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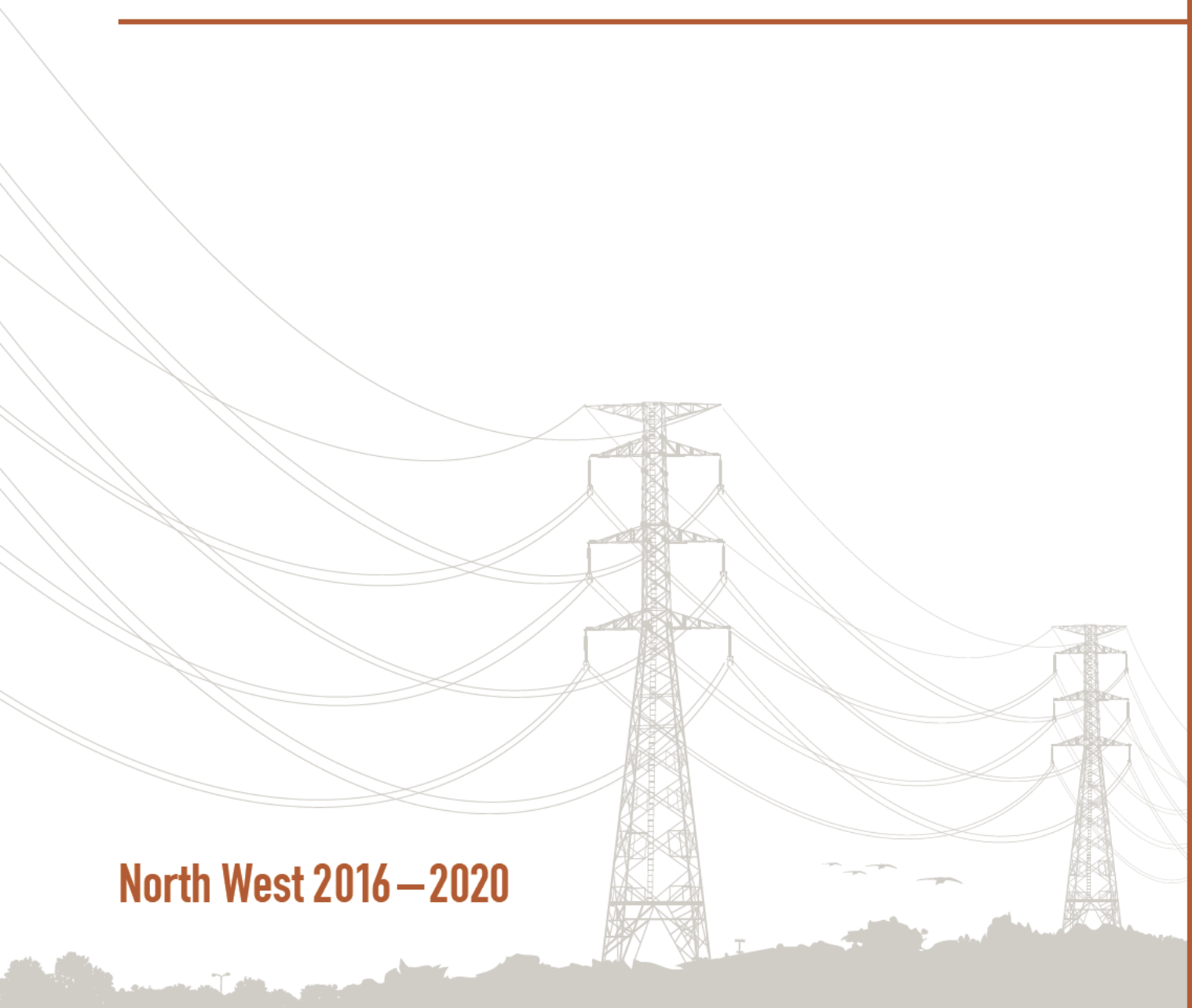
INDUSTRY INSIGHTS

Construction Skills Network Forecasts 2016–2020



North West 2016–2020

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TABLES AND CHARTS

CSN EXPLAINED

SECTION 1

SUMMARY – NORTH WEST

2.6%

The region's total construction output is forecast to grow by an annual average of 2.6% over the next five years. Construction employment is anticipated to increase by an average yearly rate of 1.6% and by 2020 it is likely to be around 299,580, approximately 96% its 2008 peak. At 2.3% of base 2016 employment, the annual recruitment requirement (ARR) ratio indicates that around 6,650 extra employees are required on an annual basis. The region's ARR is also above the UK rate of 1.7%.

Key Findings

The region is predicted to see an annual average growth rate of 2.6% in total construction output between 2016 and 2020, slightly above the UK rate of 2.5%.

The infrastructure sector is likely to be the best performing with an annual average increase of 5.6%. There are a number of current and new projects in the pipeline over the near-term such as work on the £290m 10km-long dual carriageway linking the A6 to Manchester Airport, which is anticipated to lead to modest expansion. However, growth should ramp up and be at double digits in 2020 as main construction work on nuclear new build at Moorside begins.

With an average rise in output of 4.7% per annum, the commercial sector is projected to see the second highest growth rate. Good expansion is expected due to a number of projects and this, alongside sustained improvements in the economy will keep activity buoyant throughout the next five years. One of the largest developments currently taking place is the £200m X1 Media City in Salford Quays. However, by 2020, at £2.6bn, commercial output is likely to be only around 62% of its 2007 peak.

The public non-housing sector is likely to see average annual increases of 2.8% as there are a number of university schemes, either taking place or about to start. By the end of the forecast period the sector is projected to be around 70% of its 2011 peak.

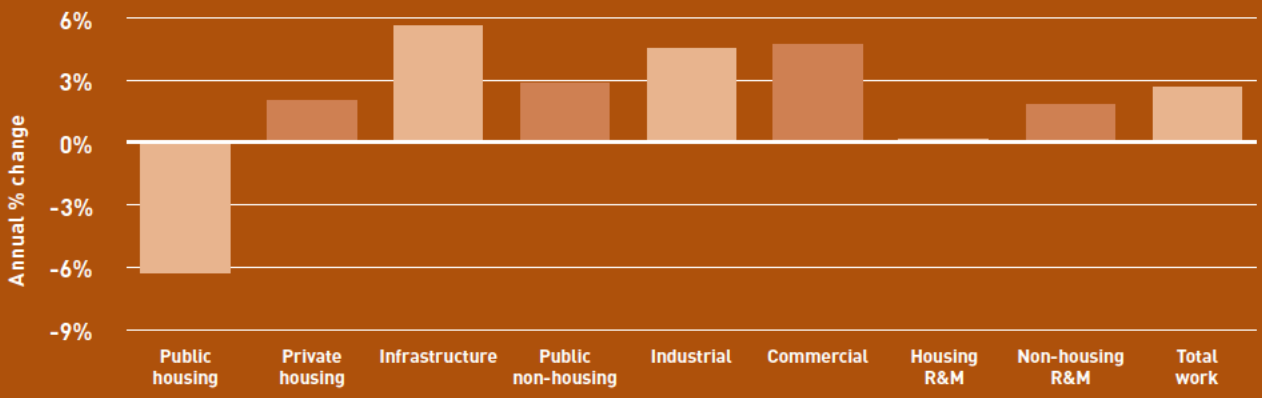
Between 2015 and 2020 the private housing market is predicted to experience an average yearly increase of 2%. However, growth could be stronger on the back of the Government's announcement made in the 2015 Autumn Statement that up to 400,000 'affordable' homes will be developed across the country by 2020.

The public housing sector is the only sector that is predicted to experience an annual average fall, of 6.3%. This is the greatest decline compared with other regions and devolved nations and much higher than the national rate of -0.7%. Across most English regions activity is anticipated to suffer over the next few years as the extension of Right to Buy and constraints on rents introduced in last summer's Budget will impact registered social landlords' balance sheets. This is likely to make them less attractive to investors and therefore they will struggle to build at the same rate as previously.

In 2015 the North West accounted for around 11% of UK construction employment. Over the next five years construction employment is likely to rise by 1.6% per year on average in the region, faster than the national rate of 1.1%.

At 6,650 extra employees required per year over the forecast period, the region's ARR is 2.3% of base 2016 employment, higher than the UK rate of 1.7%. In the North West, civil engineering operatives nec are likely to be most in demand as a proportion of base employment.

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2020 – NORTH WEST



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

REGIONAL COMPARISON 2016-2020

	Annual average % change in output	Change in total employment	Total ARR
North East	1.5%	3,260	3,160
Yorkshire and Humber	2.4%	8,360	3,230
East Midlands	1.0%	1,210	3,110
East of England	2.3%	13,950	3,910
Greater London	3.5%	42,670	3,650
South East	0.9%	2,110	1,730
South West	4.4%	25,850	6,480
Wales	7.1%	17,490	5,440
West Midlands	1.7%	10,200	3,030
Northern Ireland	3.0%	4,660	1,760
North West	2.6%	22,430	6,650
Scotland	0.5%	-7,360	4,270
UK	**2.5%**	**144,830**	**46,420**

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

> The region's total construction output is forecast to grow by an annual average of 2.6%.

SECTION 2

THE OUTLOOK FOR CONSTRUCTION IN THE NORTH WEST

2.1 Construction output in North West – overview

In 2014 total construction output rose for the second consecutive year, by 8% to £13bn, around 88% of its 2004 peak. Both the new work and the repair and maintenance (R&M) sectors increased by 8%, taking them to £7.8bn and £5.2bn respectively.

The private housing sector experienced the greatest growth of 64% to £2.2bn whilst infrastructure output went up by 10% to £1.6bn. The public housing sector saw the smallest rise of 9% to £428m, a new high. In contrast the public non-housing sector remained flat at £1.2bn while falls of 22% and 14% were registered in the industrial (£484m) and commercial (£2bn) sectors respectively.

2.2 Industry structure

The diagram, Construction Industry Structure 2014 – UK vs. North West, illustrates the sector breakdown of construction in North West, compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

In 2014 new work output accounted for around 60% of the region's total construction output, a slightly smaller share compared with the UK (62%).

The structure of the North West's construction industry has some large differences compared to the UK. Less emphasis is placed on the region's commercial (15% vs. 19%) and housing R&M sectors (15% vs. 19%) whilst the non-housing R&M sector is much more important (25% vs 19%). At 17% the share of the region's private housing market was identical to the national average whilst the shares for the other sectors were similar to that of the UK as a whole.

2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2016–2020) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic structure

In 2014 gross value added (GVA) in the North West increased for the third year running, by 2.8% to £141.1bn in 2012 prices. As a share of the UK, the region accounted for 9% of GVA.

Professional and other private services was the largest sector, accounting for 26.7% of the region's GVA, whilst the public services sector took the next biggest share, at 19.8%. The manufacturing (14%) and wholesale and retail (12%) sectors were ranked third and fourth respectively while finance and insurance (5.5%) was the fifth largest market. Of the top five sectors, professional and other private services posted the greatest growth of 5.7% in 2014 whilst expansion was also experienced in the wholesale and retail and manufacturing sectors. The finance and insurance market registered the largest drop of 1.4% whilst a marginal fall of 0.6% was recorded for public services.

The North West has a substantially higher than UK average exposure to the manufacturing sector (14% vs 9.7%) and a slightly higher one to public services (19.85 vs 18.8%). Its professional and other private services sector is proportionally the same size as the UK's but finance and insurance is underrepresented in the region (5.5% vs 7.5%).

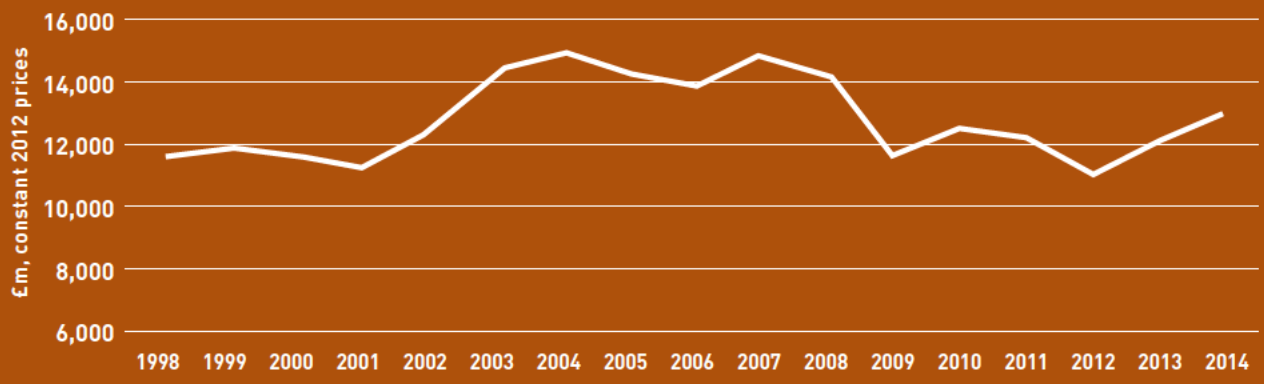
2.5 Forward looking economic indicators

In the five years to 2020 the region's GVA is projected to grow at an average yearly rate of 2%, lower than the national average of 2.4%.

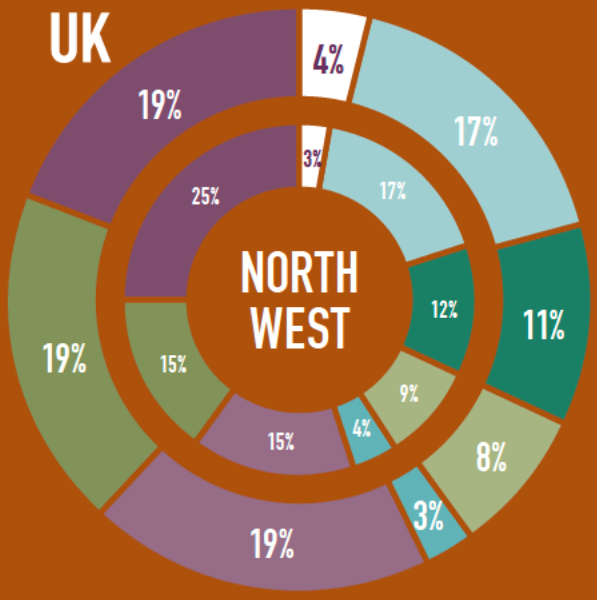
Of the top five sectors, both the professional and other private services and wholesale and retail sectors are expected to see the greatest annual average expansion of 2.6%. In contrast, the public services sector is projected to experience lacklustre annual average increases of 0.6%.

Real household disposable income is expected to rise by an annual average of 1.6% over the forecast period, lower than the UK rate of 1.9% whilst average yearly increases in household spending are also projected to be lower (2.1% vs. 2.2%).

CONSTRUCTION OUTPUT 1998–2014 – NORTH WEST



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



CONSTRUCTION INDUSTRY STRUCTURE 2014 – UK VS NORTH WEST

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

Source: ONS, Experian

ECONOMIC STRUCTURE – NORTH WEST (£ BILLION, 2012 PRICES)

Selected sectors	Actual	Forecast Annual % change, real terms					
	2014	2015	2016	2017	2018	2019	2020
Professional and other private services	37.6	3.0	2.9	2.7	2.7	2.5	2.3
Public services	27.9	0.2	-0.1	-0.3	0.4	1.2	2.1
Manufacturing	19.7	0.9	1.2	2.3	2.4	1.4	1.0
Wholesale and retail	16.9	3.5	2.1	2.0	2.1	2.1	2.1
Finance and insurance	7.8	0.4	2.7	2.9	2.5	2.4	2.4
Total Gross Value Added (GVA)	**141.1**	**2.0**	**1.9**	**1.9**	**2.1**	**2.0**	**2.1**

Note: Top five sectors, excluding construction. Source: Experian. Ref. CSN Explained, Section 3, Note 3

In 2014 the region's working age population was around 4.4m, which accounted for 11% of the UK total. Over the forecast period, the North West's working age population as a share of the total population is expected to hover around 62%.

The North West's unemployment rate stood at 6.8% in 2014, higher than the corresponding UK rate of 6.2%. However, the region's unemployment rate is predicted to decline over the next five years with the strongest decreases projected in the near term. By 2020, at 4.9%, the North West's unemployment rate is expected fall below that of the UK's (5.1%).

2.6 New construction orders – overview

In 2014, total construction orders edged down by less than 1% to £5.9bn (current prices), around 65% of their 2007 peak. The private housing market saw the greatest increase of 46% to £1.9bn whilst the commercial (£1.3bn) and Industrial (£487m) ones went up by 10% and 3% respectively. The largest fall of 44% to £744m was seen in the infrastructure sector, taking it to around 42% of its 2009 peak. The public housing sector also saw a double digit decrease, of 24% to £210m while the public non-housing sector declined by 8% to £1.2bn.

2.7 New construction orders – current situation

In the first six months of 2015, all new orders increased by 16% to £3.5bn compared with the corresponding period in the preceding year. The industrial sector recorded the strongest jump of 164% to £549m whilst a double-digit rise of 54% to £803m was seen in the commercial sector. Rises of 10% and 1% were also experienced in the infrastructure (£539m) and private housing (£981m) sectors respectively. The largest decrease of 47% to £68m was recorded in the public housing sector while the public non-housing sector also saw a decline, of 22% to £514m.

2.8 Construction output – short-term forecasts (2016–2017)

Regional 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, regional ONS construction output statistics were only available for the first two quarters of 2015.

In the first half of last year the region's total output grew by 8% to £7.1bn on an annualised basis. Expansion was seen across all new work sectors with output in the industrial sector registering the biggest increase of 53% to £391m, whilst strong increases of 44% to £1.4bn were also seen in private housing. Increases of 10% and 9% were also experienced in the public non-housing (£621m) and public housing (£231m) sectors respectively, while output in the infrastructure sector went up by 7% to £900m. The smallest rise of 3% to £1.1bn was posted in the commercial market.

In 2015 total construction output in the region is estimated to have increased by 7% to £13.9bn in 2012 prices.

Output is expected to rise by an annual average of 2.7% over the next two years. Growth is forecast to be stronger in the new work sector compared with the R&M sector (3.6% vs 1.2%).

The industrial market is anticipated to be the best performing sector with annual average expansion of 7%. There is projected to be a raft of small and medium sized developments coming into the pipeline that should keep growth in the sector buoyant. However, it is important to remember that this sector only accounts for 4% of the North West's total construction output and therefore does not equate to much in value terms.

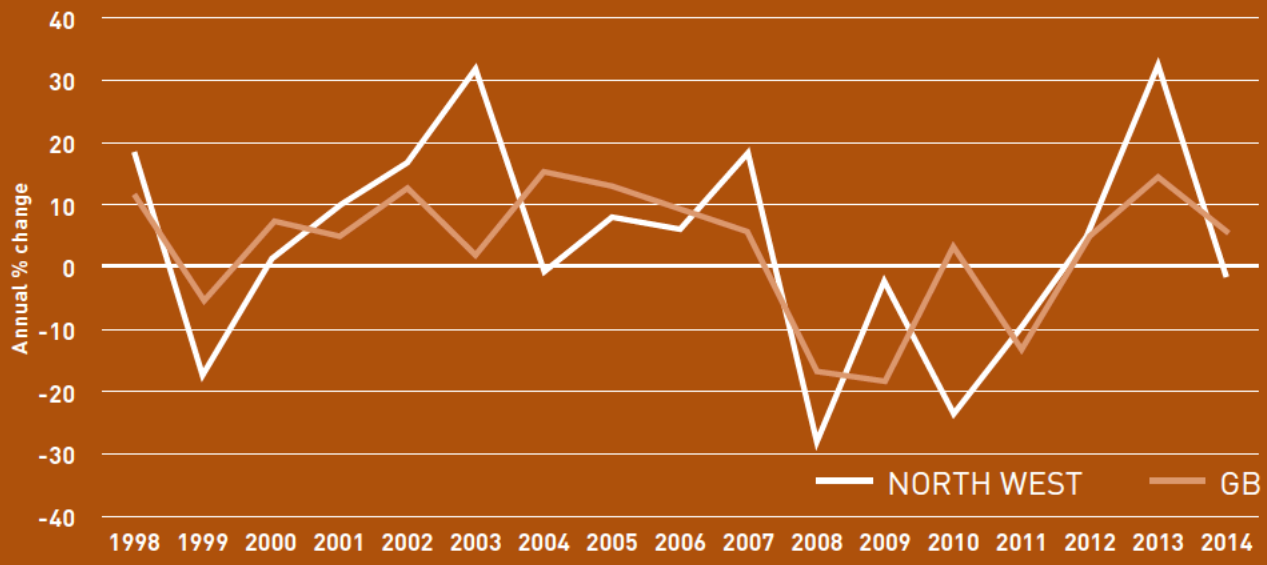
Strong average yearly increases of 5.6% have been predicted for the private housing market. One of the largest schemes in the pipeline over the next two years is a new residential-led mixed use development for Middlewood Locks in Salford. The 24-acre site will contain around 2,000 new homes and commercial space of around 750,000 square feet. The first phase of work could start as early as spring this year subject to planning approval. In addition to this, announcements made in the 2015 Autumn Statement could have a positive impact on these forecasts, which were locked prior to their release. The Government has indicated that it expects to see up to 400,000 'affordable' homes developed

ECONOMIC INDICATORS – NORTH WEST
(£ BILLION, CURRENT PRICES – UNLESS OTHERWISE STATED)

Selected sectors	Actual	Forecast Annual % change, real terms					
	2014	2015	2016	2017	2018	2019	2020
Real household disposable income	107.4	3.2	1.5	1.8	1.9	1.2	1.7
Household spending	115.0	3.0	2.3	2.2	2.0	2.0	2.0
Working age population (000s and as % of all)	4,404	62.0%	62.1%	62.0%	61.9%	61.9%	62.3%
House prices (£)	171,309	3.7	3.0	2.8	2.2	2.3	3.0
LFS unemployment (millions)	0.30	-13.9	-7.4	-5.0	-2.7	-1.8	-1.7

Source: ONS, DCLG, Experian

NEW CONSTRUCTION ORDERS GROWTH 1998–2014 – NORTH WEST VS. GB



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

NEW WORK CONSTRUCTION ORDERS – NORTH WEST
(£ MILLION, CURRENT PRICES)

	Actual	Annual % change				
	2014	2010	2011	2012	2013	2014
Public housing	210	-28.9	31.4	-0.8	9.1	-23.9
Private housing	1,942	3.9	32.3	7.4	66.9	46.0
Infrastructure	744	-55.9	-16.4	63.5	26.8	-44.4
Public non-housing	1,226	-20.4	-22.1	-31.8	62.8	-8.4
Industrial	487	-19.6	-32.4	52.7	65.8	3.4
Commercial	1,272	2.4	-12.6	0.8	-8.1	9.7
Total new work	**5,881**	**-23.5**	**-10.4**	**4.5**	**32.1**	**-0.5**

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

across the country by 2020. The questions around this announcement have to be how much more does this entail above current build rates and secondly, affordable to whom? Nevertheless, it could lead to extra homes being built in the region and therefore lead to higher growth in output than was previously expected.

The commercial sector is likely to see an average rise of 5.2% per annum. Good growth is expected due to a number of current and new projects. Last April work started on X1 Media City in Salford Quays. The £200m project, which will be completed over four phases, will include apartments and around 23,000 square feet of commercial space. The first phase is expected to be completed in early 2017. In Rochdale, demolition has already started as part of the £100m redevelopment of Rochdale town centre. Main construction work is expected to commence at the end of 2016 and as part of this the eastern side of the town centre will benefit from a new retail and leisure zone. One of the largest schemes put forward is the £1bn Trafford Waters development, which is to be located on the banks of Manchester Ship Canal. The project will include around 3,000 new homes, offices, shops, leisure and community facilities. In addition to this there is also potential for a new hotel. If the project is given the go ahead, work could start as early as spring 2017.

The public non-housing sector is projected to see annual average expansion of 2.8% over the near term due to a number of current and new developments in the university sub-sector. At present there are significant works taking place at the University of Manchester as part of its Estates Master Plan. In April 2015 the University of Liverpool started demolition work at its Greenbank student campus. Under the £90m project three new student accommodation blocks will be built increasing the number of rooms available by 40%. The 21 acre site will also see the development of catering facilities and a new two-storey sports hall. The latter will not only benefit students but also the local community as they will be encouraged to take advantage of it during the summer months. It is thought the project will take four years to complete. A planning application is due to be submitted for Liverpool John Moores University's Copperas Hill redevelopment. The £80m project, which will be situated on a former 1970s Royal Mail sorting office site, will include central teaching and sports facilities areas as well as a library.

Growth in infrastructure output in the short term is projected to be a moderate 2.4% a year on average. There are a number of schemes either ongoing or about to take place. For example, main construction on the new £290m 10km-long dual carriageway road linking the A6 to Manchester Airport commenced in March 2015 with the its opening scheduled for autumn 2017. A contract has been awarded to upgrade the Davyhulme Waste Water Treatment Works in Manchester to meet European Union directive requirements, with a potential value of between £123m to £171m. Planning permission has been also been granted for the Pressall Underground Gas Storage Facility in Blackpool. The plans, which had previously been rejected by Government three times, will see 900 million cubic metres of gas stored in 19 caverns beneath the River Wyre.

2.9 Construction output – long-term forecasts (2016–2020)

Overall, the region's annual average output growth over the next five years is projected to be 2.6%, slightly above the UK rate of 2.5% and very similar to its short-term expansion rate.

The infrastructure sector is likely to see the strongest annual average increase of 5.6% in the five years to 2020. However, this is driven primarily by the scheduled start of main construction work on nuclear new build at Moorside in 2020. Most of the projects mentioned in the short-term section above will complete by 2018 or before, therefore a sharp fall in output is expected in 2019 before the nuclear work kicks in. The region also benefits from ongoing decommissioning work at Sellafield, although it is unclear how much of this is actually included in the official statistics for construction.

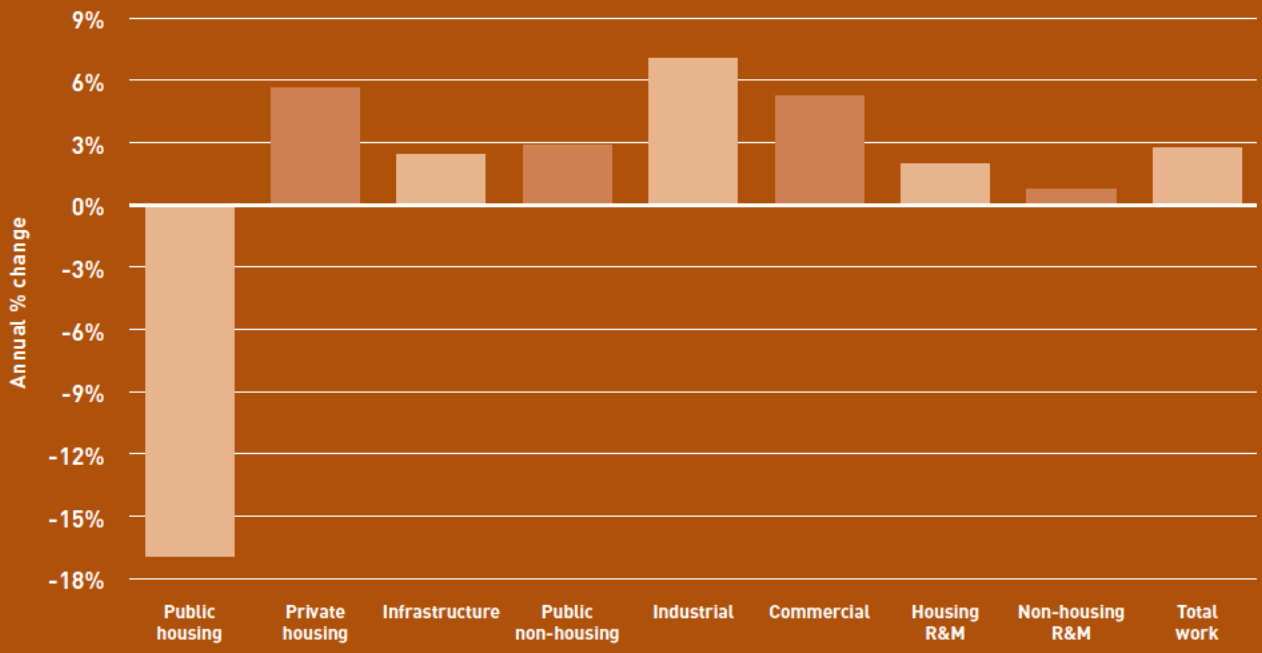
With an average rise of 4.7% per annum, the commercial sector is projected to see the second highest growth rate between 2016 and 2020. This is one of the highest rates for all regions and devolved nations and it is also higher than the corresponding UK rate of 3.4% Good growth is expected due to ongoing developments and regeneration work not just in the two main North West conurbations – Greater Manchester and Merseyside – but also across some of the smaller towns and cities such as Chester, Bolton, Wigan and Preston. Combined with sustained improvements in the economy, these projects will keep activity buoyant throughout the next five years. Nonetheless, by 2020 commercial output is still expected to be below its pre-recessionary peak level.

CONSTRUCTION OUTPUT – NORTH WEST (£ MILLION, 2012 PRICES)

	Actual	Forecast annual % change			Annual average
	2014	2015	2016	2017	2016-2017
Public housing	428	-14%	-28%	-4%	-17.0%
Private housing	2,185	12%	7%	4%	5.6%
Infrastructure	1,610	32%	2%	2%	2.4%
Public non-housing	1,152	-4%	3%	2%	2.8%
Industrial	484	24%	9%	5%	7.0%
Commercial	1,963	3%	7%	3%	5.2%
Total new work	**7,823**	**11%**	**4%**	**3%**	**3.6%**
Housing R&M	1,985	2%	3%	1%	1.9%
Non-housing R&M	3,199	-2%	1%	0%	0.7%
Total R&M	**5,184**	**0%**	**2%**	**0%**	**1.2%**
Total work	**13,007**	**7%**	**3%**	**2%**	**2.7%**

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

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2017 – NORTH WEST



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

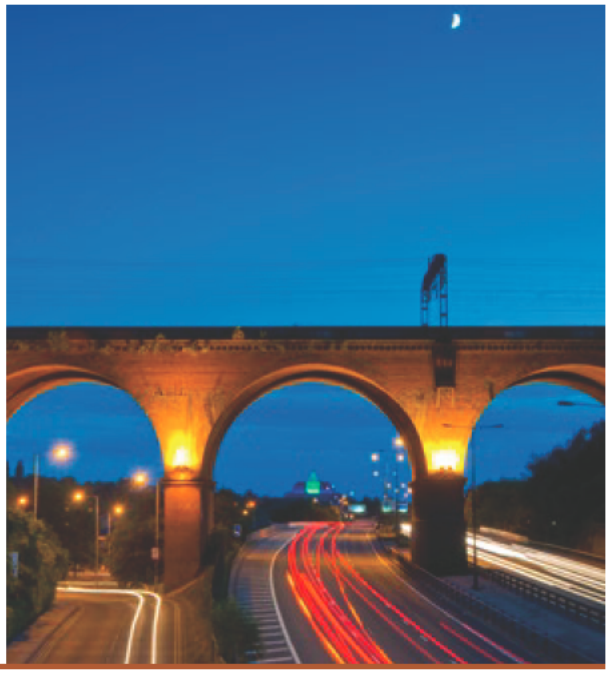
> The infrastructure sector is likely to be the best performing.

The only sector to see average yearly falls in output of 6.3% is the public housing sector. The general feeling across the English regions is that activity in the sector will suffer over the next few years as the extension of Right to Buy and constraints on rents introduced in the Summer Budget will impact registered social landlords' balance sheets and make it more difficult for them to access finance from other sources than the public purse. Despite this bleak outlook there are projects taking place in the sector however they are just not large enough to create overall growth. As part of City West Housing Trust's (CWHT) £140m project to build 1,500 properties in the North West by 2018, it has been given the green light to start 103 homes on the former Salford City Reds' rugby ground. In April 2015 housing associations City South Housing and Eastlands Homes merged together under a new umbrella group called One Manchester. This move will allow at least 500 properties to be built in south and east Manchester over the next five years.

2.10 Beyond 2020

According to the latest Nuclear Industry Association's timeline, the first nuclear reactor at Moorside is expected to be complete in early 2025. Work on the second reactor is projected to begin in 2022 with a completion date of late 2026.

Major road transport is likely to be an area in which further work will take place post-2020. Highways England's 2015–2020 Business Plan identifies three feasibility studies relating to upgrade work carried out in the North West on the A57/A628 Trans-Pennine Programme. Whilst work is going start over the next five years this programme could lead to further activity on the ground after the current forecast period.

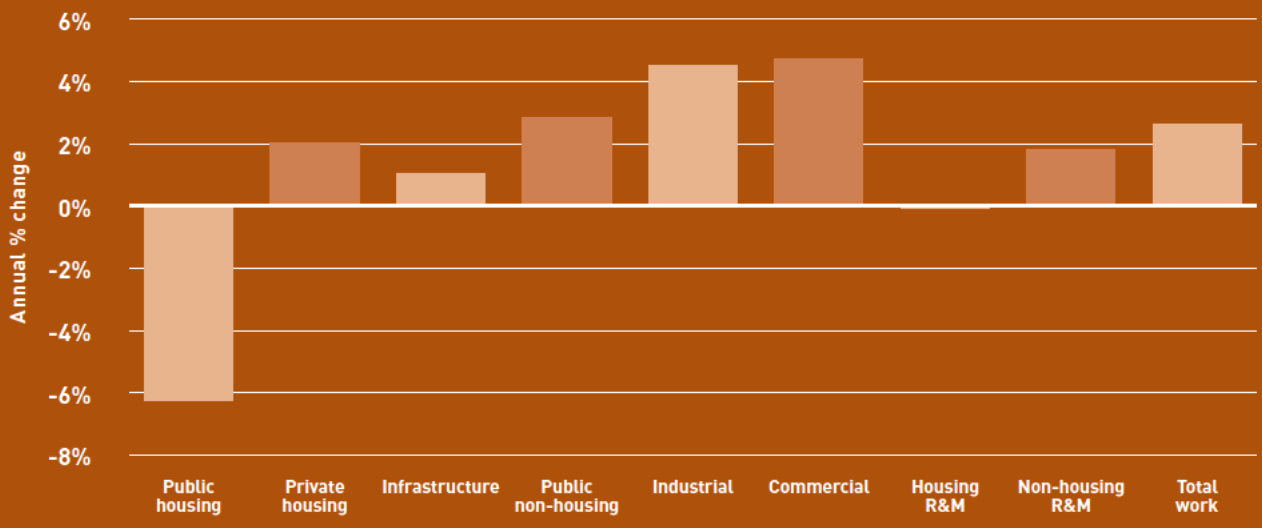


CONSTRUCTION OUTPUT – NORTH WEST (£ MILLION, 2012 PRICES)

	Estimate	Forecast annual % change					Annual average
	2015	2016	2017	2018	2019	2020	2016-2020
Public housing	367	-28%	-4%	12%	5%	-11%	-6.3%
Private housing	2,452	7%	4%	-5%	2%	2%	2.0%
Infrastructure	2,126	2%	2%	4%	-8%	30%	
Public non-housing	1,108	3%	2%	4%	-1%	5%	2.8%
Industrial	600	9%	5%	6%	2%	1%	4.5%
Commercial	2,032	7%	3%	6%	6%	1%	4.7%
Total new work	**8,685**	**4%**	**3%**	**2%**	**0%**	**8%**	**3.6%**
Housing R&M	2,027	3%	1%	-4%	0%	0%	-0.1%
Non-housing R&M	3,141	1%	0%	3%	3%	2%	1.8%
Total R&M	**5,168**	**2%**	**0%**	**0%**	**2%**	**1%**	**1.1%**
Total work	**13,853**	**3%**	**2%**	**1%**	**1%**	**6%**	**2.6%**

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

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2020 – NORTH WEST



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

SECTION 3

CONSTRUCTION EMPLOYMENT FORECASTS FOR THE NORTH WEST

3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41-43, 71.1, and 74.9) in the North West for 2014, the estimated total employment across 28 occupational categories in 2015 and forecasts for the industry for 2016 to 2020. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

Employment in the region is likely to grow by an annual average of 1.6% over the next five years with the corresponding UK rate lower at 1.1%. Over the five years to 2020 this equates to an increase of nearly 22,500 in the construction workforce in the North West. By 2020 construction employment is projected to reach 299,580, around 96% of its 2008 peak.

Most of the occupations in the region are likely to see growth in the five years to 2020 with the roofers and logistics occupations predicted to experience the largest average yearly increase of 3.7%. By the end of the forecast period, the former is anticipated to be around 89% of its 2008 peak whilst the latter is expected to reach a new high of 2,840.

TOTAL EMPLOYMENT BY OCCUPATION – NORTH WEST

	Actual 2014	Estimate 2015	Forecast	
			2016	2020
Senior, executive, and business process managers	15,880	16,990	17,440	18,570
Construction project managers	5,030	4,960	5,070	5,240
Other construction process managers	20,540	19,980	20,440	21,250
Non-construction professional, technical, IT and other office-based staff	38,640	38,870	40,270	43,760
Construction trades supervisors	4,030	3,930	4,090	4,330
Wood trades and interior fit-out	28,260	30,400	31,630	34,630
Bricklayers	6,520	7,010	7,350	8,250
Building envelope specialists	8,190	8,310	8,750	9,920
Painters and decorators	11,680	11,480	11,630	11,490
Plasterers	4,980	5,410	5,470	5,270
Roofers	5,190	5,560	5,850	6,670
Floorers	2,950	3,180	3,340	3,730
Glaziers	3,180	3,100	3,190	3,290
Specialist building operatives nec*	5,310	5,160	5,180	4,980
Scaffolders	3,610	3,510	3,490	3,390
Plant operatives	5,440	5,850	6,070	6,460
Plant mechanics/fitters	4,620	4,960	5,110	5,180
Steel erectors/structural fabrication	2,340	2,340	2,460	2,780
Labourers nec*	13,190	13,100	13,490	14,140
Electrical trades and installation	19,140	20,520	20,670	20,090
Plumbing and HVAC Trades	16,980	16,390	16,330	15,250
Logistics	2,210	2,360	2,480	2,840
Civil engineering operatives nec*	1,410	1,410	1,460	1,580
Non-construction operatives	4,450	4,330	4,430	4,680
Civil engineers	4,820	4,810	5,030	5,610
Other construction professionals and technical staff	21,110	22,690	23,390	24,790
Architects	3,920	4,210	4,360	4,660
Surveyors	6,520	6,340	6,490	6,750
Total (SIC 41-43)	**233,770**	**239,110**	**245,690**	**257,770**
Total (SIC 41-43, 71.1, 74.9)	**270,140**	**277,160**	**284,960**	**299,580**

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

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 ARR 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 estimated ARR for the North West, at 6,650, is the highest absolute requirement of any of the regions and devolved nations. On a relative basis it represents 2.3% of base 2016 employment, higher than the UK average of 1.7%, and the fifth highest ratio across the UK. There are a number of occupational categories for whom the relative ARR is in excess of 5%, particularly among the trades where demand is expected to be strong.

In absolute terms the largest requirement is for wood trades and interior fit-out (1,030), equivalent to 15% of the region's total ARR. However, as a proportion of base 2016 employment, civil engineering operatives nec are likely to be most in demand (10.3%).

Please note that all of the ARRs 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.

ANNUAL RECRUITMENT REQUIREMENT BY OCCUPATION – NORTH WEST

	2016-2020
Senior, executive, and business process managers	-
Construction project managers	-
Other construction process managers	-
Non-construction professional, technical, IT and other office-based staff	430
Construction trades supervisors	200
Wood trades and interior fit-out	1,030
Bricklayers	730
Building envelope specialists	510
Painters and decorators	610
Plasterers	500
Roofers	340
Floorers	200
Glaziers	210
Specialist building operatives nec*	-
Scaffolders	-
Plant operatives	-
Plant mechanics/fitters	200
Steel erectors/structural fabrication	130
Labourers nec*	430
Electrical trades and installation	480
Plumbing and HVAC Trades	-
Logistics	250
Civil engineering operatives nec*	150
Civil engineers	200
Other construction professionals and technical staff	-
Architects	-
Surveyors	50
Total (SIC 41-43)	**6,400**
Total (SIC 41-43, 71.1, 74.9)	**6,650**

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

SECTION 4

COMPARISONS ACROSS THE UK

2.5%

The overall UK forecast of an annual average rise in output of 2.5% over the 2016 to 2020 period is a little higher than the 2.1% seen in the last growth period for construction between 1995 and 2007. However, it disguises some quite different regional/devolved nation performances, from expected expansion of over 7% in Wales to just 0.5% in Scotland.

Wales and the South West are top of the growth rankings and have remained so for some time, but their strong performance is heavily predicated on nuclear new build projects at Hinkley Point and Wylfa. Greater London is also projected to have a strong infrastructure sector, with the work starting on the Northern Line extension and Thames Tideway and High Speed 2 in the pipeline. These projects should more than offset completion of the Crossrail and Thameslink schemes.

While growth in London and the East of England is expected to be robust, the forecast for the South East is relatively poor with a dearth of major projects in the pipeline, the £2bn Paramount Park scheme excepted. Therefore, the forecasts are less South East England centric than they sometimes can be.

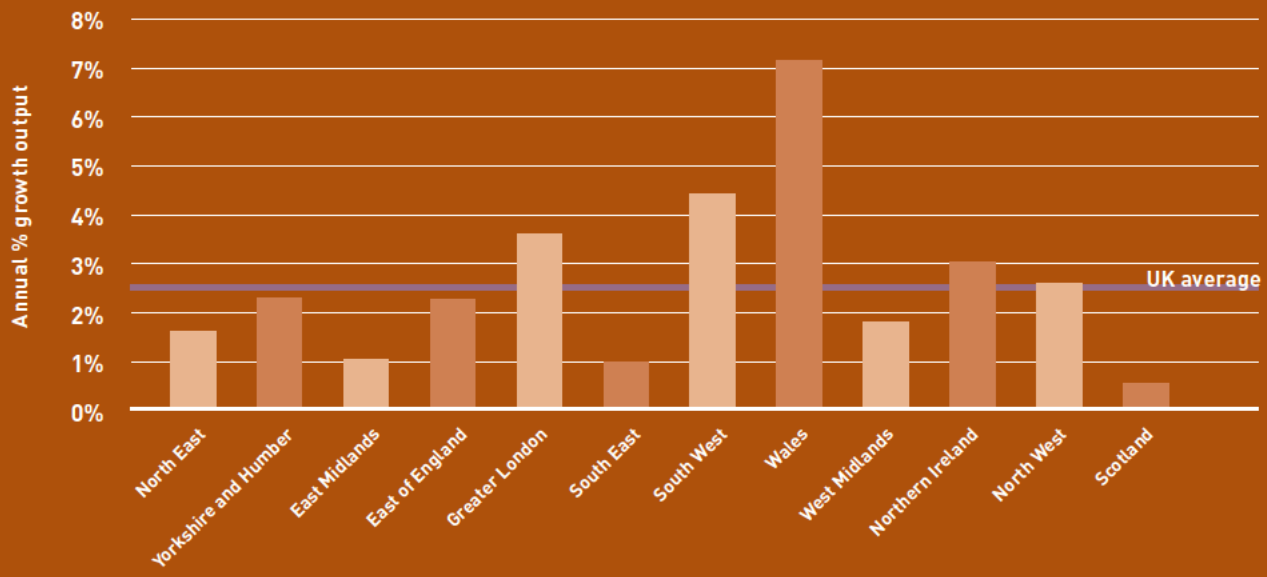
Northern Ireland is likely to be one of the faster growing regions in the five years to 2020, although construction output will be coming back from a very low base and there are concerns that current political uncertainties could delay the start of public projects.

Scotland is seeing an exceptionally high level of investment in infrastructure at present, with output in 2014 around twice its previous 10 year average and due to increase even further in 2015. Thereafter projects, such as the current spate of motorway upgrades, begin to complete and activity in the sector is likely to fall sharply, bringing the overall Scottish construction growth rate down to only about half a per cent a year on average.

Employment growth across the regions and devolved nations tends to mirror that of output, but at a lower level to take account of expected productivity gains and with some minor adjustments depending on whether output growth is in high or low labour intensive sectors. Annual employment growth across the UK as a whole is projected to average 1.1% over the 2016 to 2020 period, with a high of 2.9% in Wales and a low of a 0.7% a year decline in Scotland. Despite the fact that nuclear new build is not particularly labour intensive, Wylfa is a very big project in a small market, therefore it will add nearly 2% to construction employment in Wales in 2020. The impact is smaller in the South West, which has a bigger construction market, but even there it will help to drive good employment growth of over 2% a year on average. In Scotland the converse is true and a sharp fall in infrastructure output, despite its relatively low labour input, is likely to lead to a drop in construction employment north of the border post 2016.

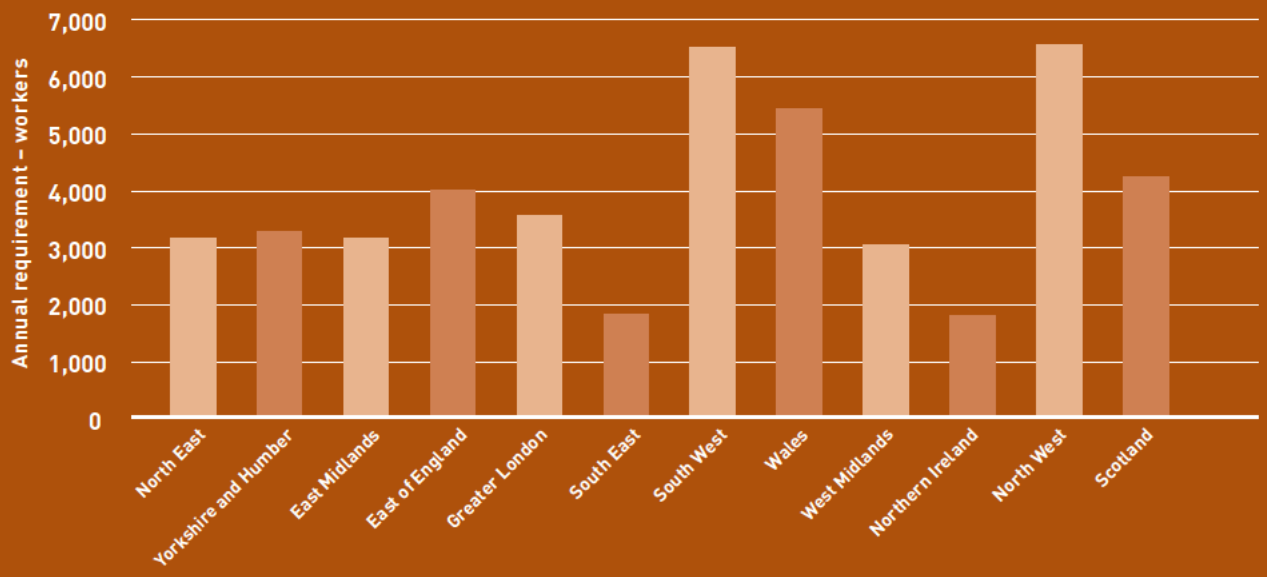
The pattern of ARR can look significantly different from the profile of output and employment, as some regions and devolved nations have historically strong net inflows and some suffer from large net outflows. The most extreme examples of this trend tend to be Greater London and Wales. London has a relatively low ARR despite strong projected employment growth (2% a year) as it acts as a natural magnet for construction workers throughout the UK and beyond, therefore its ARR ratio to base 2016 employment is low at 0.9%. At the other end of the scale Wales tends to suffer strong net outflows, in particular to the North West and South West of England and this, combined with a buoyant output and employment growth forecast, means its ARR ratio to base 2016 employment is a high 4.7%.

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH BY REGION 2016-2020



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

ANNUAL RECRUITMENT REQUIREMENT (ARR) BY REGION 2016-2020



Source: CSN, Experian

> Employment in the region is likely to grow by an annual average of 1.6% over the next five years.

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.

Section 3 has some further notes relating to the data sources used for the various charts and tables. This section also outlines what is meant by the term 'footprint', when talking about the areas of responsibility that lie with a Sector Skills Council (SSC) or Sector Bodies.

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 28 occupational groups into the individual standard occupational classification (SOC) codes that are aggregated to provide the employment and recruitment requirement.

Section 6 concludes this appendix by giving details about the range of LMI reports, the advantages of being a CSN member and details of who to contact if readers are interested in joining.

SECTION 1

CSN METHODOLOGY

Background

The Construction Skills Network has been evolving since its conception in 2005, acting as a vehicle for ConstructionSkills to collect and produce information on the future employment and training needs of the industry.

ConstructionSkills is the Sector Skills Council for Construction and produces robust labour market intelligence that provides 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 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 twice a year and consist of key regional stakeholders invited from industry, Government, education and other SSCs and Sector Bodies, all of whom contribute their 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 and Sector Bodies. 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 several models that 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, which is comprised of statisticians and modelling experts.

The models have evolved over time and will continue to do so, 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 interrelated 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 the industry from training, although robust data on training provision is being developed by CITB in partnership with public funding agencies, further education, higher education and employer representatives. Thus, the ARR 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.

Estimates of demand are based upon the results of discussion groups comprising industry experts, a view of construction output and 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 use a set of specific statistics for each major type of work to 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:

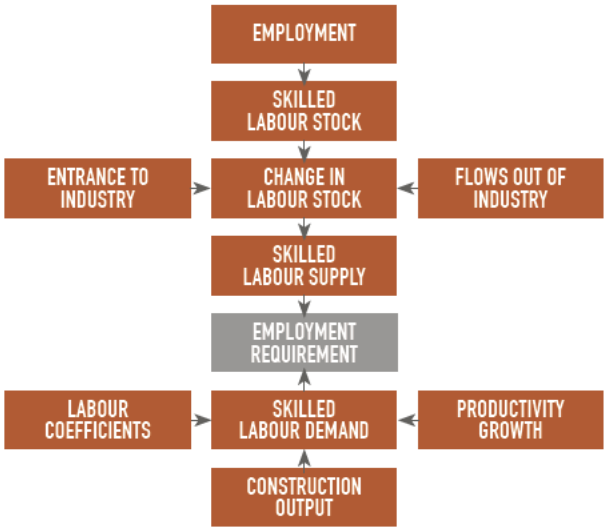
- Transfers to other industries
- International/domestic out migration
- Permanent retirements (including permanent sickness)
- Outflow to temporary sickness and home duties.

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

Flows into the labour market include:

- Transfers from other industries
- International/domestic immigration
- Inflow from temporary sickness 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.



SECTION 2

GLOSSARY OF TERMS

Building envelope specialists – any trade involved with the external cladding of a building other than bricklaying, e.g. curtain walling.

Demand – this 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 Employer Skills Survey, produced by the Department for Education and Skills. These data sets are translated into labour requirements by trade using a series of coefficients to produce figures for labour demand that relate to forecast 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 of each occupation or trade needed to produce £1m of output across each sub-sector.

LFS (Labour Force Survey) – a UK household sample survey that collects information on employment, unemployment, flows between sectors and training. Information is collected from around 53,000 households each quarter (the sample totals more than 100,000 people).

LMI (labour market intelligence) – data that is quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.

Macroeconomics – the study of an economy at 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) – organisation producing official statistics on the economy, population and society at both a national 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 United Kingdom Standard Industrial Classification of Economic Activities produced by the ONS.

SOC codes (Standard Occupational Classification codes) – from the United Kingdom Standard Occupational Classification produced by the ONS.

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.

SECTION 3

NOTES AND FOOTPRINTS

Notes

1 Except for Northern Ireland, output data for the English regions, Scotland and Wales is supplied by the Office for National Statistics (ONS) on a current price basis. Thus, national deflators produced by the ONS have been used to deflate prices to a 2005 constant price basis, so that 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 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 ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC codes, including SIC 43.2.

7 A reporting minimum of 50 is used for the annual recruitment requirement (ARR). As a result some region and devolved nation ARR forecasts do not sum to the total UK requirement.

8 The Employment and ARR tables show separate totals for SIC41–43 and SIC41–43, 71.1 and 74.9. The total for SIC41–43 covers the first 24 occupational groups on the relevant tables and excludes civil engineers, other construction professionals and technical staff, architects and surveyors. The total for SIC41–43, 71.1 and 74.9 includes all occupations.

Footprints for Built Environment Sector Bodies

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 and related technical consultancy.

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

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

**The Building Futures Group has a peripheral interest in SIC 71.1.*

The sector footprints for the other Sector Bodies covering the Built Environment:

SummitSkills

Footprint – plumbing, heating, ventilation, air conditioning, refrigeration and electrotechnical.

Coverage – Building services engineering.

ConstructionSkills shares an interest with SummitSkills in SIC 43.21 Electrical installation and SIC 43.22 Plumbing, heat and air-conditioning installation. ConstructionSkills recognises the responsibility of SummitSkills across SIC 43.21 and SIC 43.22; thus data relating to the building services engineering sector is included here primarily for completeness.

The Building Futures Group

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.

The Building Futures Group has a peripheral interest in 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.

SECTION 4

DEFINITIONS: TYPES AND EXAMPLES OF CONSTRUCTION WORK

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

Housing schemes, care homes for the elderly 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.

Private commercial work[1]

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.[2]

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.[3]

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'.

2 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.

3 Except where stated, mixed development schemes are classified to whichever sector provides the largest share of finance.

SECTION 5

OCCUPATIONAL GROUPS

Occupational group Description, SOC (2010) reference.	
Senior, executive, and business process managers	
Chief executives and senior officials	1115
Financial managers and directors	1131
Marketing and sales directors	1132
Purchasing managers and directors	1133
Human resource managers and directors	1135
Property, housing and estate managers	1251
Information technology and telecommunications directors	1136
Research and development maanagers	2150
Managers and directors in storage and warehousing	1162
Managers and proprietors in other services nec*	1259
Functional managers and directors nec*	1139
IT specialist managers	2133
IT project and programme managers	2134
Financial accounts managers	3538
Sales accounts and business development managers	3545
Construction project managers	
Construction project managers and related professionals	2436
Other construction process managers	
Production managers and directors in manufacturing	1121
Production managers and directors in construction	1122
Managers and directors in transport and distribution	1161
Waste disposal and environmental services managers	1255
Health and safety officers	3567
Conservation and environmental associate professionals	3550

Non-construction professional, technical, IT, and other office-based staff (excl. managers)	
IT operations technicians	3131
IT user support technicians	3132
Finance and investment analysts and 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 standards and regulations	3565
Programmers and software development professionals	2136
Information technology and telecommunications professionals nec*	2139
Estate agents and auctioneers	3544
Solicitors	2413
Legal professionals nec*	2419
Chartered and certified accountants	2421
Business and financial project management professionals	2424
Management consultants and business analysts	2423
Receptionists	4216
Typists and related keyboard occupations	4217
Business sales executives	3542
Bookkeepers, payroll managers and wages clerks	4122
Records clerks and assistants	4131
Stock control clerks and assistants	4133
Telephonists	7213
Communication operators	7214
Personal assistants and other secretaries	4215
Sales and retail assistants	7111
Telephone salespersons	7113
Buyers and procurement officers	3541
Human resources and industrial relations officers	3562
Credit controllers	4121
Company secretaries	4214
Sales related occupations nec*	7129
Call and contact centre occupations	7211

Customer service occupations nec*	7219
Elementary administration occupations nec*	9219
Chemical scientists	2111
Biological scientists and biochemists	2112
Physical scientists	2113
Laboratory technicians	3111
Graphic designers	3421
Environmental health professionals	2463
IT business analysts, architects and systems designers	2135
Conservation professionals	2141
Environment professionals	2142
Actuaries, economists and statisticians	2425
Business and related research professionals	2426
Finance officers	4124
Financial administrative occupations nec*	4129
Human resources administrative occupations	4138
Sales administrators	4151
Other administrative occupations nec*	4159
Office supervisors	4162
Sales supervisors	7130
Customer service managers and supervisors	7220
Office managers	4161

Construction trades supervisors

Skilled metal, electrical and electronic trades supervisors	5250
Construction and building trades supervisors	5330

Wood trades and interior fit-out

Carpenters and joiners	5315
Paper and wood machine operatives	8121
Furniture makers and other craft woodworkers	5442
Construction and building trades nec* (25%)	5319

Bricklayers

Bricklayers and masons	5312

Building envelope specialists

Construction and building trades nec* (50%)	5319

Painters and decorators

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

Plasterers

Plasterers	5321

Roofers

Roofers, roof tilers and slaters	5313

Floorers

Floorers and wall tilers	5322

Glaziers

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

Specialist building operatives not elsewhere classified (nec*)

Construction operatives nec* (100%)	8149
Construction and building trades nec* (5%)	5319
Industrial cleaning process occupations	9132
Other skilled trades nec*	5449

Scaffolders

Scaffolders, stagers and riggers	8141

Plant operatives

Crane drivers	8221
Plant and machine operatives nec*	8129
Fork-lift truck drivers	8222
Mobile machine drivers and operatives nec*	8229

Plant mechanics/fitters

Metalworking production and maintenance fitters	5223
Precision instrument makers and repairers	5224
Vehicle technicians, mechanics and electricians	5231
Elementary process plant occupations nec*	9139
Tool makers, tool fitters and markers-out	5222
Vehicle body builders and repairers	5232

Steel erectors/structural fabrication

Steel erectors	5311
Welding trades	5215
Metal plate workers and riveters	5214
Construction and building trades nec* (5%)	5319
Smiths and forge workers	5211
Metal machining setters and setter-operators	5221

Labourers nec*

Elementary construction occupations (100%)	9120

Electrical trades and installation

Electricians and electrical fitters	5241
Electrical and electronic trades nec*	5249
Telecommunications engineers	5242

Plumbing and heating, ventilation, and air conditioning trades

Plumbers and heating and ventilating engineers	5314
Pipe fitters	5216
Construction and building trades nec* (5%)	5319
Air-conditioning and refrigeration engineers	5225

Not elsewhere classified

Logistics

Large goods vehicle drivers	8211
Van drivers	8212
Elementary storage occupations	9260
Buyers and purchasing officers (50%)	3541
Transport and distribution clerks and assistants	4134

Civil engineering operatives not elsewhere classified (nec*)

Road construction operatives	8142
Rail construction and maintenance operatives	8143
Quarry workers and related operatives	8123

Non-construction operatives

Metal making and treating process operatives	8117
Process operatives nec*	8119
Metalworking machine operatives	8125
Water and sewerage plant operatives	8126
Assemblers (vehicles and metal goods)	8132
Routine inspectors and testers	8133
Assemblers and routine operatives nec*	8139
Elementary security occupations nec*	9249
Cleaners and domestics*	9233
Street cleaners	9232
Gardeners and landscape gardeners	5113
Caretakers	6232
Security guards and related occupations	9241
Protective service associate professionals nec*	3319

Civil engineers

Civil engineers	2121

Other construction professionals and technical staff

Mechanical engineers	2122
Electrical engineers	2123
Design and development engineers	2126
Production and process engineers	2127
Quality control and planning engineers	2461
Engineering professionals nec*	2129
Electrical and electronics technicians	3112
Engineering technicians	3113
Building and civil engineering technicians	3114
Science, engineering and production technicians nec*	3119
Architectural and town planning technicians*	3121
Draughtspersons	3122
Quality assurance technicians	3115
Town planning officers	2432
Electronics engineers	2124
Chartered architectural technologists	2435
Estimators, valuers and assessors	3531
Planning, process and production technicians	3116

Architects

Architects	2431

Surveyors

Quantity surveyors	2433
Chartered surveyors	2434

**Not elsewhere classified*

SECTION 6

CSN WEBSITE AND CONTACT DETAILS

The CSN website

citb.co.uk/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 12 LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while other CITB research reports are also freely available on the CITB 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 that 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 to enter the workforce.

The website also contains information about:

- How the CSN functions
- The CSN model approach
- How the model can be used to explore scenarios
- CSN team contact information
- Access to related CITB research
- Details for those interested in becoming members of the network.

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 that play a vital role in feeding back observations, knowledge and insight into 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 goes 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 becoming a member of the CSN, please contact us at: **csn@citb.co.uk**

For more information about the
Construction Skills Network, contact:
Martin Turner
Research Analyst
Policy and Research
0300 456 7640
research.team@citb.co.uk

citb.co.uk

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