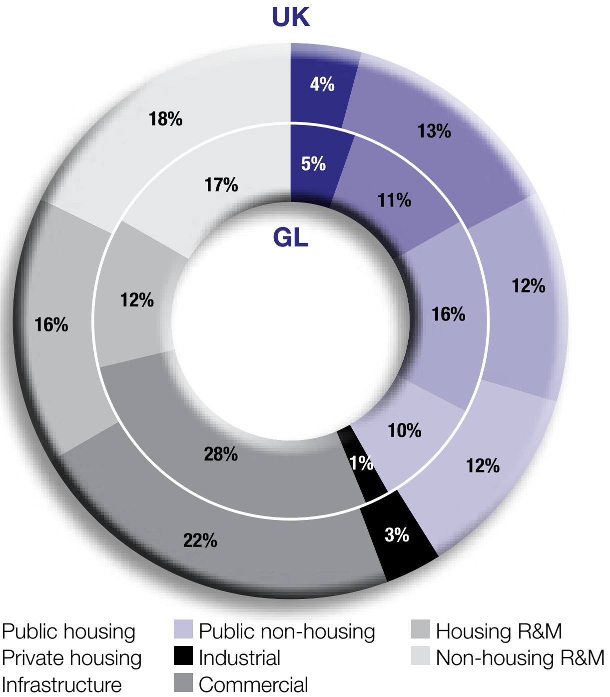
Key findings

Greater London's construction sector saw only one year of decline (2009) before increasing strongly in 2010 and 2011. An estimated contraction of 1% in 2012 is expected to be followed by stagnation in 2013 before growth returns in 2014. The weak short-term prospects for the industry are predicated on substantial declines in the public construction sectors, both housing and non-housing. The public non-housing sector has seen significant growth in recent years, benefitting from both the Building Schools for the Future (BSF) programme and the Olympic build work. Public funding cuts will impact on the sector and output is expected to fall markedly.

Things are looking rosy for the infrastructure sector in the near term, with a number of schemes on going, including various station upgrades and Crossrail. Activity on the latter is due to peak in 2014/15 and infrastructure activity will start to tail off towards the end of the forecast period, reflecting the lower output stream from this major project. However, activity in the sector in 2017 will only be slightly lower than its record high level in 2011.

The private housing sector is expected to fare the best over the forecast period, driven by recovering economic conditions which will stimulate demand. The sector has already more than recovered the ground lost during the recession and will reach a new record high by 2017. Short-term prospects for the commercial sector are muted, with weak business and consumer confidence providing little incentive for investment in new retail and leisure facilities, and demand for offices has eased even in London. However, a more sustained economic recovery will provide the base for work to start on new developments.

Construction industry structure 2011 – UK vs. Greater London



Source: ONS, Experian

Construction employment in Greater London is expected to see an average annual increase of 0.6% over the forecast period, one of only two regions and devolved nations to see employment rising, on average. The majority of the occupations are forecast to see employment growth over the five years to 2017 with plasterers and dry liners experiencing the strongest annual average growth of 4.2%, whilst bricklayers are expected to see employment fall by 2.8% per year on average over the same period.

The capital's ARR at 1,180 represents 0.3% of total projected base 2013 employment, significantly lower than the UK average (1.2%). The largest absolute requirement is for wood trades and interior fit-out, but as a proportion of 2013 base employment, at 6.3%, glaziers will be the most sought after.

Construction activity in the capital will increase on average by 1.9% per year over the forecast period

South East

Construction output in the South East is forecast to rise at an average annual rate of 1.1% over the five years to 2017, above the UK rate of 0.8% per year. Growth is expected to average 1.1% per year in both new work and repair and maintenance (R&M) activity. The private housing sector will be the best performing over the forecast period, driven by recovering economic conditions and the strong demographics in the South East. The region is expected to see construction employment decline at an average rate of 0.7% over the forecast period, a sharper decline than the UK figure of 0.8%. The ARR for the South East is 4,570, the second largest in absolute terms across all the regions and devolved nations.

Total employment by occupation – South East

Annual recruitment requirement (ARR) by occupation – South East

Occupation	2013	2017	ARR
Senior, executive, and business process managers	24,640	23,150	-
Construction managers	42,210	40,490	740
Non-construction professional, technical, IT, and other office-based staff	50,420	48,250	-
Wood trades and interior fit-out	36,890	38,610	730
Bricklayers	12,960	12,200	230
Building envelope specialists	15,920	15,760	<50
Painters and decorators	18,260	18,490	320
Plasterers and dry liners	6,810	6,790	60
Roofers	4,850	4,520	50
Floorers	6,030	5,890	270
Glaziers	6,800	6,680	310
Specialist building operatives nec*	9,090	8,430	70
Scaffolders	2,190	2,240	60
Plant operatives	6,620	6,560	440
Plant mechanics/fitters	4,410	4,990	120
Steel erectors/structural	3,070	2,960	<50
Labourers nec*	14,200	13,650	360
Electrical trades and installation	22,740	20,770	-
Plumbing and HVAC trades	23,370	23,150	-
Logistics	6,190	5,520	260
Civil engineering operatives nec*	9,840	9,680	180
Non-construction operatives	2,620	2,500	-
Civil engineers	7,630	7,890	220
Other construction professionals and technical staff	26,820	27,790	-
Architects	6,130	6,570	120
Surveyors	11,220	11,180	-

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6
* Not elsewhere classified

Key findings

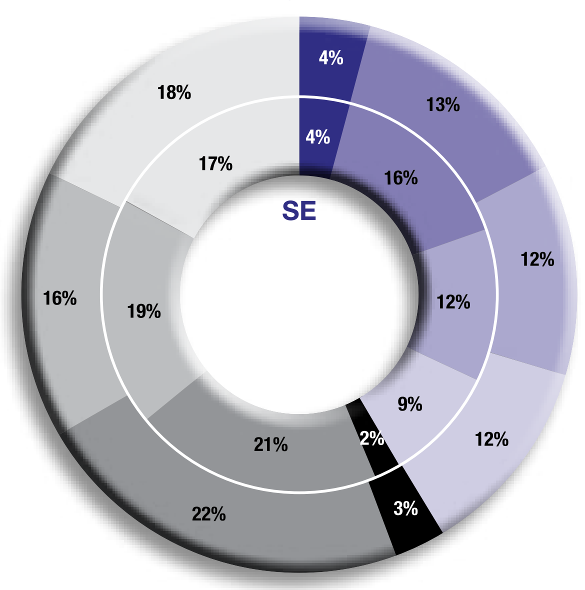
A weak outlook is expected for the commercial sector in the short term, as investment continues to be hampered by poor economic conditions and heavily negative business and consumer sentiment. However, these are expected to improve over the next couple of years, stimulating some development, and there are a number of mixed-use schemes planned in the region which should get underway in the next couple of years. Average annual growth of 1.7% is expected for the sector over the five years to 2017.

Average annual growth of 3.3% is forecast for the private housing sector, with output expected to rise in each year of the period to 2017. Current muted demand will improve, once economic conditions pick up and concerns over unemployment start to abate. The region's strong demographics will also provide the stimulus for housing developments.

Prospects for the infrastructure sector are weak over the forecast period, with output expected to decline by 1.7% per year on average. Work was completed in 2012 on the M25 widening work, which had provided a substantial boost to output in the sector over the previous few years. There are a number of ongoing schemes in the region, including the Reading Station upgrade and other various other road projects. This includes the managed motorway work on the M25, but these are not of a similar size to the M25 widening work and therefore output will fall from its recent peak over the forecast period.

Industrial construction output is expected to decline by a weak 0.6% each year on average over the forecast period. The current poor prospects for the manufacturing sector provide little incentive for investment in new facilities and there are few major distribution and logistics developments planned in the region at present.

Construction industry structure 2011 – UK vs. South East



Source: ONS, Experian

Construction employment in the South East is expected to reach 374,710 in 2017, 2% below its projected 2013 level and 15% lower than its peak in 2008. However, employment is expected to stabilise in 2016 and return to growth in 2017, albeit only weakly. The annual average increase of 1.1% in output over the forecast period is not enough to drive strong employment growth in the region.

The strongest increase in employment in the region is expected for plant mechanics/fitters (19%), while architects are forecast to see employment increase by 8% over the five years to 2017.

The South East's annual recruitment requirement (ARR) is 4,570, which is equivalent to 1.2% of base 2013 employment. This is in line with the UK average. In absolute terms, the largest requirements are expected to be for construction managers and wood trades and interior fit-out, but as a proportion of base 2013 employment, plant operatives, glaziers and floorers are forecast to be most in demand.

Construction output in the South East is expected to grow by an average of 1.7% per year until 2017

South West

Construction output in the South West is forecast to rise at an average rate of 1.3% per year between 2013 and 2017. The new work sector is forecast to fare better than repair and maintenance (R&M), with average annual growth of 1.6% and 0.9%, respectively. The best performing sector is expected to be infrastructure, boosted by work at Hinkley Point C nuclear power station. In contrast, construction employment in the region is expected to see an average decline of 1.1% per year over the five years to 2017, largely reflecting the fact that the strongest output growth is in one of the least labour-intensive sectors.

Total employment by occupation – South West

Annual recruitment requirement (ARR) by occupation – South West

Occupation	2013	2017	ARR
Senior, executive, and business process managers	7,940	8,010	160
Construction managers	18,140	18,540	550
Non-construction professional, technical, IT, and other office-based staff	29,230	26,580	120
Wood trades and interior fit-out	27,570	27,090	450
Bricklayers	7,420	6,470	140
Building envelope specialists	11,400	11,000	-
Painters and decorators	12,030	11,840	100
Plasterers and dry liners	4,430	4,240	<50
Roofers	3,620	3,440	<50
Floorers	4,320	4,070	170
Glaziers	3,970	3,840	140
Specialist building operatives nec*	4,700	4,370	70
Scaffolders	2,110	2,090	50
Plant operatives	3,860	3,720	240
Plant mechanics/fitters	3,620	3,860	<50
Steel erectors/structural	790	660	-
Labourers nec*	7,970	8,060	240
Electrical trades and installation	17,980	16,480	-
Plumbing and HVAC trades	12,050	11,830	-
Logistics	1,270	1,250	90
Civil engineering operatives nec*	5,400	5,240	<50
Non-construction operatives	2,690	2,590	-
Civil engineers	2,830	2,830	70
Other construction professionals and technical staff	14,010	13,520	210
Architects	4,040	4,060	-
Surveyors	5,430	5,570	-

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6

* Not elsewhere classified

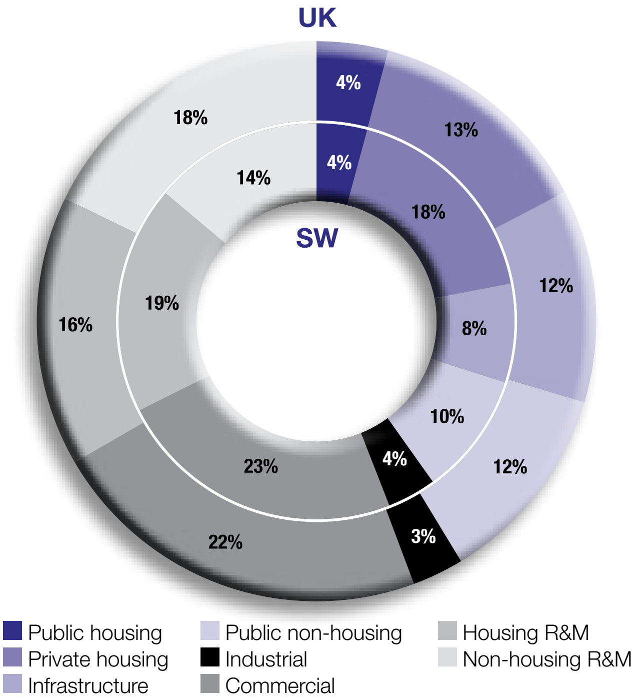
Key findings

Average annual growth of 8.1% is forecast for the South West's infrastructure sector over the period to 2017. Main construction work is due to start in mid-2013 on the first reactor of the new nuclear power station at Hinkley Point, with construction of the second reactor expected to begin in 2015. In addition to this major project, there are a number of smaller ones, such as redevelopment works at Bristol Airport, which are due to start over the forecast period.

Output in the private housing sector is expected to rise at an average rate of 4.3% per year over the five years to 2017. Demand is currently being constrained by poor consumer confidence which has been dampened by the ongoing weak economic conditions. A more sustained improvement in the macro economy is forecast over the next year or so and this, along with receding concerns over unemployment, should provide some boost to demand for housing. The development of a new market town just outside Plymouth should also contribute to growth in private housing output.

In contrast, the public sectors, housing and non-housing, will continue to be affected by the public spending cuts in the shorter term, although the pace of contraction in these sectors is expected to moderate in 2013 and 2014, with growth returning in 2015. The much more constrained funding pot for social housing in England will mean lower levels of activity in the public housing sector going forwards, with an annual average decline of 2.1% expected for the sector to 2017. On the other hand, the region's public non-housing sector benefitted less from recent major investment programmes such as Building Schools for the Future (BSF) and thus output has less far to fall to return to more 'normal' levels than other regions and devolved nations.

Construction industry structure 2011 – UK vs. South West



Source: ONS, Experian

The lag between output and employment means that, although output returns to growth in 2014, employment is expected to continue to fall in each year of the forecast period, especially considering the strongest output growth is in infrastructure, one of the less labour-intensive sectors. Construction employment in the South West is forecast to decline to 211,250 by 2017. This is 21% below its recent peak in 2008.

Plant mechanics/fitters are expected to see employment rise by 8% over the five years to 2017, whilst the number of surveyors employed in the region is forecast to increase by 3% over the same time and the number of construction managers is predicted to be 2% higher in 2017.

The South West's annual recruitment requirement (ARR) is 2,910, which is equivalent to 1.3% of base 2013 employment, broadly in line with the UK average. In absolute terms, the trade sector with the largest requirement is wood trades and interior fit-out with 450. However, in terms of base 2013 employment, logistics personnel are expected to be most in demand.

South West construction output is forecast to rise at an average rate of 1.3% per year; this is above the UK average rate of 0.8% per year

Northern Ireland

Construction output in Northern Ireland is forecast to grow at an annual average rate of 1.7% over the five years to 2017, a stronger growth rate than for the UK as a whole (0.8%). However, this relatively positive profile needs to be put into context – Northern Ireland's construction industry has experienced a much steeper decline than the UK as a whole (37% compared with 16% in the five years to 2012) and therefore is coming back up from a much lower base. Despite the growth in output, employment is projected to continue to fall to 2016 before stabilising, given an average annual drop of 1.5%. The annual average recruitment requirement (ARR) for the period 2013 to 2017 is forecast to be 660, representing just 1% of base 2013 employment.

Total employment by occupation – Northern Ireland

Annual recruitment requirement (ARR) by occupation – Northern Ireland

	2013	2017	ARR
Senior, executive, and business process managers	1,880	1,790	-
Construction managers	6,450	6,130	<50
Non-construction professional, technical, IT, and other office-based staff	6,340	6,860	140
Wood trades and interior fit-out	9,250	8,540	-
Bricklayers	3,730	3,610	120
Building envelope specialists	1,000	1,020	<50
Painters and decorators	4,680	4,180	-
Plasterers and dry liners	2,070	1,980	<50
Roofers	760	680	-
Floorers	510	490	<50
Glaziers	1,260	1,240	50
Specialist building operatives nec*	1,630	1,480	-
Scaffolders	90	80	-
Plant operatives	2,460	2,240	120
Plant mechanics/fitters	1,620	1,620	-
Steel erectors/structural	1,580	1,510	-
Labourers nec*	2,040	1,880	-
Electrical trades and installation	5,750	5,630	50
Plumbing and HVAC trades	3,660	3,520	-
Logistics	1,280	1,300	70
Civil engineering operatives nec*	1,330	1,270	<50
Non-construction operatives	1,510	1,480	-
Civil engineers	1,030	960	-
Other construction professionals and technical staff	1,940	1,880	-
Architects	1,830	1,660	-
Surveyors	1,140	1,010	-

Source: CSN, Experian. ref. CSN Explained, Section 3, Notes 5 and 6

* Not elsewhere classified

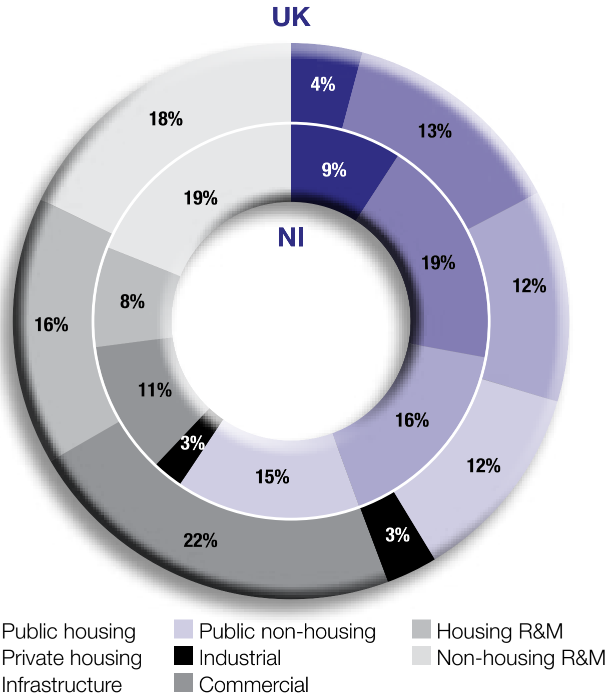
Key findings

For the first time since 2009 the construction industry in Northern Ireland is estimated to have outperformed the UK as a whole in 2012. While output is estimated to have declined by nearly 9% in the UK as a whole, the fall is likely to have been only 2% in Northern Ireland. The main reason for the difference is that the public sectors and infrastructure have performed better in Northern Ireland last year, although the private sectors, particularly private housing, performed worse than in the UK as a whole.

Besides the 'bounce-back' effect from a much lower base, the other main reason for a better outlook for construction in Northern Ireland than the UK is the fact that expenditure on construction by the public sector started to fall earlier in the former (2010) than in the latter (2011). Therefore it should have less far to fall in the future and this view seems to be supported by better performance in the public construction sectors in Northern Ireland in 2012. However, growth will be patchy, with some decline in public housing activity early in the forecast period and probably growth in health construction but decline in work on education facilities.

Infrastructure activity should be largely focused on transport over the next few years and in particular further upgrading of the roads network, such as the dualling of the A8 between Belfast and Larne. The Northern Ireland Executive is looking at innovative ways of funding capital projects post-2015 and hoping to leverage some £500m to spend in the health care sector and £390m in the roads sector.

Construction industry structure 2011 – UK vs. Northern Ireland



Source: ONS, Experian

Despite the positive annual average output growth projections, construction employment is expected to fall over most of the forecast period. On an annual average basis, the decline is projected to be around 1.5%. While output should start to grow again in 2014, employment only stabilises two years later. There is always a lag between changes in output and employment levels, but the size of the lag is believed to have widened due to relatively high levels of underemployment, evidenced by the fact that, while output has dropped by 37% from its peak, employment has only fallen by 19%. This suggests that there will be a significant level of excess capacity that will need to be taken up once the industry gets back on to a growth path before employment starts to rise.

The ARR for the 2013 to 2017 period is estimated at 660, considerably lower than that estimated last year for the 2012 to 2016 period (1,170). Weakening levels of demand for construction services has meant that the ARR is entirely a replacement requirement at present. This represents 1% of the projected 2013 workforce in Northern Ireland, a slightly lower ratio than for the UK as a whole (1.2%).

Construction output in Northern Ireland is forecast to grow at an annual average rate of 1.7% over the five years to 2017

CSN Explained

This appendix provides further details and clarification of some of the points covered in the report.

Section 1 gives an overview of the underpinning methods that are used by the CSN, working in partnership with Experian, to produce the suite of reports at a UK, national and regional level.

Section 2 provides a glossary to clarify some of the terms that are used in the reports, while Section 3 has some further notes that relate to the data sources that are used for the various charts and tables. Section 3 also outlines what is meant by the term footprint, when talking about the areas of responsibility that lie with a Sector Skills Council.

Section 4 explains the sector definitions used within the report and provides examples of what is covered in each.

Section 5 gives a detailed breakdown of the 26 occupational groups into the individual standard occupational classification (SOC) codes that are aggregated to provide the employment and recruitment requirement.

Section 6 then concludes by giving details about the range of LMI reports, the advantages of being a CSN member and the contact details should people be interested in joining.

1. CSN Methodology

Background

The **Construction Skills Network** has been evolving since its conception in 2005 acting as vehicle for CITB-ConstructionSkills to collect and produce information on the future employment and training needs of the industry. CITB-ConstructionSkills, CIC and CITB Northern Ireland are working as ConstructionSkills, the Sector Skills Council for Construction to produce robust Labour Market Intelligence to provide a foundation on which to plan for future skills needs and to target investment.

The CSN functions at both a national and regional level. It comprises of a National Group, 12 Observatory groups, a forecasting model for each of the regions and countries, and a Technical Reference Group. An Observatory group currently operates in each of the nine English regions and also in Wales, Scotland and Northern Ireland.

Observatory groups currently meet bi-annually and consist of key regional stakeholders invited from industry, Government, education and other SSCs, all of whom contribute local industry knowledge and views on training, skills, recruitment, qualifications and policy. The National Group also includes representatives from industry, Government, education and other SSCs. This Group convenes twice a year and sets the national scene, effectively forming a backdrop for the Observatories.

At the heart of the CSN are a number of forecasting models which generate forecasts of employment requirements within the industry for a range of occupational groups. The models are designed and managed by Experian under the independent guidance and validation of the Technical Reference Group, comprised of statisticians and modelling experts. The Models have been, and will continue to be, evolved over time to ensure that they account for new research as it is published as well as new and improved modelling techniques. Future changes to the model will only be made after consultation with the Technical Reference Group.

The model approach

The model approach relies on a combination of primary research and views from the CSN to facilitate it. National data is used as the basis for the assumptions that augment the models, which are then adjusted with the assistance of the Observatories and National Group. Each English region, Wales, Scotland and Northern Ireland has a separate model (although all models are inter-related due to labour movements) and, in addition, there is one national model that acts as a constraint to the individual models and enables best use to be made of the most robust data (which is available at the national level). The models work by forecasting demand and supply of skilled workers separately. The difference between demand and supply forms the employment requirement.

The forecast total employment levels are derived from expectations about construction output and productivity. Essentially this is based upon the question ‘How many people will be needed to produce forecast output, given the assumptions made about productivity?’.

The **annual recruitment requirement (ARR)** is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into industry from training, due to the inconsistent currency and coverage of supply data. Therefore, the annual recruitment requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

Demand is based upon the results of discussion groups comprising industry experts, a view of construction output and a set of integrated models relating to wider national and regional economic performance. The models are dynamic and reflect the general UK economic climate at any point in time. To generate the labour demand, the models make use of a set of specific statistics for each major type of work that determine the employment, by trade, needed to produce the predicted levels of construction output. The labour supply for each type of trade or profession is based upon the previous year’s supply (the total stock of employment) combined with flows into and out of the labour market.

The key leakages (outflows) that need to be considered are:

- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

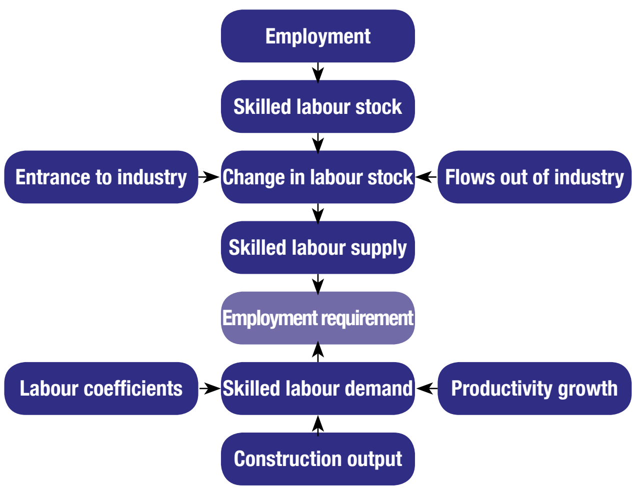
The main reason for outflow is likely to be transfer to other industries.

Flows into the labour market include:

- transfers in from other industries
- international/domestic IN migration
- inflow from temporarily sick and home duties.

The most significant inflow is likely to be from other industries.

A summary of the model is shown in the flow chart.



2. Glossary of Terms

- **Building envelope specialists** – any trade involved with the external cladding of the building other than bricklaying, e.g. curtain walling.
- **Demand** – demand is calculated using construction output data from the Office for National Statistics (ONS) and the Department of Finance and Personnel Northern Ireland (DFP), along with vacancy data from the National Employers Skills Survey, from the Department for Education and Skills. These data sets are translated into labour requirements by trade by using a series of coefficients to produce the labour demand that relates to the forecasted output levels.
- **GDP** – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income. GDP=GVA plus taxes on products minus subsidies on products.
- **GVA** – Gross Value Added – total output minus the value of inputs used in the production process. GVA measures the contribution of the economy as a difference between gross output and intermediate outputs.
- **Coefficients** – To generate the labour demand, the model makes use of a set of specific statistics for each major type of work to determine employment, by trade or profession, based upon the previous year's supply. In essence this is the number of workers in each occupation/trade to produce £1m of output across each sub-sector.
- **LFS (Labour Force Survey)** – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training, from around 53,000 households each quarter (>100,000 people).
- **LMI (Labour Market Intelligence)** – data that are quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.
- **Macroeconomics** – the study of an economy on a national level, including total employment, investment, imports, exports, production and consumption.
- **Nec** – not elsewhere classified, used as a reference in LFS data.
- **ONS** – Office for National Statistics – official statistics on economy, population and society at national UK and local level.
- **Output** – total value of all goods and services produced in an economy.
- **Productivity** – output per employee.
- **SIC codes** – Standard Industrial Classification codes – from the UK Standard Industrial Classification of Economic Activities produced by the ONS.
- **SOC codes** – Standard Occupational Classification codes.
- **Supply** – the total stock of employment in a period of time plus the flows into and out of the labour market. Supply is usually calculated from LFS data.

3. Notes and Footprints

Notes

1 Except for Northern Ireland, output data for the English regions, Scotland and Wales are supplied by the Office for National Statistics (ONS) on a current price basis. Therefore national deflators produced by the ONS have been used to deflate to a 2005 constant price basis, i.e. the effects of inflation have been stripped out.

2 The annual average growth rate of output is a compound average growth rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.

3 Only selected components of gross value added (GVA) are shown in this table and so do not sum to the total.

4 For new construction orders comparison is made with Great Britain rather than the UK, owing to the fact that there are no orders data series for Northern Ireland.

5 Employment numbers are rounded to the nearest 10.

6 The tables include data relating to plumbers and electricians. As part of SIC 43, plumbers and electricians working in contracting are an integral part of the construction process. However, it is recognised by CITB-ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC codes, including SIC 43.2.

7 The employment and ARR tables show separate totals for SIC 41-43 and SIC 41-43, 71.1 and 74.9. The total for SIC 41-43 covers the first 22 occupational groups on the relevant tables and excludes civil engineers, other construction professionals and technical staff, architects and surveyors. The total for SIC 41-43, 71.1 and 74.9 includes all occupations.

Footprints for Built Environment SSCs

CITB-ConstructionSkills is responsible for SIC 41 Construction of Buildings, SIC 42 Civil Engineering, SIC 43 Specialised Construction Activities and SIC 71.1 Architectural and engineering activities; Technical Testing and Analysis.

The table summarises the SIC codes (2007) covered by CITB-ConstructionSkills:

The sector footprints for the other SSCs covering the built environment:

SummitSkills

Footprint – Plumbing, Heating, Ventilation, Air Conditioning, Refrigeration and Electrotechnical.

Coverage – Building Services Engineering.

CITB-ConstructionSkills shares an interest with SummitSkills in SIC 43.21 Electrical Installation and SIC 43.22 Plumbing, heat and air-conditioning installation. CITB-ConstructionSkills recognises the responsibility of Summit Skills across Standard Industrial Classfications (SIC) 43.21 and 43.22, therefore data relating to the Building Services Engineering sector is included here primarily for completeness.

AssetSkills

Footprint – Property Services, Housing, Facilities Management, Cleaning.

Coverage – Property, Housing and Land Managers, Chartered Surveyors, Estimators, Valuers, Home Inspectors, Estate Agents and Auctioneers (property and chattels), Caretakers, Mobile and Machine Operatives, Window Cleaners, Road Sweepers, Cleaners, Domestics, Facilities Managers.

AssetSkills has a peripheral interest SIC 71.1 Architectural and engineering activities and related technical consultancy.

Energy and Utility Skills

Footprint – Electricity, Gas (including gas installers), Water and Waste Management.

Coverage – Electricity generation and distribution; Gas transmission, distribution and appliance installation and maintenance; Water collection, purification and distribution; Waste water collection and processing; Waste Management.

CITB-ConstructionSkills

SIC Code	Description
41.1	Development of building projects
41.2	Construction of residential and non-residential buildings
42.1	Construction of roads and railways
42.2	Construction of utility projects
42.9	Construction of other civil engineering projects
43.1	Demolition and site preparation
43.3	Building completion and finishing
43.9	Other specialised construction activities nec
71.1*	Architectural and engineering activities and related technical consultancy

* AssetSkills has a peripheral interest in SIC 71.1

4. Definitions: types and examples of construction work

Public sector housing – local authorities and housing associations, new towns and government departments

Housing schemes, old people's homes and the provision within housing sites of roads and services for gas, water, electricity, sewage and drainage.

Private sector housing

All privately owned buildings for residential use, such as houses, flats and maisonettes, bungalows, cottages and the provision of services to new developments.

Infrastructure – public and private

Water

Reservoirs, purification plants, dams, water works, pumping stations, water mains, hydraulic works etc.

Sewerage

Sewage disposal works, laying of sewers and surface drains.

Electricity

Building and civil engineering work for electrical undertakings such as power stations, dams and other works on hydroelectric schemes, onshore wind farms and decommissioning of nuclear power stations.

Gas, communications, air transport

Gas works, gas mains and gas storage; post offices, sorting offices, telephone exchanges, switching centres etc.; air terminals, runways, hangars, reception halls, radar installations.

Railways

Permanent way, tunnels, bridges, cuttings, stations, engine sheds etc., signalling and other control systems and electrification of both surface and underground railways.

Harbours

All works and buildings directly connected with harbours, wharves, docks, piers, jetties, canals and waterways, sea walls, embankments and water defences.

Roads

Roads, pavements, bridges, footpaths, lighting, tunnels, flyovers, fencing etc.

Public non-residential construction[1]

Factories and warehouses

Publicly owned factories, warehouses, skill centres.

Oil, steel, coal

Now restricted to remedial works for public sector residual bodies.

Schools, colleges, universities

State schools and colleges (including technical colleges and institutes of agriculture); universities including halls of residence, research establishments etc.

Health

Hospitals including medical schools, clinics, welfare centres, adult training centres.

Offices

Local and central Government offices, including town halls, offices for all public bodies except the armed services, police headquarters.

Entertainment

Theatres, restaurants, public swimming baths, caravan sites at holiday resorts, works and buildings at sports grounds, stadiums, racecourses etc. owned by local authorities or other public bodies.

Garages

Buildings for storage, repair and maintenance of road vehicles, transport workshops, bus depots, road goods transport depots and car parks.

Shops

Municipal shopping developments for which the contract has been let by a Local Authority.

Agriculture

Buildings and work on publicly financed horticultural establishments; fen drainage and agricultural drainage; veterinary clinics.

Miscellaneous

All work not clearly covered by any other headings, such as fire stations, police stations, prisons, reformatories, remand homes, civil defence work, UK Atomic Energy Authority work, council depots, museums, libraries.

Private industrial work

Factories, warehouses, wholesale depots, all other works and buildings for the purpose of industrial production or processing, oil refineries, pipelines and terminals, concrete fixed leg oil production platforms (not rigs); private steel work; all new coal mine construction such as sinking shafts, tunnelling, etc.

[1] Where contracts for the construction or improvement of non-residential buildings used for public service provision, such as hospitals, are awarded by private sector holders of contracts awarded under the Private Finance Initiative, the work is classified as 'private commercial'.

Private commercial work[2]

Schools and universities
Schools and colleges in the private sector, financed wholly from private funds.

Health
Private hospitals, nursing homes, clinics.

Offices
Office buildings, banks.

Entertainment
Privately owned theatres, concert halls, cinemas, hotels, public houses, restaurants, cafés, holiday camps, swimming pools, works and buildings at sports grounds, stadiums and other places of sport or recreation, youth hostels.

Garages
Repair garages, petrol filling stations, bus depots, goods transport depots and any other works or buildings for the storage, repair or maintenance of road vehicles, car parks.

Shops
All buildings for retail distribution such as shops, department stores, retail markets, showrooms, etc.

Agriculture
All buildings and work on farms, horticultural establishments.

Miscellaneous
All work not clearly covered by any other heading, e.g. exhibitions, caravan sites, churches, church halls.

New work

New housing
Construction of new houses, flats, bungalows only.

All other types of work
All new construction work and all work that can be referred to as improvement, renovation or refurbishment and which adds to the value of the property[3].

Repair and maintenance

Housing
Any conversion of, or extension to, any existing dwelling and all other work such as improvement, renovation, refurbishment, planned maintenance and any other type of expenditure on repairs or maintenance.

All other sectors
Repair and maintenance work of all types including planned and contractual maintenance[4].

[2] Where contracts for the construction or improvement of non-residential buildings used for public service provision, such as hospitals, are awarded by private sector holders of contracts awarded under the Private Finance Initiative, the work is classified as ‘private commercial’.

[3] Contractors reporting work may not always be aware of the distinction between improvement or renovation work and repair and maintenance work in the non-residential sectors.

[4] Except where stated, mixed development schemes are classified to whichever sector provides the majority (i.e. over 50%) of finance.

5. Occupational Groups

Occupational group
Description, SOC (2000) reference.

Senior, executive and business process managers
Directors and chief executives of major organisations, 1112
Senior officials in local government, 1113
Financial managers and chartered secretaries, 1131
Marketing and sales managers, 1132
Purchasing managers, 1133
Advertising and public relations managers, 1134
Personnel, training and industrial relations managers, 1135
Office managers, 1152
Civil service executive officers, 4111
Property, housing and land managers, 1231
Information and communication technology managers, 1136
Research and development managers, 1137
Customer care managers, 1142
Storage and warehouse managers, 1162
Security managers, 1174
Natural environment and conservation managers, 1212
Managers and proprietors in other services nec*, 1239

Construction managers
Production, works and maintenance managers, 1121
Managers in construction, 1122
Quality assurance managers, 1141
Transport and distribution managers, 1161
Recycling and refuse disposal managers, 1235
Managers in mining and energy, 1123
Occupational hygienists and safety officers (H&S), 3567
Conservation and environmental protection officers, 3551

Non-construction professional, technical, IT, and other office-based staff (excl. managers)
IT operations technicians, 3131
IT user support technicians, 3132
Estimators, valuers and assessors, 3531
Finance and investment analysts/advisers, 3534
Taxation experts, 3535
Financial and accounting technicians, 3537
Vocational and Industrial trainers and instructors, 3563
Business and related associate professionals nec*, 3539
Legal associate professionals, 3520
Inspectors of factories, utilities and trading standards, 3565
Software professionals, 2132
IT strategy and planning professionals, 2131
Estate agents, auctioneers, 3544
Solicitors and lawyers, judges and coroners, 2411
Legal professionals nec*, 2419
Chartered and certified accountants, 2421
Management accountants, 2422
Management consultants, actuaries, economists and statisticians, 2423
Receptionists, 4216
Typists, 4217
Sales representatives, 3542
Civil Service administrative officers and assistants, 4112
Local government clerical officers and assistants, 4113
Accounts and wages clerks, book-keepers, other financial clerks, 4122
Filing and other records assistants/clerks, 4131
Stock control clerks, 4133
Database assistants/clerks, 4136
Telephonists, 4141
Communication operators, 4142
General office assistants/clerks, 4150
Personal assistants and other secretaries, 4215
Sales and retail assistants, 7111
Telephone salespersons, 7113
Buyers and purchasing officers (50%), 3541
Marketing associate professionals, 3543
Personnel and industrial relations officers, 3562
Credit controllers, 4121
Market research interviewers, 4137
Company secretaries (excluding qualified chartered secretaries), 4214
Sales related occupations nec*, 7129
Call centre agents/operators, 7211
Customer care occupations, 7212
Elementary office occupations nec*, 9219

Wood trades and interior fit-out
Carpenters and joiners, 5315
Pattern makers, 5493
Paper and wood machine operatives, 8121
Furniture makers, other craft woodworkers, 5492
Labourers in building and woodworking trades (9%), 9121
Construction trades nec* (25%), 5319

Bricklayers
Bricklayers, masons, 5312

Building envelope specialists
Construction trades nec* (50%), 5319
Labourers in building and woodworking trades (5%), 9121

Painters and decorators
Painters and decorators, 5323
Construction trades nec* (5%), 5319

Plasterers and dry liners
Plasterers, 5321

Roofers
Roofers, roof tilers and slaters, 5313

Floorers
Floorers and wall tilers, 5322

Glaziers
Glaziers, window fabricators and fitters, 5316
Construction trades nec* (5%), 5319

Specialist building operatives nec*
Construction operatives nec* (80%), 8149
Construction trades nec* (5%), 5319
Industrial cleaning process occupations, 9132

Scaffolders
Scaffolders, stagers, riggers, 8141

Plant operatives
Crane drivers, 8221
Plant and machine operatives nec*, 8129
Transport operatives nec*, 8219
Fork-lift truck drivers, 8222
Mobile machine drivers and operatives nec*, 8229
Agricultural machinery drivers, 8223

Plant mechanics/fitters
Metal working production and maintenance fitters, 5223
Motor mechanics, auto engineers, 5231
Labourers in process and plant operations nec*, 9139
Tool makers, tool fitters and markers-out, 5222
Vehicle body builders and repairers, 5232
Auto electricians, 5233
Vehicle spray painters, 5234
Tyre, exhaust and windscreen fitters, 8135

Steel erectors/structural
Steel erectors, 5311
Welding trades, 5215
Sheet metal workers, 5213
Metal plate workers, shipwrights and riveters, 5214
Construction trades nec* (5%), 5319
Smiths and forge workers, 5211
Moulders, core makers, die casters, 5212
Metal machining setters and setter-operators, 5221

Labourers nec*
Labourers in building and woodworking trades (80%), 9121

Electrical trades and installation
Electricians, electrical fitters, 5241
Electrical/electronic engineers nec*, 5249
Telecommunications engineers, 5242
Lines repairers and cable jointers, 5243
TV, video and audio engineers, 5244
Computer engineers, installation and maintenance, 5245

Plumbing and heating, ventilation, and air conditioning trades
Plumbers and HVAC trades, 5314
Pipe fitters, 5216
Labourers in building and woodworking trades (6%), 9121
Construction trades nec* (5%), 5319

Logistics
Heavy goods vehicle drivers, 8211
Van drivers, 8212
Packers, bottlers, canners, fillers, 9134
Other goods handling and storage occupations nec*, 9149
Buyers and purchasing officers (50%), 3541
Transport and distribution clerks, 4134
Security guards and related occupations, 9241

Civil engineering operatives nec*
Road construction operatives, 8142
Rail construction and maintenance operatives, 8143
Quarry workers and related operatives, 8123
Construction operatives nec* (20%), 8149
Labourers in other construction trades nec*, 9129

Non-construction operatives
Metal making and treating process operatives, 8117
Process operatives nec*, 8119
Metal working machine operatives, 8125
Water and sewerage plant operatives, 8126
Assemblers (vehicle and metal goods), 8132
Routine inspectors and testers, 8133
Assemblers and routine operatives nec*, 8139
Stevedores, dockers and slingers, 9141
Hand craft occupations nec*, 5499
Elementary security occupations nec*, 9249
Cleaners, domestics, 9233
Road sweepers, 9232
Gardeners and groundsmen, 5113
Caretakers, 6232

Civil engineers
Civil engineers, 2121

Other construction professionals and technical staff
Mechanical engineers, 2122
Electrical engineers, 2123
Chemical engineers, 2125
Design and development engineers, 2126
Production and process engineers, 2127
Planning and quality control engineers, 2128
Engineering professional nec*, 2129
Electrical/electronic technicians, 3112
Engineering technicians, 3113
Building and civil engineering technicians, 3114
Science and engineering technicians nec*, 3119
Architectural technologists and town planning technicians, 3121
Draughtspersons, 3122
Quality assurance technicians, 3115
Town planners, 2432
Electronics engineers, 2124
Building inspectors, 3123
Scientific researchers, 2321

Architects
Architects, 2431

Surveyors
Quantity surveyors, 2433
Chartered surveyors (not Quantity surveyors), 2434

* not elsewhere classified

6. CSN website and contact details

The CSN website – www.cskills.org/csn

The CSN website functions as a public gateway for people wishing to access the range of Labour Market Intelligence (LMI) reports and research material regularly produced by the CSN.

The main UK report, along with the twelve LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while other CITB-ConstructionSkills research reports are also freely available on our website.

Having access to this range of labour market intelligence and trend insight allows industry, Government, regional agencies and key stakeholders to:

- pinpoint the associated, specific, skills that will be needed year by year
- identify the sectors which are likely to be the strongest drivers of output growth in each region and devolved nation
- track the macro economy
- understand how economic events impact on regional and devolved nations' economic performance
- highlight trends across the industry such as national and regional shifts in demand
- plan ahead and address the skills needs of a traditionally mobile workforce
- understand the levels of qualified and competent new entrants required into the workforce.

The website also contains further information about:

- how the CSN functions
- the CSN Model approach
- how the Model can be used to explore scenarios
- how to contact the CSN team
- related CITB-ConstructionSkills research
- how to become a member of the network.

The CSN website can be found at:
www.cskills.org/csn

CSN members area

While the public area of the CSN website is the gateway to the completed LMI and research reports, being a member of the CSN offers further benefits.

As a CSN member you will be linked to one of the Observatory groups, which play a vital role in being able to feed back observations, knowledge and insight on what is really happening on the ground in every UK region and nation. This feedback is used to fine tune the assumptions and data that go into the forecasting programme such as:

- details of specific projects
- demand within various types of work or sectors
- labour supply
- inflows and outflows across the regions and devolved nations.

CSN members therefore have:

- early access to forecasts
- the opportunity to influence and inform the data
- the ability to request scenarios that could address 'What would happen if…' types of questions using the Model.

Through the members' area of the CSN website, members can:

- access observatory-related material such as meeting dates, agendas, presentations and notes
- download additional research material
- comment/feedback to the CSN team.

As the Observatory groups highlight the real issues faced by the industry in the UK, we can more efficiently and effectively plan our response to skills needs. If you would like to contribute your industry observations, knowledge and insight to this process and become a member of the CSN, we would be delighted to hear from you.

Contact details

For further information about the CSN website, enquiries relating to the work of the CSN, or to register your interest in joining the CSN as a member, please contact us at:
csn@cskills.org

For more information about the Construction Skills Network, contact:

Lee Bryer
Research and Development
Operations Manager
0344 994 4400
lee.bryer@cskills.org

www.cskills.org