

# Construction Skills Network

Scotland 2013-2017

Labour Market Intelligence





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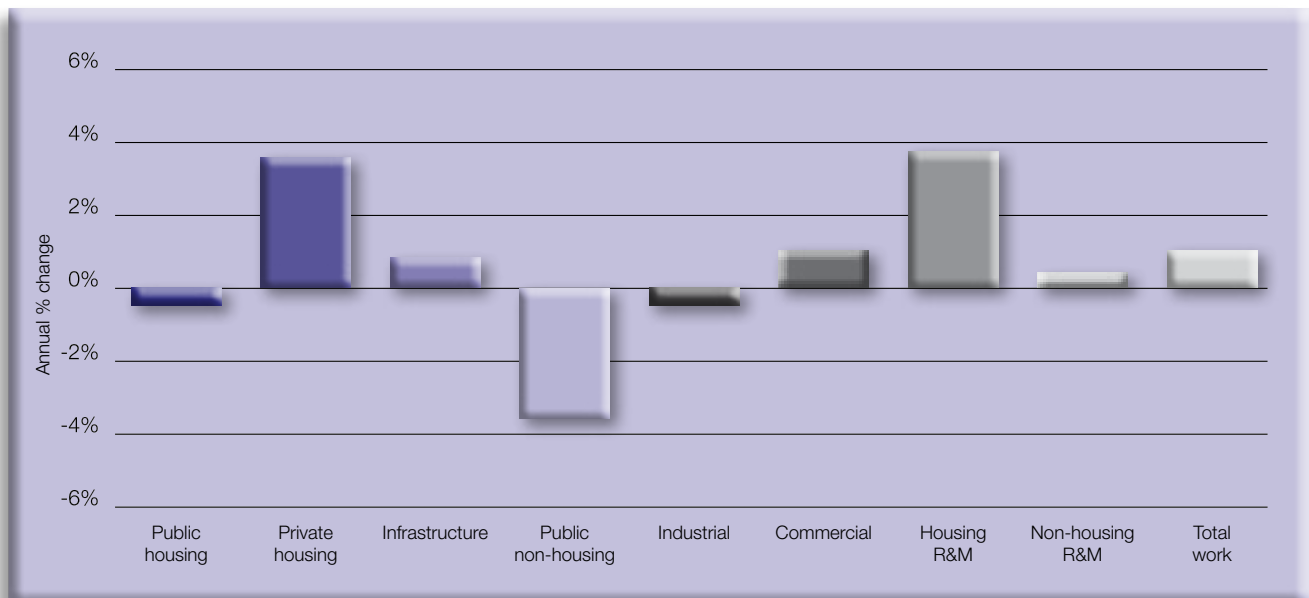
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# 1. Summary – Scotland

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%.

**Annual average construction output growth 2013-2017 – Scotland**



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



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

## 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 grow 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 more than 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 is 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.

## Regional comparisons 2013-2017

	Annual average % change in output	Change in total employment	Total ARR
North East	1.7%	-7,950	690
Yorkshire and Humber	-0.9%	-16,110	1,910
East Midlands	-0.4%	-8,590	1,860
East of England	1.2%	6,550	5,820
Greater London	1.9%	10,060	1,180
South East	1.1%	-12,780	4,570
South West	1.3%	-12,400	2,910
Wales	2.7%	-7,080	2,950
West Midlands	-1.4%	-23,210	830
Northern Ireland	1.7%	-5,040	660
North West	-0.4%	-14,500	2,870
Scotland	1.1%	-10,690	2,800
<b>UK</b>	<b>0.8%</b>	<b>-101,740</b>	<b>29,050</b>

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

# 2. The outlook for construction in Scotland

## 2.1 Construction output in Scotland – overview

Like the rest of the UK, Scotland's construction industry has been on a bit of a rollercoaster ride over the past few years. A steep fall of 15% in output in 2009 was followed by a rise of 17% in 2010. However the return to growth has proved short-lived, with output falling by 5% to an estimated £9.53bn in 2005 prices, 10% below its 2006 peak.

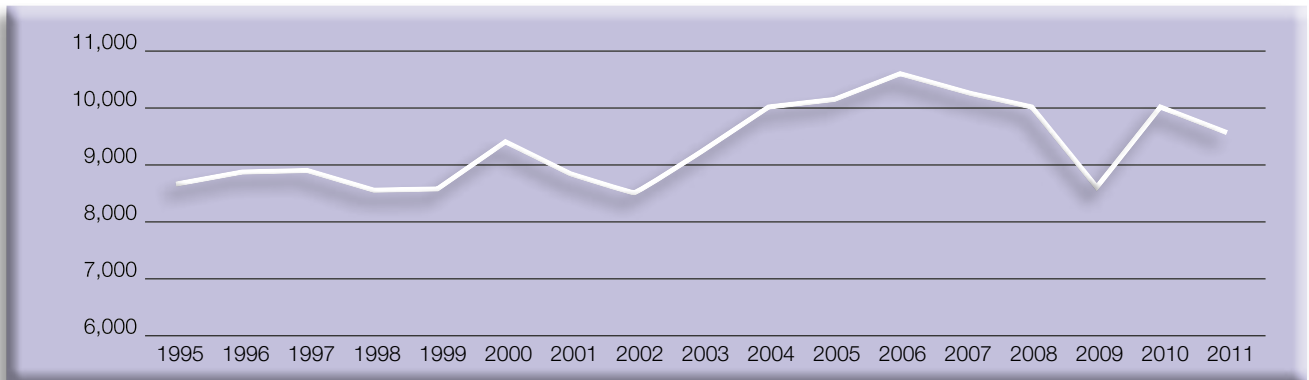
Infrastructure was the worst performing sector with a 22% decline as work completed on the Airdrie to Bathgate rail link and wound down on the M74 completion project, and activity on the Forth Replacement Crossing didn't get going until towards the end of the year.

Weak growth conditions for the economy as a whole contributed to further falls in the private housing (-7%), industrial (-13%) and commercial (-3%) sectors.

In contrast, the public housing and public non-housing sectors saw output rise in 2011, but given financial constraints going forward, it could be the last year of growth for some time.

The repair and maintenance (R&M) sectors performed better than new work, the former with a fall of 2% in output compared with the latter's 6%. Housing R&M fell back by 4% in 2011 after a 10% increase in 2010, reflecting consumer retrenchment in 2011 after a relatively buoyant and optimistic 2010.

## Construction output 1995-2011 – Scotland



Source: ONS ref. CSN Explained, Section 3, Note: 1

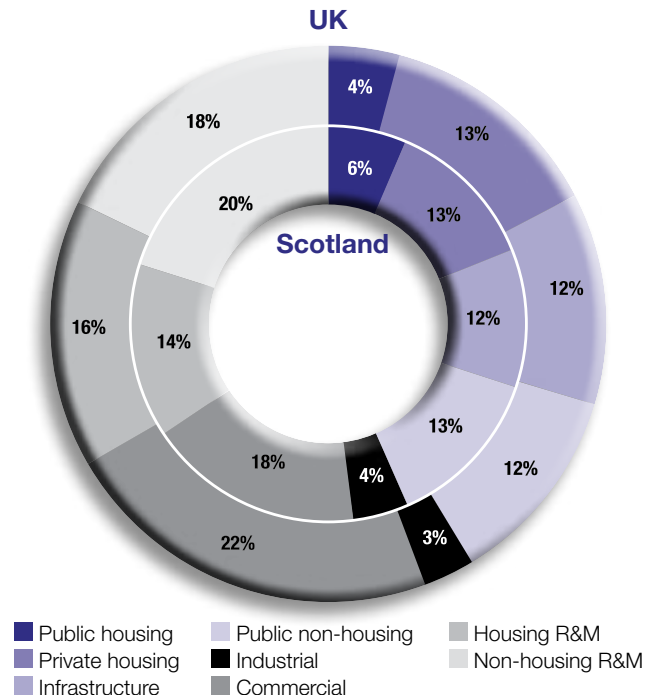
## 2.2 Industry structure

The diagram, construction industry structure 2011 – UK vs. Scotland, illustrates the sector breakdown of construction in Scotland compared to that in the UK as a whole. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

The main difference in the structure of the Scottish construction industry compared to the UK as a whole in 2011 was the smaller share that commercial construction took of total output in Scotland (18%) compared with the UK as a whole (22%). It is usually the case that the commercial construction sector accounts for a smaller proportion of output north of the border than across the UK and the differential has been around the 5% mark for 2010 and 2011. For all other sectors, the differential in shares did not exceed 2% in 2011.

There was not a great deal of change in the relative importance of each construction sector across Scotland between 2010 and 2011. The infrastructure sector saw its share of output drop by 2% from 14% to 12% and public non-housing experienced a 2% increase, from 11% to 13% over the same period.

## Construction industry structure 2011 – UK vs. Scotland



Source: ONS, Experian

## 2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2013-2017) provides an indication of the construction sectors in which demand is likely to be strongest.

## 2.4 Economic structure

Gross Value Added (GVA) in Scotland totalled just under £105bn in 2011 in 2009 prices, an increase of 1.3% on the previous year and the second year of growth since the crash in 2009. GVA growth in Scotland was slightly better than the UK as a whole (1.1%), which means that Scotland's share of UK GVA rose slightly, from 8% to 8.1%.

The top performing sectors in 2011 were professional and other public services, with growth of nearly 8%, the other being construction. The manufacturing sector saw

a modest 1.4% increase in GVA, while in contrast public services experienced a decline of the same magnitude, not surprisingly given the pressures on public budgets.

Despite its fall in activity, the public services sector remains the largest sector in the Scottish economy, accounting for 21.3% of GVA in 2011. The share of public services in Scotland's economy actually grew between 2007 and 2010 before dropping slightly in 2011. Professional and other private services took the second largest share in 2011, 20.2%, and its share has been steadily growing over the past decade. Manufacturing took 12.7% of Scottish GVA in 2011 and its share has been generally rising since 2007, although the long-term trend has still been downward – it accounted for 14.3% in 2000.

### Economic structure – Scotland (£ billion, 2009 prices)

Selected sectors	Actual 2011	Forecast <i>Annual % change, real terms</i>					
		2012	2013	2014	2015	2016	2017
Public services	22.3	1.5	0.3	0.7	0.7	0.8	1.1
Professional and other private services	21.2	1.5	0.5	1.7	2.3	2.6	2.7
Manufacturing	13.3	-1.4	1.2	1.9	1.5	1.2	1.0
Wholesale and retail	10.3	-0.4	0.6	1.9	2.5	2.4	2.3
Finance and insurance	8.1	-0.5	0.5	1.2	2.7	3.5	3.7
<b>Total Gross Value Added (GVA)</b>	<b>104.9</b>	<b>-0.5</b>	<b>0.3</b>	<b>1.5</b>	<b>2.0</b>	<b>2.1</b>	<b>2.1</b>

Note: Top 5 sectors, excluding construction  
Source: Experian  
ref. CSN Explained, Section 3, Note 3

## 2.5 Forward looking economic indicators

After growth in 2010 and 2011, the Scottish economy is estimated to have gone back into recession in 2012, albeit mildly, with GVA dropping by 0.5%. Over the five years to 2017 Scottish GVA is projected to grow at an annual average rate of 1.6%, a little below that for the UK as a whole, of 1.9%.

No sectors are expected to experience robust growth over the period but a number should see expansion of 2% or above over the forecast period, with the strongest sectors being transport and storage, accommodation, food services and recreation, and finance and insurance, all with annual average rates of 2.3%. In contrast public services only grows by a weak 0.7% a year on average and by 2017 is overtaken by professional and other private services as the largest sector in the Scottish economy.

Real household disposable income (RHDI) fell sharply in Scotland in 2011, by over 2%. However it is expected to

have returned to mild growth in 2012, but it will not be until 2014 that annual expansion exceeds 1%. Household spending is estimated to have fallen again in 2012 for the second year running, suggesting that consumers have continued to pay down debt and/or save during the course of the year. It is projected to return to growth in 2013, but it will be 2014 at least before its growth rate once again exceeds that of RHDI.

The LFS/ILO unemployment rate for Scotland fell in 2011 to just over 8%, but is estimated to have increased again in 2012 to 8.2%. It is expected to peak at around 8.4% in 2013 before falling quite sharply thereafter.

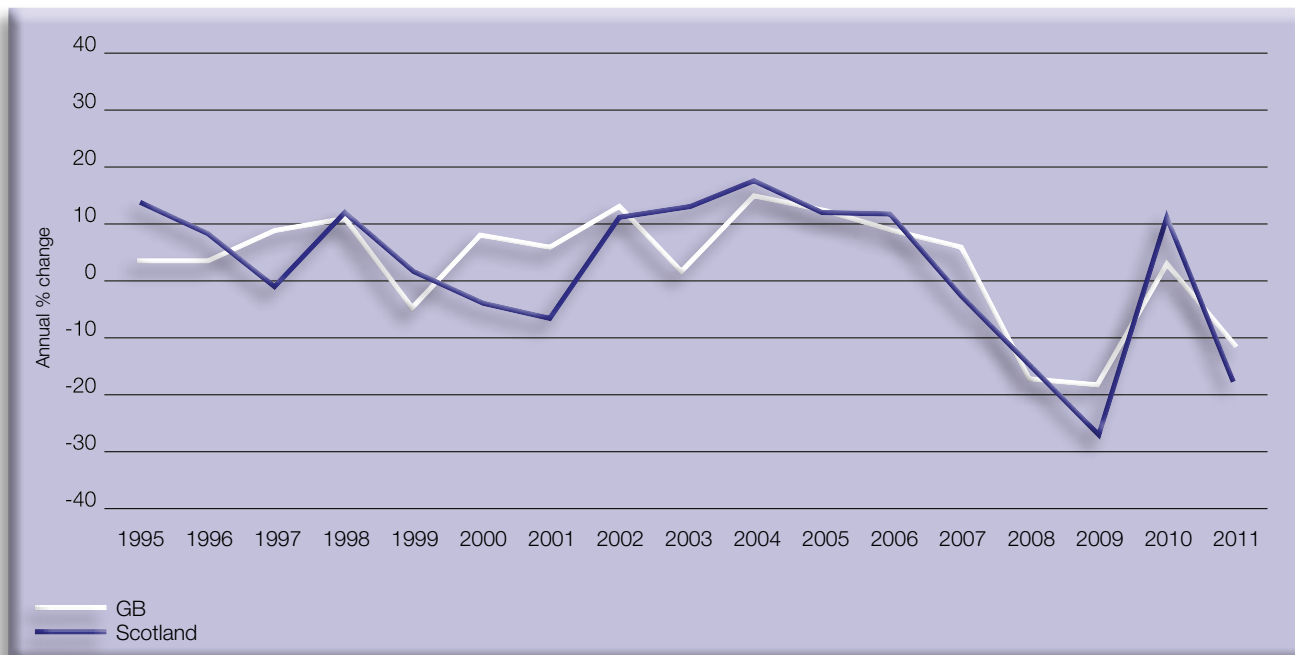
According to the ONS, average mix-adjusted house prices in Scotland rose by 3% to £171,390 on an annualised basis in 2011. However, no real growth is expected for 2012 and only very moderate annual rises are projected thereafter, of around 2% on average to 2017.

### Economic indicators – Scotland (£ billion, 2009 prices – unless otherwise stated)

	Actual 2011	Forecast <i>Annual % change, real terms</i>					
		2012	2013	2014	2015	2016	2017
Real household disposable income	75.4	0.6	0.7	1.5	1.7	1.8	2.2
Household spending	76.5	-0.4	0.5	1.6	1.9	2.1	2.2
Working age population (000s and as % of all)	3,275	62.4%	62.8%	63.2%	63.6%	63.8%	64.0%
House prices (£, current prices)	171,390	0.0	0.2	1.4	2.2	2.3	2.6
LFS unemployment (millions)	0.22	2.7	2.9	-7.5	-7.8	-5.2	-7.3

Source: ONS, DCLG, Experian

## New construction orders growth 1995-2011 – Scotland vs. GB



Source: ONS  
ref. CSN Explained, Section 3, Note 4

### 2.6 New construction orders – overview

The increase in new orders in 2010 after three years of decline proved to be short-lived, with their level falling by nearly 19% in 2011 to £3.88bn in current prices, their lowest level since 1995.

Constraints on public expenditure led to large falls in new orders for the public housing (-32%) and public non-housing sectors (-42%), while the industrial and commercial sectors have struggled to get new contracts let despite a better economic environment in 2010 and 2011. Consumer and business confidence remained fragile in the light of eurozone problems and many private investors and developers are holding back on new projects until they see evidence of sustained recovery.

Only the private housing sector saw new orders grow with a strong 27% increase to £983m in current prices, but they were bouncing back from a very low base and even in 2011 were only 47% of their 2005 peak.

### 2.7 New construction orders – current situation

New orders in the first six months of 2012 totalled £2.05bn in current prices, 20% up on what was a very poor second half of 2011, but still 6% down on the corresponding period of 2011.

The strongest sector in new orders terms in the first half of 2012 was infrastructure, with their level around double that in both halves of 2011. All other sectors, bar private housing, saw growth compared with the second half of 2011 but decline against the first half.

The private housing sector, after a strong 2011, has seen its level of new orders in the first half of 2012 slip by 31% compared with the previous half-year and by 23% against the corresponding period of 2011.

### New work construction orders – Scotland (£ million, current prices)

	Actual 2011	Annual % change				
		2007	2008	2009	2010	2011
Public housing	345	19.8	10.9	-9.9	29.7	-31.8
Private housing	983	3.1	-27.0	-40.3	7.9	27.5
Infrastructure	640	42.2	56.0	-36.6	13.2	-27.0
Public non-housing	770	-6.9	-1.7	10.7	15.4	-42.5
Industrial	296	-9.7	-16.4	-32.0	46.9	-11.0
Commercial	850	-14.3	-37.5	-39.2	-6.4	-10.1
<b>Total new work</b>	<b>3,884</b>	<b>-3.0</b>	<b>-15.0</b>	<b>-27.4</b>	<b>11.6</b>	<b>-18.6</b>

Source: ONS  
ref. CSN Explained, Section 3, Note 4



## 2.8 Construction output – short-term forecasts (2013-2014)

Office for National Statistics (ONS) output statistics are published in current prices and are therefore inclusive of any inflationary effect. At the time of writing, ONS construction output statistics at a regional level were only available for the first two quarters of 2012.

Construction output in Scotland in the first six months of 2012 totalled £4.66bn in current prices, 13% down on the previous half-year and 15% lower than in the corresponding period of 2011. Both the new work and R&M sectors experienced declines, but they were heavier in the former than the latter.

The public housing and public non-housing sectors were particularly poor in the first half of 2012, with output in both falling by 25% half-year on half-year. The weakness of activity in the first half of 2012 indicates a big fall in output for the year as a whole, estimated at 15% in constant prices. This will leave output at the start of the 2013-2017 forecast period nearly 24% below its 2006 peak.

The short-term prospects for construction activity in Scotland are poor, with output over the 2013-2014 period forecast to decline at an annual average rate of 0.9%. However this disguises a return to growth in 2014 after a further fall in output in 2013.

Public non-housing output in Scotland continued to show growth in 2011, while in the UK as a whole the effects of public expenditure cuts began to be seen. However, the inevitable decline was only delayed, with a big fall estimated for 2012 and the decline continuing over the next two years. Capital expenditure on health and education in Scotland is due to fall by 38% between 2012/13 and 2014/15, from £600.3m to £372.1m. The effects of the reduced funding could already be seen in the new orders data, which slowed their level down nearly 43% in 2011, although they bounced back a little in the first half of 2012.

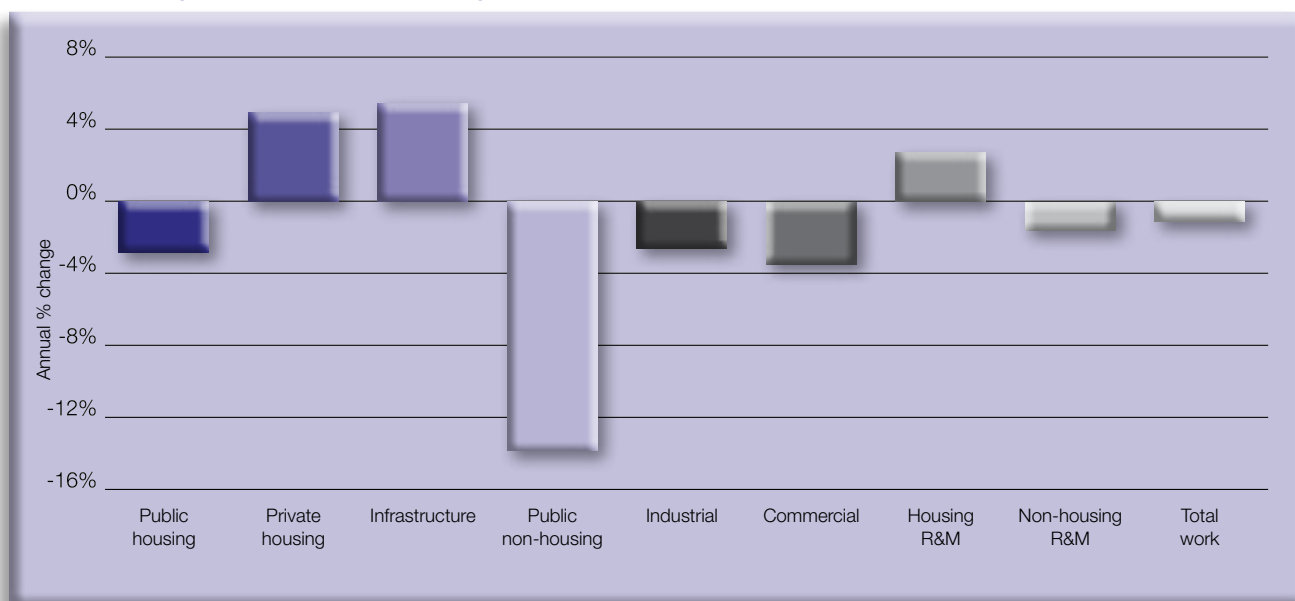
In contrast the decline in public housing output is expected to average a much more modest 2.6% over the early part of the forecast period. However, this will be after a decline of around 30% in output in the sector in 2012. Public housing starts were down by 7% in the first three quarters of 2012 compared to the same period the previous year, indicating that completions are likely to continue to fall into 2013.

The strongest growth in activity in the short term is likely to be in infrastructure, with a projected annual average growth rate of 5.2% in 2013-2014. The 2011 Scottish Infrastructure Investment Plan identified nine major road and rail projects already on site or due to begin by the end of 2014, with a total capital value ranging between £3.9bn and £4.3bn. The largest of these projects is the Forth Replacement Crossing, already started and due to complete in 2016. Close behind is the £1.1bn programme of improvements to the rail link between Edinburgh and Glasgow, which could continue to 2019.

By the end of 2012, private housing output in Scotland in real terms will have been declining for seven years, taking its level down to barely 40% of its 2005 peak. It is in this context that the seemingly strong average growth rate of 4.7% a year for 2013-2014 should be placed. However, the sector does look like it is finally turning the corner, with starts up by 22% in the first half of 2012.

For the other private sectors, industrial and commercial the short-term prognosis is poor. The Bank of Scotland's PMI for manufacturing and services remains weak and manufacturing output is expected to decline by 2% this year. Therefore there is little incentive for manufacturers to invest in new capacity in the short term. On the commercial side, while Aberdeen, Edinburgh and Glasgow have experienced rising take-up and falling availability in their respective offices markets, the development pipeline remains weak with little indication of significant increase in the short term.

### Annual average construction output growth 2013-2014 – Scotland



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

## Construction output – Scotland (£ million, 2005 prices)

	Actual	Forecast annual % change			Annual average
	2011	2012	2013	2014	2013-14
Public housing	602	-31%	-10%	5%	-2.6%
Private housing	1,192	-4%	2%	7%	4.7%
Infrastructure	1,117	-17%	11%	0%	5.2%
Public non-housing	1,250	-26%	-19%	-9%	-14.1%
Industrial	414	-16%	-6%	1%	-2.5%
Commercial	1,681	-21%	-8%	2%	-3.1%
New work	6,256	-18%	-4%	1%	-1.5%
Housing R&M	1,337	-1%	2%	3%	2.4%
Non-housing R&M	1,935	-15%	-1%	-2%	-1.5%
<b>Total R&amp;M</b>	<b>3,271</b>	<b>-9%</b>	<b>0%</b>	<b>0%</b>	<b>0.2%</b>
<b>Total work</b>	<b>9,528</b>	<b>-15%</b>	<b>-2%</b>	<b>1%</b>	<b>-0.9%</b>

Source: Experian  
ref. CSN Explained, Section 3, Notes 1 and 2

### 2.9 Construction output – long-term forecasts (2013-2017)

Prospects should improve for the Scottish construction industry as we head into the medium term, with the annual average decline of 0.9% in 2013-2014 turning into an annual average increase of 1.1% over the whole of the five-year forecast period. Falls in public sector construction should start to abate while better economic conditions will provide the framework for growth in the private sectors.

The strongest growth is projected for the housing R&M sectors, with an annual average rise of 3.7%. Scotland has been leading the way in the UK in applying energy efficiency measures and microgeneration installations to its housing stock, not least because of the relative severity of winter weather north of the border, and this emphasis in sustainability is expected to continue in the forecast period. According to Ofgem, as of June 2012, Scotland had 113.44MW of microgeneration capacity installed, of which 50% was photovoltaic, 32% wind and 18% hydro. This represented about 9.1% of the GB total. Further growth in the retrofitting market, both domestic and non-domestic, could be driven by the recent news that the changes to the building regulations that the Scottish Government will publish in January 2013 for introduction in 2014 could set very stringent carbon emission reduction targets compared with current standards.

The other sector with a reasonably strong growth rate over the forecast period is the private housing one, with a projected annual average increase of 3.5% to 2017. Private housing completions sunk to below 10,000 in 2011 in Scotland, their lowest level since the current data series began in 1980 and 2012 doesn't look like it will be much better. As reported in the previous section, private housing starts in the first half of 2012 have shown a strong uplift and the hope is that the sector has finally started to turn the corner and activity is at last heading upwards after a seven-year slide. There are some very big residentially led projects in the pipeline, such as the plan to develop a

new sustainable community in the Portlethen-Stonehaven corridor near Aberdeen. The project will consist of up to 6,000 sustainable homes and community facilities and could start as early as the end of this year. There are also plans for a £500m development of the Ardeer peninsula in North Ayrshire, including 1,300 new homes as well as leisure, commercial and light industrial facilities. The indicative start date for this project is the second half of 2014.

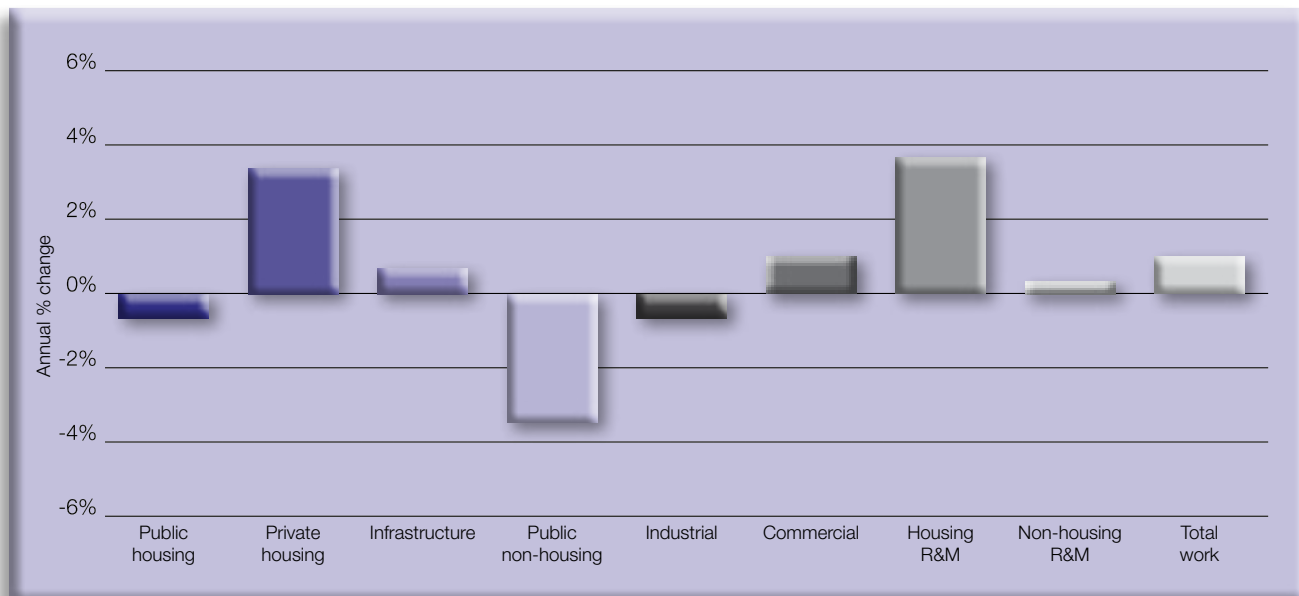
However, the proposed changes to building standards mentioned above, while they may be a driver for R&M work, could add to the costs of building and therefore impact negatively on the new house building market, according to Homes for Scotland.

The worst performing sector is expected to be the public non-housing one, with an annual average output decline of 3.5% over the five years to 2017. Capital expenditure on health and education is due to fall by 38% between 2012/13 and 2014/15 according to the Scottish Government's budget, from around £602m to £372m. This masks a much bigger decline in health capital spending (42%) than education (28%). Most of the remaining fall in public non-housing output is expected to be seen in the first two years of the forecast period, with the sector starting to grow again from 2015 as innovative forms of financing such as non-profit distribution (NPD) and tax incremental financing (TIF) gain more traction. The next tranche of 30 new schools was recently announced under the £1.25bn Schools for the Future programme, with work on 12 expected to start within the next 12 to 18 months.

Small annual average rises or declines are projected for the remaining sectors. Work continues apace on the Forth Replacement Crossing, with the project on budget and scheduled to open in 2016. The final hurdle looks to have been cleared for the Aberdeen Western Peripheral Route (AWPR) with the dismissal of the final appeal by the UK Supreme Court in October and the timetable for the project is for start on site in autumn 2014 with completion in spring 2018.

Construction output is estimated at £8.07bn (2005 price basis) for 2012, the lowest annual figure since 1991

## Annual average construction output growth 2013-2017 – Scotland



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

## Construction output – Scotland (£ million, 2005 prices)

	Estimate	Forecast annual % change					Annual average 2013-17
		2012	2013	2014	2015	2016	
Public housing	417	-10%	5%	4%	0%	0%	-0.4%
Private housing	1,148	2%	7%	5%	3%	1%	3.5%
Infrastructure	932	11%	0%	1%	-3%	-4%	0.7%
Public non-housing	931	-19%	-9%	7%	6%	0%	-3.5%
Industrial	346	-6%	1%	3%	0%	1%	-0.4%
Commercial	1,332	-8%	2%	5%	5%	1%	0.9%
New work	5,107	-4%	1%	4%	2%	0%	0.6%
Housing R&M	1,317	2%	3%	6%	5%	2%	3.7%
Non-housing R&M	1,646	-1%	-2%	2%	2%	2%	0.5%
<b>R&amp;M</b>	<b>2,963</b>	<b>0%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>2.0%</b>
<b>Total work</b>	<b>8,070</b>	<b>-2%</b>	<b>1%</b>	<b>4%</b>	<b>3%</b>	<b>1%</b>	<b>1.1%</b>

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

### 2.10 Beyond 2017

Focus post-2017 is likely to continue to be on renewable energy generation and transport improvement projects. Scotland is likely to be a major player in the energy from wind market. Of the major wind farm projects currently in the pipeline to 2020, Scotland is projected to account for 55% of onshore ones and 31% of offshore ones by value. The largest scheme in the pipeline north of the border is at the Inch Cape site in the Firth of Tay region, where a total of 180 turbines could be built. As yet there is no start date for this project.

On the transport side, the Scottish Government will be looking to take forward rail improvements on the Central Belt-Aberdeen-Inverness axis and on the Highland main line. However, by far the largest transport project over the longer term will be the dualling of the A9 between Dunblane and Inverness, a project that could be worth between £1.5bn and £3bn.

# 3. Construction employment forecasts for Scotland

## 3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41-43, 71.1, and 74.9) in Scotland for 2011, the forecast total employment in 26 occupations and in the industry as a whole between 2013 and 2017. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

Despite the 1.1% annual average growth rate projected for construction output in Scotland, employment 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.

The reason for this extended lag between output starting to rise and employment following suit is, we believe, due to growth in underemployment in the industry in recent years. This is evidenced by the output/employment 'gap' that has developed in a number of regions and devolved nations. Construction output in Scotland has fallen by an estimated 21% between 2007 and 2012 while employment has only fallen by 13%. While this is not the largest output/

employment 'gap' by any means – that title goes to Northern Ireland – it still seems to indicate that there is currently excess capacity in the Scottish construction industry, which will need to be taken up before firms start to consider taking on new staff (specialist requirements excepted). Therefore in a number of regions and devolved nations, particularly away from the greater south east, the normal lag between movements in output and employment is likely to be longer than would normally be the case.

Wood trades and interior fit-out remains the largest construction-specific occupation in Scotland, taking a 12% share of total construction employment, although it has lost share from its peak of 14% in 2006 and 2007. Construction managers form the second largest occupation with a 9% share, followed by electrical trades and installation and other construction professionals and technical staff, both with 7%.

While the overall trend in construction employment is down, 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%).

### Total employment by occupation – Scotland

	Actual 2011	Forecast	
		2013	2017
Senior, executive, and business process managers	9,400	8,680	8,020
Construction managers	20,290	18,520	17,060
Non-construction professional, technical, IT, and other office-based staff	27,110	25,830	24,980
Wood trades and interior fit-out	27,100	25,580	25,850
Bricklayers	6,500	5,820	5,550
Building envelope specialists	4,190	3,790	3,650
Painters and decorators	14,840	13,610	13,080
Plasterers and dry liners	3,130	2,990	3,010
Roofers	5,140	4,570	4,310
Floorers	3,770	3,600	3,690
Glaziers	1,800	1,730	1,750
Specialist building operatives nec*	3,650	3,530	3,450
Scaffolders	2,440	2,130	1,960
Plant operatives	7,380	7,010	6,900
Plant mechanics/fitters	2,530	2,320	2,220
Steel erectors/structural	2,520	2,360	2,310
Labourers nec*	11,670	10,790	10,550
Electrical trades and installation	17,330	16,450	16,080
Plumbing and HVAC trades	12,680	12,130	12,190
Logistics	3,780	3,400	3,100
Civil engineering operatives nec*	9,570	8,560	7,990
Non-construction operatives	2,430	2,400	2,480
Civil engineers	6,430	6,130	6,160
Other construction professionals and technical staff	17,180	16,630	16,470
Architects	4,140	4,000	4,030
Surveyors	6,280	5,700	5,240
<b>Total (SIC 41-43)</b>	<b>199,250</b>	<b>185,800</b>	<b>180,180</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>233,280</b>	<b>218,260</b>	<b>212,080</b>

### 3.2 Annual recruitment requirements (ARR) by occupation

The ARR is a gross requirement that takes into account workforce flows into and out of construction, due to factors such as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, due to the inconsistency 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.

The ARR for the 26 occupations within Scotland's construction industry is illustrated in the table. The figure of 2,800 is indicative of the average requirements per year for the industry, as based on the output forecasts for the region. This takes into account 'churn' i.e. the flows into and out of the industry, excluding training flows.

This is a considerably lower ARR than the 4,480 projected in 2011 for the 2012 to 2016 period, and reflects the fact that the ARR is entirely a replacement requirement over the 2013 to 2017 period. The ARR represents 1.3% of projected base 2013 employment, slightly higher than the UK average (1.2%).

In both absolute and relative terms the largest requirement is expected to be for plant operatives, at 490 and 7% of base 2013 employment in that occupation. There is one other occupation that has an ARR in excess of 5% of base 2013 employment glaziers at 5.2%. An ARR of over 5% could indicate an occupation where skills shortages may become an issue over the forecast period.

CITB-ConstructionSkills' latest *Workforce Mobility and Skills in the UK Construction Sector* study provides some interesting data on the geographic mobility of the UK construction workforce. According to the results of the survey, 82% of the Scottish workforce originated in the country, the fourth highest indigenous share after Northern Ireland, Wales and the North East of England. 6% of the Scottish workforce came from outside of the UK, with small shares originating from the North East, West Midlands and London (2%), and Northern Ireland, the South West and the South East (1%).

Please note that all of the ARR's presented in this section are employment requirements and not necessarily training requirements. This is because some new entrants to the construction industry, such as skilled migrants or those from other industries where similar skills are already used, will be able to work in the industry without the need for significant retraining.

Non-construction operatives is a diverse occupational group including all of the activities under the SICs 41-43, 71.1, and 74.9 umbrella that cannot be classified elsewhere, such as cleaners, elementary security occupations nec, and routine inspectors and testers. The skills required in these occupations are highly transferable to other industries and forecasting such movement is hazardous given the lack of robust supportive data. Therefore the ARR for non-construction operatives is not published.

Finally, for certain occupations there will be no appreciable requirement over the forecast period, partly due to the recession creating a 'pool' of excess labour.

#### Annual recruitment requirement by occupation – Scotland

	2013-2017
Senior, executive, and business process managers	80
Construction managers	280
Non-construction professional, technical, IT, and other office-based staff	140
Wood trades and interior fit-out	440
Bricklayers	130
Building envelope specialists	-
Painters and decorators	-
Plasterers and dry liners	70
Roofers	-
Floorers	160
Glaziers	90
Specialist building operatives nec*	90
Scaffolders	<50
Plant operatives	490
Plant mechanics/fitters	-
Steel erectors/structural	<50
Labourers nec*	210
Electrical trades and installation	160
Plumbing and HVAC Trades	-
Logistics	170
Civil engineering operatives nec*	110
Non-construction operatives	-
Civil engineers	140
Other construction professionals and technical staff	-
Architects	-
Surveyors	-
<b>Total (SIC 41-43)</b>	<b>2,660</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>2,800</b>

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

## 4. Comparisons across the UK


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

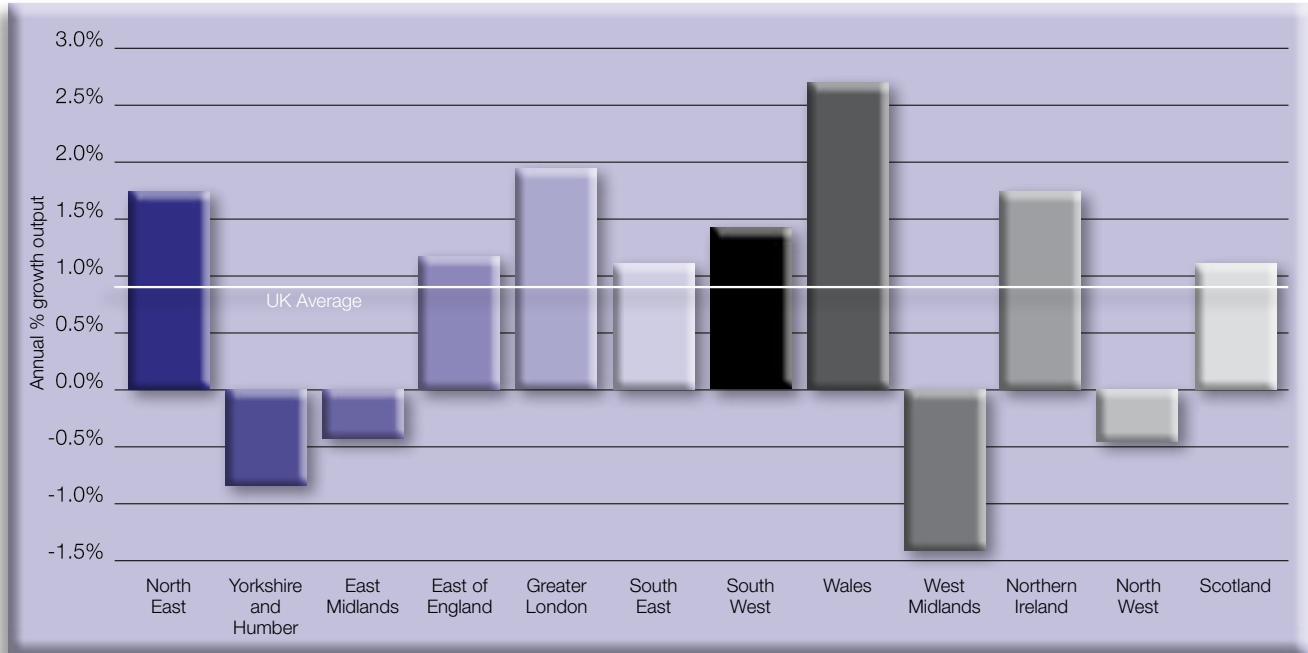
sectors are much more labour-intensive than others, and the relative performances of the sectors within overall output impacts on the prospects for employment across the UK. For example, Wales' output growth is largely predicated on the new nuclear power station at Wylfa and new nuclear build is one 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.

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.



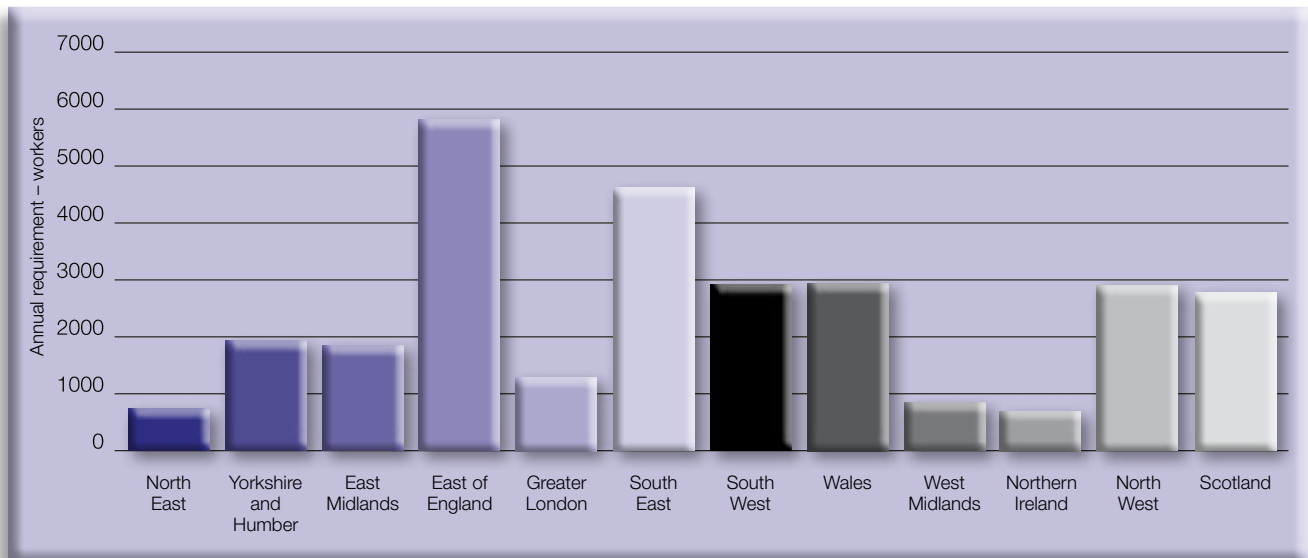
Scotland's ARR, at 2,800 for the five years to 2017, is substantially lower than the 4,480 predicted for the 2012 to 2016 period

### Annual average output growth by region 2013-2017



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

### Annual recruitment requirement (ARR) by region 2013-2017



Source: CSN, Experian



# 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.

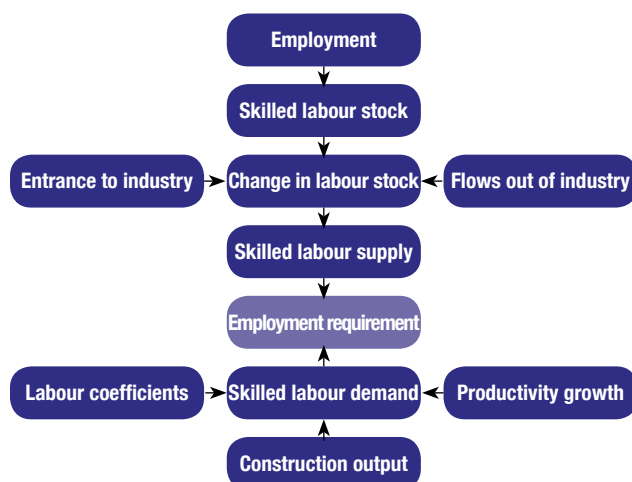
The main reason for outflow is likely to be transfer to other industries.

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:

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

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 Classifications (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, Domestic, 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.

# 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<sup>1</sup>**

### **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.

<sup>1</sup> 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<sup>2</sup>

### 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<sup>3</sup>.

## 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<sup>4</sup>.



<sup>2</sup> 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'.

<sup>3</sup> 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.

<sup>4</sup> 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, staggers, 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](http://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](http://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](mailto:csn@cskills.org)**





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