

Construction Skills Network North East

LABOUR MARKET INTELLIGENCE 2009–2013



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

1 Headlines

1.1 North East economy

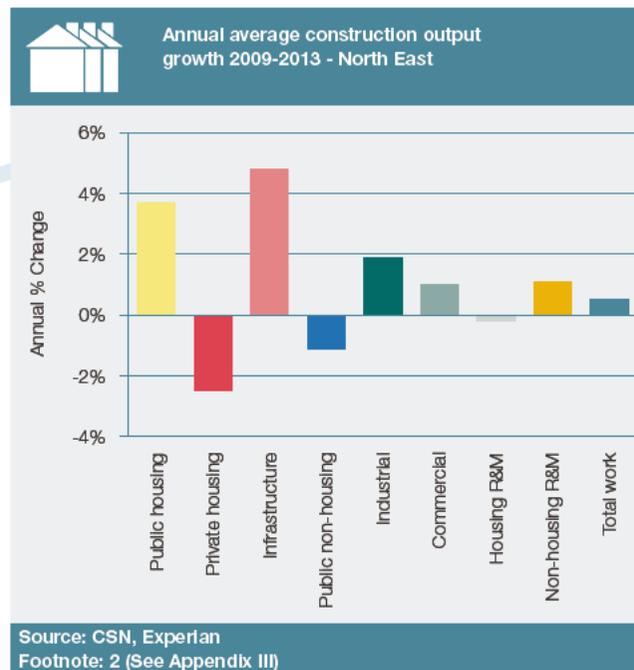
- The North East economy was worth £37bn in 2007, equivalent to 3.3% of the UK total.
- Public services account for 26% of the region's gross value added (GVA), followed by financial and business services.
- Economic growth in the region is forecast at an annual average rate of 1% between 2009 and 2013, below the UK average of 1.4%. The financial and business services sector is expected to grow at the fastest rate, followed by transport and communications and public services.

1.2 Construction output in the North East

- Worth £3.1bn in 2007, in 2000 prices, construction output in the North East accounts for around 4% of the UK total.
- Annual average output growth is forecast at 0.5% between 2009 and 2013, in line with the UK average.
- The infrastructure and public housing sectors are expected to see strong growth over the forecast period. The development of a deep sea container port at Teesport, due to start in 2009, is the main driver behind infrastructure growth.
- Growth in the industrial sector is also predicted to be strong, reflecting the hinterland development of the Teesport expansion.

1.3 Construction employment in the North East

- Total construction employment in the North East is projected to be 116,040 in 2009 and rise to 121,660 in 2013.
- In order to meet this demand, after taking account of those entering and leaving the industry, 2,010 new workers will be required each year.
- Wood trades and interior fit-out has the largest annual recruitment requirement (ARR) and it is also the largest occupational group in North East construction.



Regional comparison 2009-2013

	Annual average % change in output	Growth in total employment	Total ARR
North East	0.5%	5,620	2,010
Yorkshire and Humber	0.0%	2,860	1,390
East Midlands	0.8%	6,220	1,980
East of England	0.9%	10,570	2,890
Greater London	0.8%	12,110	6,030
South East	0.5%	13,290	5,690
South West	-0.2%	-20	1,450
Wales	0.6%	4,940	2,330
West Midlands	0.2%	3,930	3,620
Northern Ireland	1.6%	3,030	900
North West	0.2%	6,040	4,780
Scotland	0.6%	5,480	3,960
UK	0.5%	74,070	37,030

Source: CSN, Experian
Footnote: 2 (See Appendix III)

The North East economy was worth **£37bn in 2007**, equivalent to 3.3% of the UK total

2 The outlook for construction in the North East

2.1 Construction output in the North East – overview

Construction output in the North East totalled £3.1bn, in 2000 prices, in 2007, almost 9% higher than in the previous year. Repair and maintenance (R&M) work was the main driver of this growth, rising 18% from 2006 to £1.5bn. New work output was £1.6bn, 1% higher than in the previous year.

The regional construction industry recovered strongly in 2006 and 2007, following weak contractions of output in the previous two years, mirroring the national trend. However, the region's recovery was much stronger than the UK average, with output increasing by almost 18% between 2005 and 2007. R&M work drove the recovery, rising by 24% during the same period, while new work rose by a more modest 12%.

The strongest performance across the sectors was in private housing, which saw output increase by 18% between 2006 and 2007. Growth in industrial construction output also contributed to a rise in new work output.

In contrast, public non-housing output and infrastructure were by far the weakest sectors, with output declining by 20% and 16%, respectively, between 2005 and 2007.

Worth

£3.1bn in 2007,

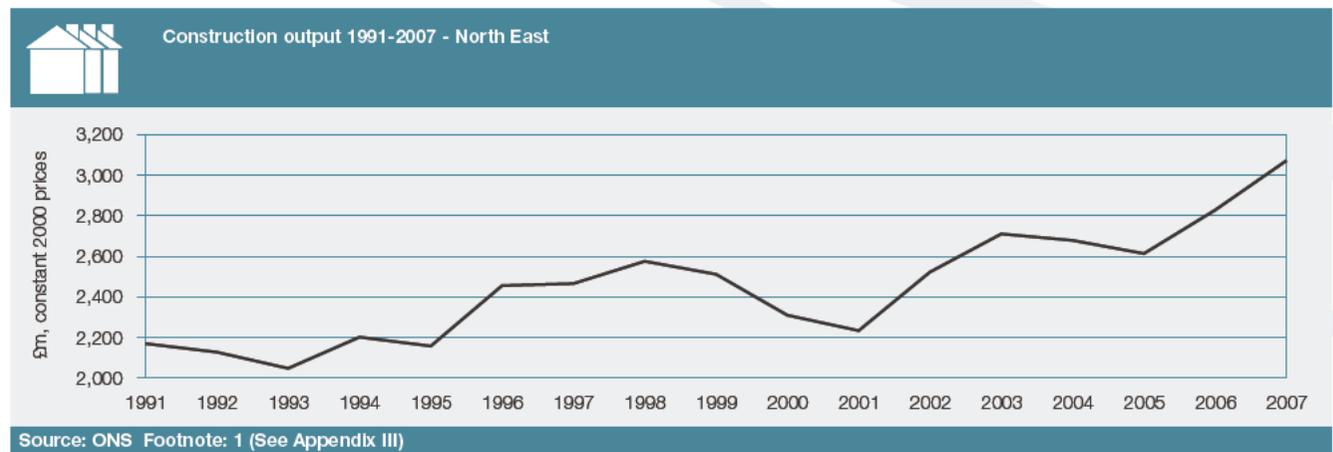
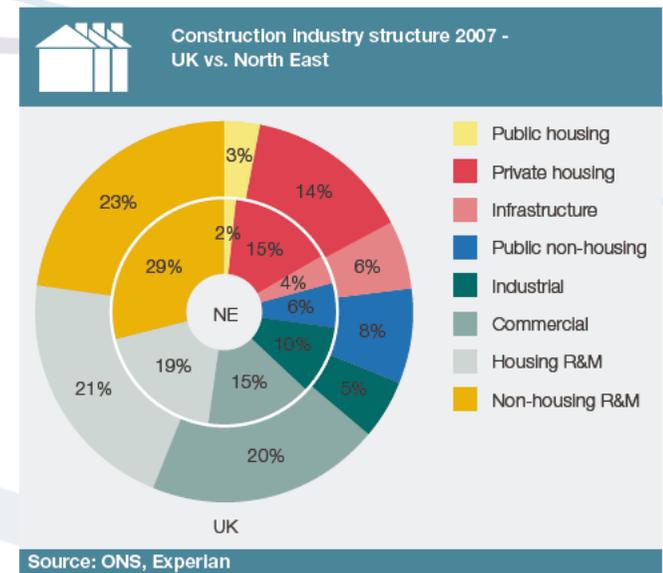
in 2000 prices, construction output in the North East accounts for around 4% of the UK total

2.2 Industry structure

The diagram, Construction industry structure 2007 – UK vs. North East, illustrates the sector breakdown of construction in the North East compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

Repair and maintenance (R&M) accounted for a larger proportion of total construction output in the North East in 2007 than in the UK as a whole. R&M output was 48% of total construction output in the region, compared with a figure of 43% for the UK, whilst new work accounted for 52% of construction output in the North East and 57% in the UK.

The larger size of the non-housing R&M sector in the North East is at the expense of the commercial sector, which is less significant than across the UK.



2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2009-2013) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic structure

Gross value added (GVA) in the North East was valued at £37bn in 2007, 3.3% of the UK economy as a whole. This was 2.7% higher than in the previous year, and GVA is forecast to increase by 6.1% over the five-year period to 2013.

In contrast to the UK, manufacturing remains a relatively important sector in the North East, although its share of output in the region has declined from 22% in 2000 to 19% in 2007. The relative importance of this sector means that financial and business services accounts for a smaller proportion of the region's GVA than in the UK as a whole. However, the sector's share of output has been steadily rising, from 14% in 2000 to over 21% in 2007, but still remains almost 8% below that of the UK.



The Sage, Gateshead

Selected sectors	Economic structure - North East (£ billion, 2003 prices)						
	Actual	Forecast					
	2007	2008	Annual % change, real terms				
	2007	2008	2009	2010	2011	2012	2013
Public services	10	2.2	0.5	1.4	1.8	1.5	1.3
Financial and business services	8	2.8	0.6	3.1	4.7	4.9	4.7
Transport and communications	3	0.9	1.0	2.4	1.9	1.5	1.4
Manufacturing	7	-0.9	-3.1	0.6	1.0	0.3	0.1
Distribution, hotels and catering	6	-0.5	-0.8	1.0	1.7	1.6	1.4
Total Gross Value Added (GVA)	37	0.5	-0.8	1.2	1.7	1.6	1.5

Source: Experlan
Footnote: 3 (See Appendix III)

	Economic Indicators - North East (£ billion, 2003 prices - unless otherwise stated)						
	Actual	Forecast					
	2007	2008	Annual % change, real terms				
	2007	2008	2009	2010	2011	2012	2013
Real household disposable income	29	0.5	-0.2	0.5	1.6	2.2	1.9
Household spending	26	1.2	0.0	0.8	1.9	1.8	1.7
Debt:income ratio	1.2	2.2	-0.5	-3.4	-4.4	-2.7	-0.7
House prices (£'000, current prices)	148	0.8	-7.1	-3.4	1.5	3.1	1.9
LFS unemployment (millions)	0.08	14.2	6.8	1.6	-4.8	-4.2	-3.3

Source: ONS, DCLG, Experlan

2.5 Forward looking economic indicators

The weaker economic situation is being felt in the North East, and the level of gross value added (GVA) will fall in the short term. Although GVA is expected to increase by 6% between 2009 and 2013, a decline of almost 1% is forecast in 2009, less than in many other regions and nations. However the annual average rate of growth of just 1% is below the UK average of 1.4% over the whole of the 2009-2013 period as the region under performs over the medium term.

The greatest increase in GVA between 2009 and 2013 is forecast to occur in financial and business services, which is expected to grow by 18% over the period. A buoyant performance by this sector will benefit the commercial sector, particularly with regards to office space.

Growth in the transport and communications sector is also predicted to be reasonable, with GVA increasing by 7% over the forecast period.

Real household disposable income in the North East is forecast to increase at a slower rate than across the UK, and a similar trend is forecast for consumer spending. The household debt to income ratio is expected to decline slightly in the forecast period, remaining below the average for the UK as a whole.

The Department for Communities and Local Government (DCLG) reported that average house prices in the North East reached £148,000 in 2007, an increase of 6% on 2006. Year-on-year to the third quarter of 2008 house prices in the region have declined by 4.4% according to the DCLG measure and they are expected to fall further through 2009 and at least the first half of 2010.

2.6 New construction orders – overview

Following a fall in 2006, new work construction orders in the North East rose 22% to £2bn, in current prices, in 2007.

New orders rose significantly in the public and private housing sectors, increasing by 78% and 37% respectively. In contrast, the industrial and infrastructure sectors saw double-digit declines in orders.

2.7 New construction orders – current situation

The positive trend in new orders did not continue into 2008. In the first three quarters of the year, new work orders in the North East totalled £1.5bn, in current prices, 7% lower than the same period in the previous year.

The infrastructure sector saw the strongest decline, with new orders falling 67% compared to the first nine months of 2007.

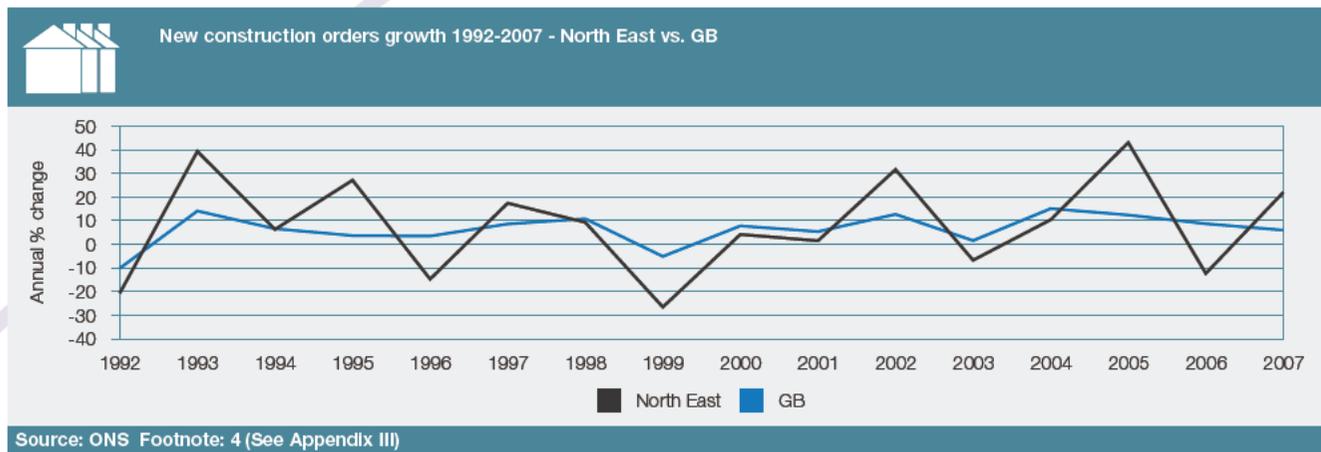
Both the public and private housing sectors experienced double-digit falls in orders over the same period, although, surprisingly, the decline was slightly sharper in public housing. A 46% fall in new private housing orders is in line with expectations, with demand for new homes stagnating amid tighter credit conditions and falling house prices. Developers are not looking to start new projects while economic conditions are so uncertain. The fall in public housing orders followed a record level in 2007, so it was perhaps inevitable that this level could not be sustained.

Orders in the public non-housing sector provided a welcome relief to the gloomy news. New work orders totalled £434m in the first three quarters of 2008, 139% higher than in the same period the previous year. An acceleration of work on the delayed Building Schools for the Future (BSF) programme contributed to the strong performance of the sector.

New work construction orders - North East
(£ million, current prices)

	Actual		Annual % change			
	2007	2003	2004	2005	2006	2007
Public housing	89	21.4	55.0	45.6	-17.5	78.3
Private housing	706	21.7	33.8	1.8	12.1	37.0
Infrastructure	130	-40.8	-13.0	34.0	16.0	-11.9
Public non-housing	245	-8.5	18.6	13.4	-37.4	19.7
Industrial	221	35.8	-14.5	84.0	57.2	-18.7
Commercial	631	-18.3	-5.4	111.4	-36.8	34.5
Total new work	2,021	-6.7	10.4	43.0	-12.3	22.0

Source: ONS
Footnote: 4 (See Appendix III)



2.8 Construction output – short-term forecasts (2009–2010)

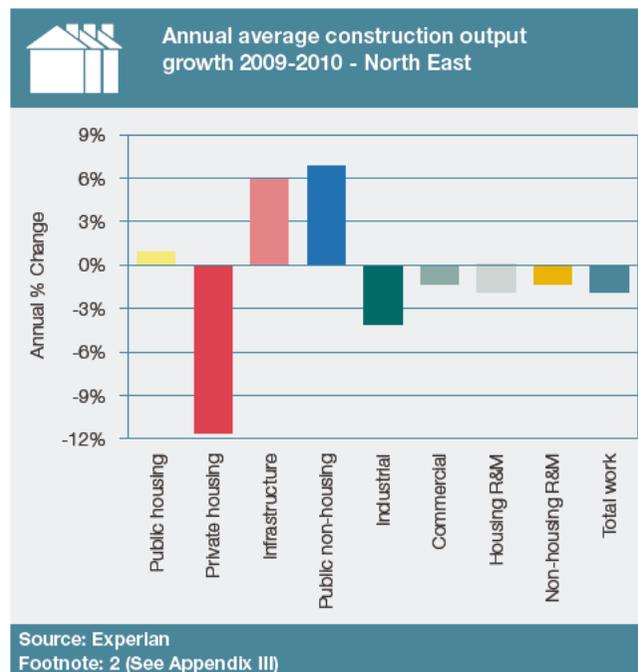
Regional Office of National Statistics (ONS) output statistics are published in current prices and are thus inclusive of any inflationary effect. At the time of writing, ONS construction output statistics are only available for the first three quarters of 2008.

Total construction output in the North East was £4.1bn in the first three quarters of 2008, 15% higher than in the same period of 2007. Output in the repair and maintenance (R&M) sector experienced growth of 21%, while new work increased at a slower rate of 10%. This buoyancy is not likely to continue, with output expected to decline at an average annual rate of 1.9% between 2009 and 2010. New work output is forecast to decline at a rate of 2.3% per year, while the R&M sector is predicted to fare slightly better, dropping by a weaker rate of 1.6% each year.

Public non-housing and infrastructure are expected to be the best performing sectors, with average annual growth of 6.8% and 5.9% respectively. Public non-housing output rose by 57% in the first nine months of 2008 as the delayed Building Schools for the Future (BSF) programme finally got underway and this programme is expected to be the main driver of growth in the region.

The private housing sector is, unsurprisingly, expected to fare particularly badly in the short term, exhibiting an average annual decline of 11.6% between 2009 and 2010. Falling house prices and tighter credit conditions have led to weaker demand for houses. Housebuilders, already struggling to sell completed homes, are unlikely to start work on new developments while such uncertainty remains.

Commercial output increased by 32% in the first three quarters of 2008 and new orders were 5% higher over the same period than in 2007. This trend is unlikely to continue in the short term, with an annual average decline of 1.3% forecast for the 2009–2010 period. Weaker consumer spending and demand for new offices falling dramatically will impact strongly on the sector, as the downturn continues to be felt throughout the economy.



Construction output - North East
(£ million, 2000 prices)

	Actual	Forecast annual % change		Annual average	
	2007	2008	2009	2010	2009-2010
Public housing	58	-16%	-3%	5%	0.9%
Private housing	462	-11%	-20%	-2%	-11.6%
Infrastructure	124	-7%	6%	6%	5.9%
Public non-housing	198	23%	15%	-1%	6.8%
Industrial	296	-24%	-10%	2%	-4.1%
Commercial	471	24%	3%	-5%	-1.3%
New work	1,609	1%	-3%	-2%	-2.3%
Housing R&M	581	2%	-3%	-1%	-1.9%
Non-housing R&M	882	7%	-1%	-2%	-1.3%
Total R&M	1,463	5%	-2%	-1%	-1.6%
Total work	3,072	3%	-2%	-1%	-1.9%

Source: Experian
Footnote: 1 and 2 (See Appendix III)

2.9 Construction output – long-term forecasts (2009–2013)

The longer term outlook for the North East's construction sector is modest, with average annual growth of 0.5% forecast between 2009 and 2013, in line with the UK average. Annual average growth in the new work sector is expected to be 0.4%, with repair and maintenance (R&M) work increasing at a marginally stronger rate of 0.6%. There are marked differences in sector performances over the period, with average annual growth rates varying between 4.8% and -2.5%. The strongest growth is expected in the infrastructure sector, with work expected to start on the deep sea container port development at Teesport. Average annual growth of 4.8% is forecast for the sector.

Growth of 3.7% per year is expected in the public housing sector, mainly due to increased funding for the region from the 2008–2011 National Affordable Housing programme. Delivery of new social housing units is predicted to be stronger in the second half of the forecast period as in the first half, social housing providers may find it difficult to access appropriate sites.

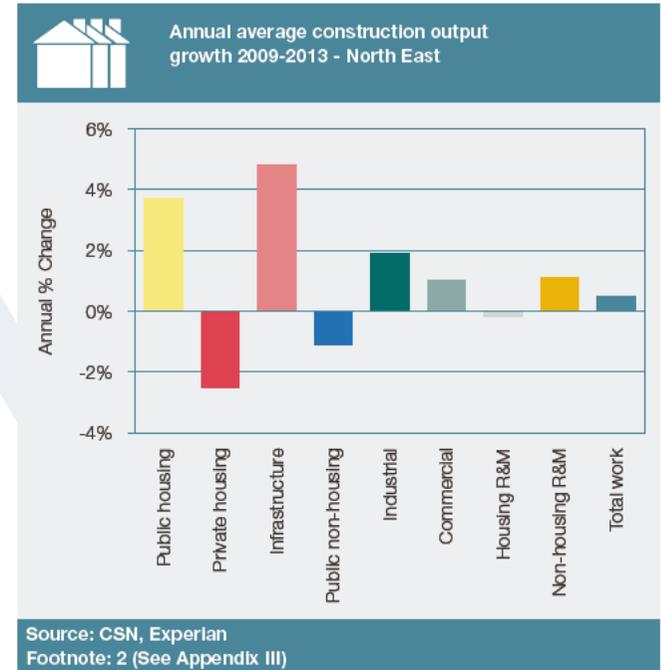
The industrial sector will benefit from hinterland work relating to the development of Teesport towards the end of the five-year forecast period. Average annual growth of 1.9% is expected for the sector.

The commercial sector is predicted to expand at a weak rate over the period 2009–2013, as the retail and office subsectors are hit hard by the credit crunch and downturn. A bounce back is likely from 2011 as economic prospects improve and work again takes off on some of the big regeneration projects in the region such as Middlehaven.

The public non-housing sector is expected to see an average annual contraction in output over the forecast period, despite work continuing on the Building Schools for the Future (BSF) programme. The North East does well out of the first four waves of the programme, with five projects and £543m of public funding. However, whatever government comes to power in the 2010 general election will be under pressure to reduce public expenditure to bring down the public debt, and it cannot be assumed that the BSF would be immune to cut backs.

As private housing has been badly hit by the credit crunch and weakening economic conditions, output in the sector is predicted to decline at an average annual rate of 2.5% over the forecast period. However, the outlook for the sector improves from 2011.

Growth in the R&M sector is expected to be driven by work in the non-housing sector, as falling consumer spending impacts on private housing R&M work, certainly in the short term.





Construction output - North East
(£ million, 2000 prices)

	Estimate		Forecast annual % change				Annual average
	2008	2009	2010	2011	2012	2013	2009-2013
Public housing	49	-3%	5%	10%	7%	0%	3.7%
Private housing	409	-20%	-2%	3%	6%	4%	-2.5%
Infrastructure	115	6%	6%	6%	2%	4%	4.8%
Public non-housing	245	15%	-1%	-9%	-7%	-2%	-1.1%
Industrial	224	-10%	2%	6%	11%	2%	1.9%
Commercial	583	3%	-5%	2%	3%	2%	1.0%
New work	1,626	-3%	-2%	1%	3%	2%	0.4%
Housing R&M	590	-3%	-1%	-2%	1%	3%	-0.2%
Non-housing R&M	944	-1%	-2%	2%	4%	2%	1.1%
R&M	1,534	-2%	-1%	1%	3%	3%	0.6%
Total work	3,160	-2%	-1%	1%	3%	2%	0.5%

Source: CSN, Experian
Footnote: 2 (See Appendix III)



3 Construction employment forecasts for the North East

3.1 Total construction employment forecasts by occupation

The table, Total employment by occupation – North East, presents actual construction employment (SIC 45 and 74.2) in the North East for 2007, and the forecast total employment for each of the 26 occupations between 2009 and 2013. A full breakdown of occupations is provided in Appendix IV.

In the North East, total construction employment is forecast to be 121,660 in 2013, including both SIC 45 and 74.2. This is an increase of over 11,000 from 2007 and 5,620 from 2009. From this, 110,330 are expected to be classified as working in SIC 45, with an additional 11,330 working in SIC 74.2.

Wood trades and interior fit-out is predicted to remain the largest occupational group in the region in 2013. Other sizeable occupational groups include construction managers and electrical trades and installation, both of which are forecast to employ more than 10,500 workers in 2013.

The largest absolute increase in employment between 2009 and 2013 is expected for construction managers (970) and wood trades and interior fit-out (620).

Construction managers are also expected to see the greatest proportional increase in employment, along with labourers nec*, increasing by 9% between 2009 and 2013. Scaffolders are predicted to see an 8% rise in employment during the same period.



Total construction employment in the North East is projected to be 116,040 in 2009, rising to **121,660 in 2013**

Total employment by occupation - North East			
	Actual 2007	Forecast	
		2009	2013
Senior, executive, and business process managers	3,450	3,680	3,890
Construction managers	9,910	10,450	11,420
Non-construction professional, technical, IT, and other office-based staff	5,930	6,390	6,700
Wood trades and interior fit-out	12,080	12,200	12,820
Bricklayers	4,570	4,740	5,030
Building envelope specialists	3,310	3,500	3,750
Painters and decorators	6,220	6,500	6,710
Plasterers and dry liners	3,190	3,050	3,270
Roofers	2,750	2,940	3,010
Floorers	2,360	2,650	2,710
Glaziers	1,160	1,300	1,390
Specialist building operatives nec*	2,860	2,990	3,110
Scaffolders	1,450	1,520	1,640
Plant operatives	3,640	3,790	3,810
Plant mechanics/fitters	2,490	2,700	2,840
Steel erectors/structural	2,080	2,050	2,170
Labourers nec*	5,450	5,960	6,510
Electrical trades and installation	9,680	10,260	10,700
Plumbing and HVAC Trades	7,930	8,280	8,650
Logistics	1,130	1,250	1,330
Civil engineering operatives nec*	4,010	4,430	4,400
Non-construction operatives	4,210	4,360	4,470
Civil engineers	2,090	2,210	2,210
Other construction professionals and technical staff	6,860	7,100	7,360
Architects	1,120	1,320	1,370
Surveyors	540	420	390
Total (SIC 45)	99,860	104,990	110,330
Total (SIC 45 and 74.2)	110,470	116,040	121,660

Source: ONS, CSN, Experian
Footnote: 5 and 6 (See Appendix III)

* nec - not elsewhere classified

3.2 Annual recruitment requirements by occupation

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 new entrant training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education 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.



The table, Annual recruitment requirement by occupation – North East, shows the annual recruitment requirement (ARR) for 26 occupations within the North East construction industry between 2009 and 2013. In total, 2,010 new recruits each year will be needed to deliver forecasted construction output in the region. This takes into account ‘churn’ – flows into and out of the industry.

The largest ARR are expected to be for wood trades and interior fit-out (280), non-construction professionals, technical, IT and other office-based staff (220), bricklayers (170), construction managers (170) and electrical trades and installation (160).

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 retraining.

Non-construction operatives is a diverse occupational group including all of the activities under the SIC 45 and SIC 74.2 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 East	
	2009-2013
Senior, executive, and business process managers	50
Construction managers	170
Non-construction professional, technical, IT, and other office-based staff	220
Wood trades and interior fit-out	280
Bricklayers	170
Building envelope specialists	120
Painters and decorators	<50
Plasterers and dry liners	90
Roofers	<50
Floorers	60
Glaziers	<50
Specialist building operatives nec*	60
Scaffolders	120
Plant operatives	<50
Plant mechanics/fitters	<50
Steel erectors/structural	<50
Labourers nec*	60
Electrical trades and Installation	160
Plumbing and HVAC Trades	<50
Logistics	<50
Civil engineering operatives nec*	50
Non-construction operatives	
Civil engineers	60
Other construction professionals and technical staff	70
Architects	<50
Surveyors	<50
Total (SIC 45)	1,850
Total (SIC 45 and 74.2)	2,010
Source: CSN, Experian	
Footnote: 5 and 6 (See Appendix III)	

* nec - not elsewhere classified

4 Comparisons across the UK

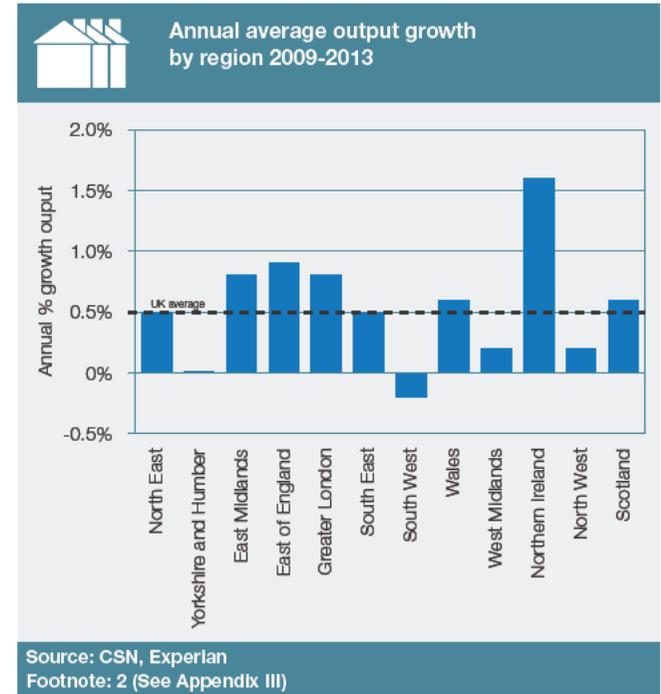
Between 2009 and 2013 most regions and nations are forecast to experience a rise in construction output, the exceptions being the South West, and Yorkshire and Humber the former of which is predicted to see a slight decline and the latter no change.

The South West does not benefit from growth in the infrastructure and public non-housing sectors in the way that many other regions and nations do, as there are no major civil engineering projects planned for the region within the forecast period and few local authorities feature in the early phases of the Building Schools for the Future programme (BSF). In Yorkshire and Humber, the low average annual growth rate is a function of a very poor 2009 predicated on the largest fall in new orders of any region or nation in 2008.

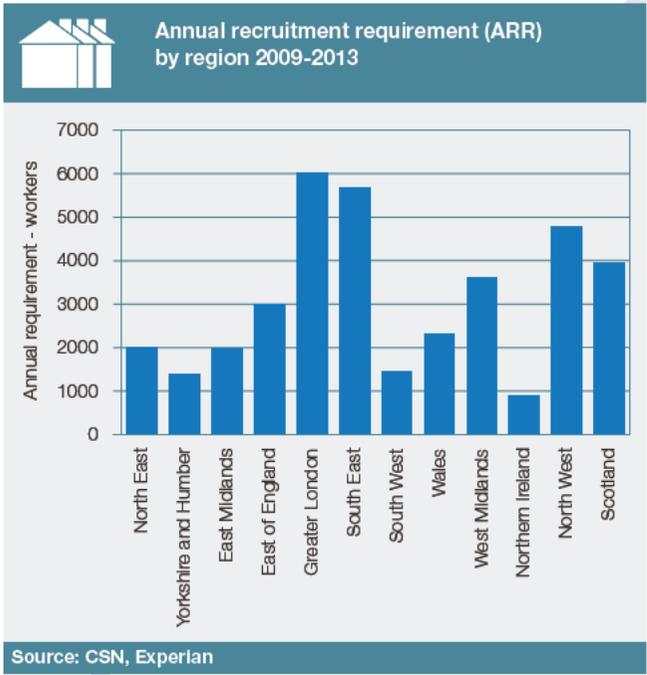
Northern Ireland continues to show the highest forecast growth in output, driven by the investment strategy planned for the next 10 years by the Northern Ireland Executive, although worries about how quickly this can be delivered have led to a lower growth rate than that put forward in previous years. The East Midlands, East of England and Greater London are also predicted to do better than the UK average, the capital in particular benefits from major infrastructure projects, the BSF programme, and Olympics build.

The ARR for 2009–2013 for Greater London is estimated to be the highest of the regions with just over 6,000 new entrants needed each year. This high ARR can in part be attributed to the region accounting for a large proportion of construction output for the UK as a whole. Next comes the South East with an ARR of around 5,700, not surprising given that the size of the construction market in the region is similar to Greater London's, and the North West with an ARR of close to 4,800.

The lowest ARR is for Northern Ireland at 900, despite the fact that the province has the highest output growth rate in the UK. This is because it is a small market, accounting for around 2.7% of UK output and 3.1% of UK employment. The North East has quite a high ARR, at a little over 2,000, compared to its market size. This is because it has a reasonable growth rate in output terms and it suffers from significant outflows of construction workers to other regions.



For the North East, annual average output growth is forecast in line with the UK average



Appendix I – Methodology

Background

The **Construction Skills Network (CSN)**, launched in 2005, represents a radical change in the way that ConstructionSkills 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.



Millennium Bridge, Gateshead

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 is a forecasting model which generates forecasts of employment requirements within the industry for a range of trades. The model was designed and is managed by Experian under the independent guidance and validation of the Technical Reference Group, comprised of statisticians and modelling experts.

It is envisaged that the model will evolve over time as new research is published and modelling techniques improve. 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 model, which is 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 the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education representatives. Thus, 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 model is dynamic and reflects the general UK economic climate at any point in time. To generate the labour demand, the model makes use of a set of specific statistics for each major type of work (labour coefficients) 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 years' 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:

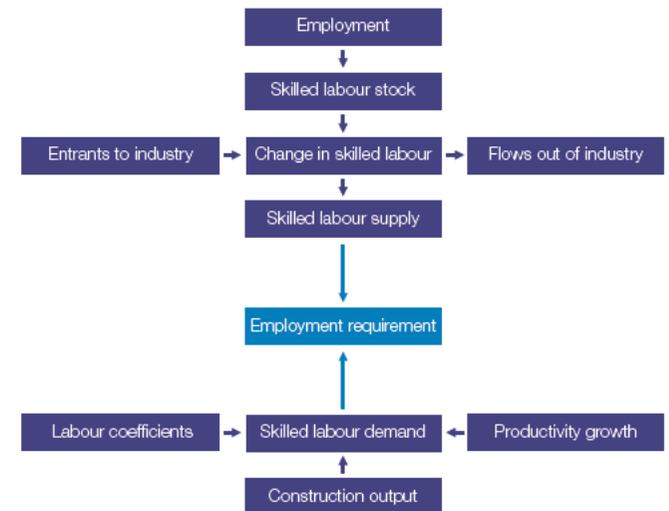
- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

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.



Source: Experian

Appendix II – Glossary of terms

- **Building envelope specialists** – any trade involved with the external cladding of the building other than bricklaying, e.g. curtain walling.
- **Demand** – construction **output**, vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using Office for National Statistics (ONS) and the Department of Finance and Personnel Northern Ireland (DFP) output data. Vacancy data are usually taken from the National Employers Skills Survey from the Department for Education and Skills.
- **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.
- **Labour coefficients** – the labour inputs required for various types of construction activity. The number of workers of each occupation/trade to produce £1m of output in 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**.
- ConstructionSkills is responsible for SIC 45 Construction and part of SIC 74.2 Architectural and Engineering activities and related technical consultancy.
- ConstructionSkills shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. AssetSkills has a peripheral interest in SIC 74.2.
- **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.



Appendix III – Footnotes and footprints

Footnotes

- 1 Except for Northern Ireland, output data for the English regions, Wales and Scotland are 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 to a 2000 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 45, 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 45.31 and 45.33.

Footprints for Built Environment SSCs

The table summarises the SIC codes covered by ConstructionSkills:

	SIC Code	Description
ConstructionSkills	45.1	Site preparation
	45.2	Building of complete construction or parts; civil engineering
	45.3	Building Installations (except 45.31 and 45.33 which are covered by SummitSkills)
	45.4	Building completion
	45.5	Renting of construction or demolition equipment with operator
	74.2†	Architectural and engineering activities and related technical consultancy

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.

ConstructionSkills recognises the responsibility of Summit Skills across Standard Industrial Classifications (SIC) 45.31 and 45.33, thus 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.

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.

† AssetSkills has a peripheral interest in SIC 74.2

Appendix IV – Occupational groups

Occupational group

Description, SOC 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
Precision instrument makers and repairers, 5224
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
Goldsmiths, silversmiths, precious stone workers, 5495
Tyre, exhaust and windscreen fitters, 8135

Steel erectors/structural

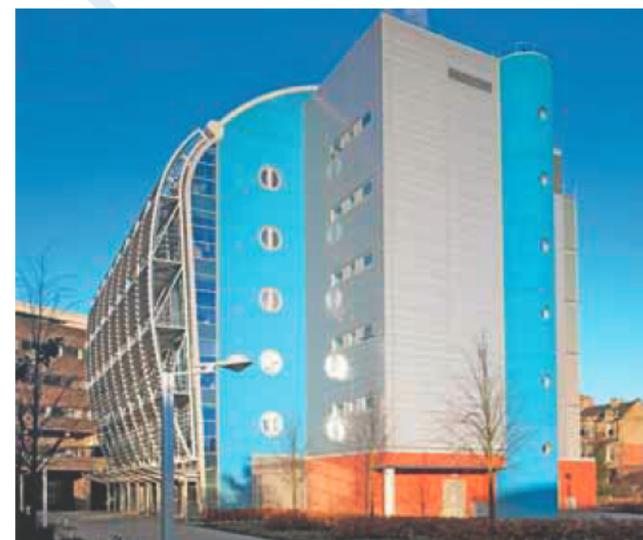
Steel erectors, 5311
Welding trades, 5215
Sheet metal workers, 5213
Metal plate workers, shipwrights and riveters, 5214
Construction trades nec* (5%), 5319
Smiths and forge workers, 5211
Moulders, core makers, die casters, 5212
Metal machining setters and setter-operators, 5221

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



Devonshire Building, University of Newcastle

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

Appendix V – CSN website and contact details

The CSN website – <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 research reports such as the '2020Vision' and 'Closer look at Greater London' are also freely available.



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
- CSN team contact information
- access to related ConstructionSkills research
- details for those interested in becoming members of the network.

The CSN website can be found at:

<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 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:

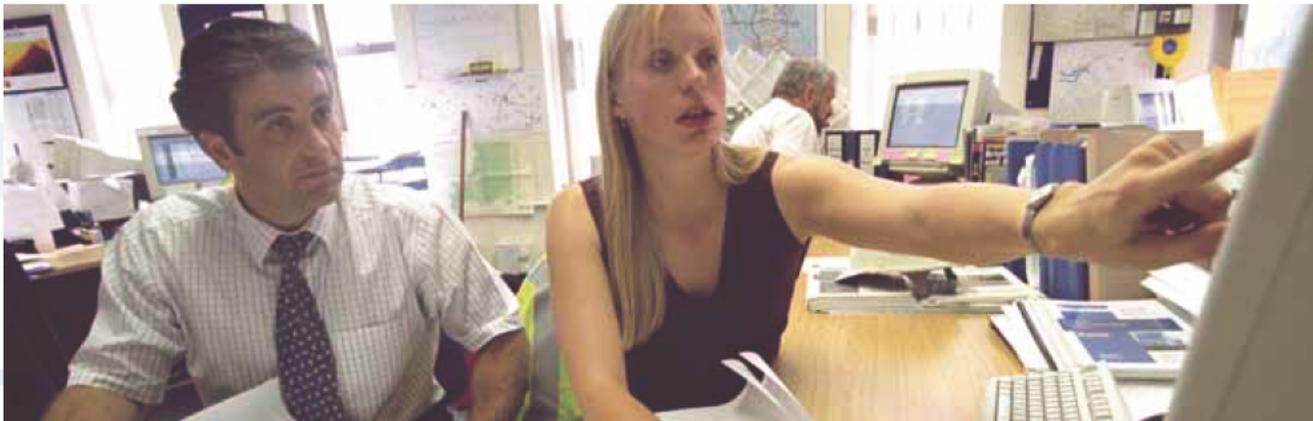
- access observatory related material such as meeting dates, agendas, presentations and notes
- access sub-regional LMI reports
- download additional research material
- comment/feedback to the CSN Team.

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.

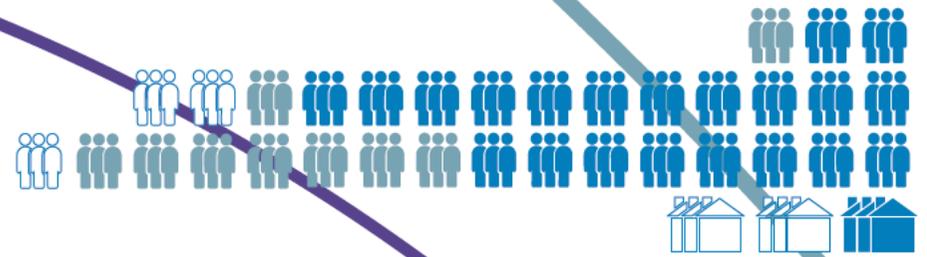
Contact details

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

For enquiries relating to the work of the CSN, please contact Sandra Lilley, CSN Manager, at: sandra.lilley@cskills.org



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