



# 2012–2016 Construction Skills Network Wales

LABOUR MARKET INTELLIGENCE



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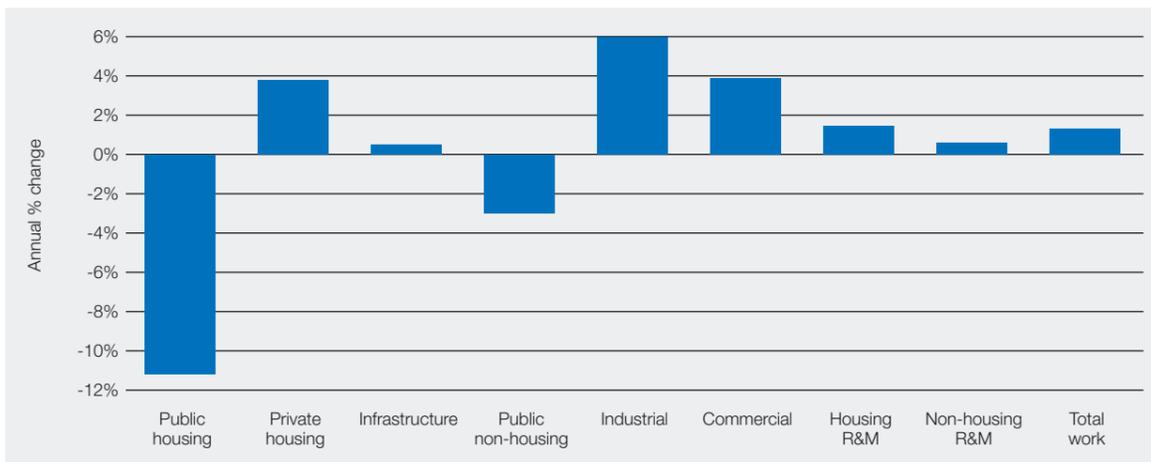
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# 1. Summary – Wales

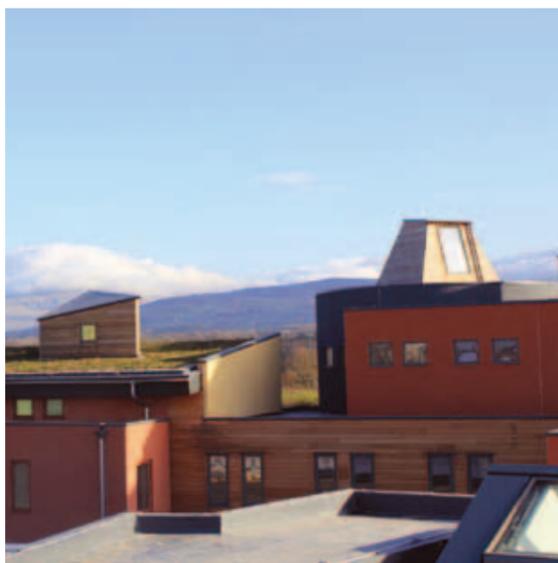
Construction output in Wales is forecast to grow at an annual average rate of 1.3% over the five years to 2016, roughly in line with the UK average of 1.4%. However Wales' construction employment is predicted to grow at a much faster rate than output, 2.2% a year on average, which is considerably higher than the UK average (0.6%). However, construction employment in Wales has suffered much more than the UK as a whole, with a peak to trough fall of 28% compared with 10% for the UK, thus this more robust growth is from a much lower base.

Annual average construction output growth 2012-2016 - Wales



Source: CSN, Experian ref. CSN Explained, Section 5.3, Note 2

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Construction output in Wales is forecast to grow at an annual average rate of 1.3% over the five years to 2016, roughly in line with the UK average of 1.4%.

## Key findings

While the overall construction output growth rate in Wales is very similar to the UK as a whole, there is significant variation across some of the sectors. It looks like public housing output in Wales has fared significantly better than across the UK as a whole in 2011. However, given the much reduced funding available going forward – a reduction of 17% between 2011/12 and 2013/14 – the trend can only be downwards over the next couple of years in Wales.

Private housing forecasts are fairly similar across the UK as a whole as most regions and devolved nations' markets are affected by the same factors – economic growth, house prices, consumer spending and confidence, and credit conditions. Given relatively weak economic performance, at least in the short term, growth in private housing output is likely to be only moderate over the forecast period.

While there are a number of small to medium sized transport projects taking place in Wales at present, such as the A465 improvement work, there is a dearth of major projects. This situation may be rectified towards the end of the forecast period as work starts on one of the new generation of nuclear plants proposed, at Wylfa in Anglesey. However, most of the construction activity from this project will be beyond the current forecast period.

Falls in public non-housing output are likely to be relatively moderate, given that Building Schools for the Future (BSF) was an English programme and thus not applicable to Wales.

While capital budgets for health and education work in Wales will be under pressure, programmes such as the 21st Century Schools Programme should help to mitigate the overall decline.

In the repair and maintenance (R&M) sectors, the Arbed programme has delivered a good level of work retrofitting domestic properties with energy efficient and microgeneration measures and will continue to do so for some time to come.

The construction workforce in Wales contracted by over 38,000 between 2007 and 2010, a much bigger fall in percentage terms than that seen across the UK as a whole. The suggestion is, therefore, that there is much less slack in the Welsh industry, which is part of the reason that employment in Wales is projected to grow quite strongly over the forecast period, by over 11,500 over the five years to 2016.

Wood trades and interior fit out continues to be the largest occupational category, accounting for close to 14% of total construction employment in Wales in 2010. This occupational category is expected to grow by 32% in the five years to 2016, as are specialist building operatives nec\*, with scaffolders increasing by 37%. In contrast bricklayers are only expected to increase by a little more than 1% over the forecast period.

Wales traditionally has quite a high annual recruitment requirement (ARR) and this year is no exception, with a requirement of 4,280 a year on average over the forecast period.

## National / Regional comparison 2012-2016

	Annual average % change in output	Growth in total employment	Total ARR
North East	0.5%	4,840	2,170
Yorkshire and Humber	0.0%	-6,370	2,630
East Midlands	1.0%	-1,800	3,460
East of England	2.9%	10,660	5,710
Greater London	2.5%	16,560	1,790
South East	2.2%	28,020	4,520
South West	2.2%	9,560	7,220
Wales	1.3%	11,590	4,280
West Midlands	-1.1%	-7,360	3,730
Northern Ireland	2.1%	3,880	1,170
North West	-0.9%	-6,990	5,080
Scotland	1.3%	13,520	4,480
<b>UK</b>	<b>1.4%</b>	<b>76,110</b>	<b>46,240</b>

Source: CSN, Experian ref. CSN Explained, Section 5.3, Note 2

## 2. The outlook for construction in Wales

### 2.1 Construction output in Wales – overview

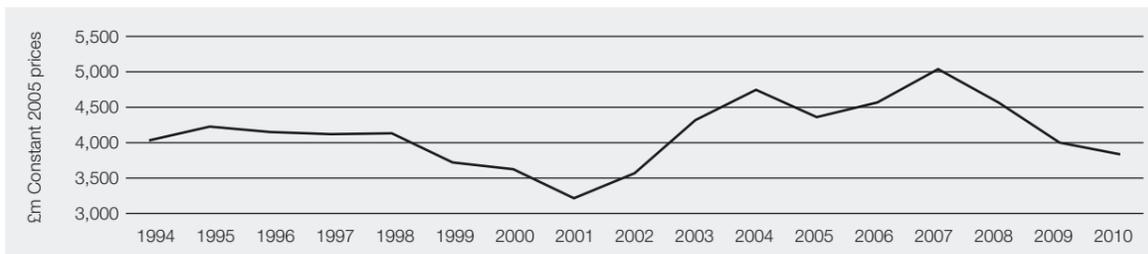
The construction industry in Wales suffered its third consecutive year of output decline in 2010, taking its level down to £3.83bn in 2005 prices, 24% below its 2007 peak and the lowest since 2002.

The Welsh industry went in the opposite direction to the UK's in 2010, which saw growth of 8%. However, it was the exceptionally poor performance in the repair and

maintenance sectors, especially in non-housing activity, that was the cause of the decline in construction output in Wales; new work output rose by 9%.

Within the new work sector, housing saw the most robust growth, public output rising by 15% and private housing by 27%, although this was after two years of very strong declines in the case of the latter sector. The other new work sectors saw only moderate growth, ranging from 4% in the commercial sector to 8% in infrastructure.

### Construction output 1994-2010 - Wales



Source: ONS  
ref. CSN Explained, Section 5.3, Note: 1

### 2.2 Industry structure

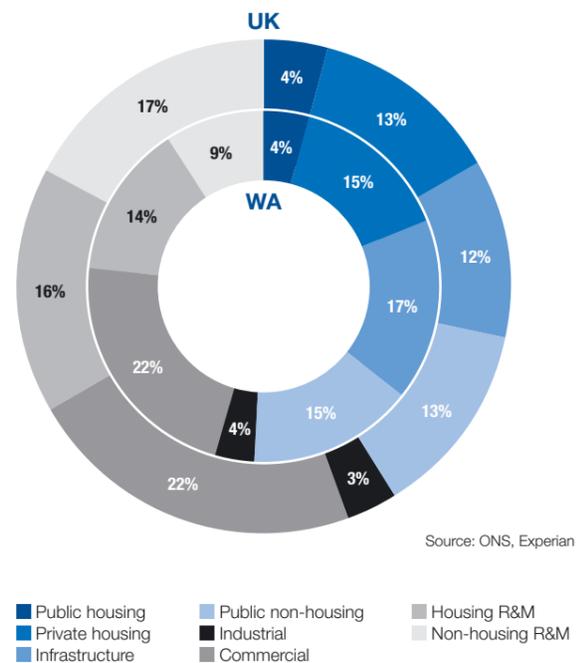
The diagram, Construction Industry structure 2010 – UK vs. Wales, illustrates the sector breakdown of construction in Wales compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

The main structural difference between Wales and the UK as a whole in 2010 was that the infrastructure sector was 5% larger in Wales and the non-housing repair and maintenance (R&M) one was 8% smaller. The share of the infrastructure sector in Wales grew by 2% between 2009 and 2010, from 15% to 17%. In contrast the share of non-housing R&M dropped from 16% to 9% over the same period. Given that the level of non-housing R&M in 2010 was well below historic norms, the latter change may prove to be a temporary one.

### 2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2012–2016) provides an indication of the construction sectors in which demand is likely to be strongest.

### Construction industry structure 2010 - UK vs. Wales



Source: ONS, Experian

### Economic structure - Wales (£ billion, 2006 prices)

Selected sectors	Actual	Forecast					
		Annual % change, real terms					
	2010	2011	2012	2013	2014	2015	2016
Public services	13.6	0.9	-0.2	-0.2	-0.2	0.2	0.4
Financial and business services	6.1	-0.7	2.0	2.5	2.7	3.1	3.3
Transport and communications	2.4	2.9	1.9	2.2	2.3	2.5	2.5
Manufacturing	7.3	2.6	3.0	3.2	2.5	1.9	1.3
Distribution, hotels and catering	6.1	1.3	0.6	1.7	2.0	2.3	2.6
<b>Total Gross Value Added (GVA)</b>	<b>42.3</b>	<b>0.8</b>	<b>0.8</b>	<b>1.3</b>	<b>1.4</b>	<b>1.7</b>	<b>1.7</b>

Source: Experian  
ref. CSN Explained, Section 5.3, Note 3

### 2.4 Economic structure

Gross Value Added (GVA) in Wales totalled £42.3bn in 2006 prices in 2010, a 1.8% rise on 2009, in line with UK average growth. Thus Wales' share of total UK GVA remained stable at 3.6%.

Growth was by far the strongest in the manufacturing sector in Wales in 2010, with GVA rising by over 10%, followed by distribution, hotels and catering (3.4%) and transport and communications (2.8%). In contrast the financial and business services sector declined by 4%, its second successive year of fall.

Interestingly, this has led to an at least temporary reversal of the long-term structural changes taken place in the Welsh economy. The financial and business services sector's share of Welsh economic activity dropped to 14.4% in 2010, its lowest since 2005. In contrast the manufacturing sector has arrested its decline in importance, with its share of GVA rising from 15.9% in 2009 to 17.2% in 2010.

Public services remains the largest sector of the Welsh economy, accounting for 32.2% of activity in 2010, half a percent down on its share in 2009. Its share of Welsh GVA dropped under 30% in 2006 but went back over this level in 2008.

### 2.5 Forward looking economic indicators

The Welsh economy is projected to grow at an annual average rate of 1.4% over the five years to 2016, a little below the UK average of 1.8%. The strongest performing sectors are expected to be financial and business services (2.7%), manufacturing (2.4%) and transport and communications (2.3%).

These annual rates of growth are slightly lower than the predicted UK averages for all three sectors.

At present the UK economy and its constituent parts are struggling to stay in growth mode given the weakness of domestic demand and the evaporation of export-led recovery due to the well-publicised problems in the eurozone. With banks coming under increasing pressure, the easing of credit conditions seen since the height of the credit crunch in 2008 may well stall.

Real household disposable income (RHDI) in Wales is estimated to have fallen by not far short of 4% in 2011. While 2012 will be a better year in this respect, a further, marginal, decline is expected. Thus household spending will continue to come under pressure, at least in the short term. In the medium term, falling inflation and tax and benefit changes working their way out of the system should lead to a return to growth in RHDI and consumer spending.

Unemployment is forecast to peak in Wales in 2012 and subside slowly thereafter. Total full-time equivalent (FTE) employment is projected to grow by 4% over the five years to 2016, less than half the rate of the last growth period 2003-2007.

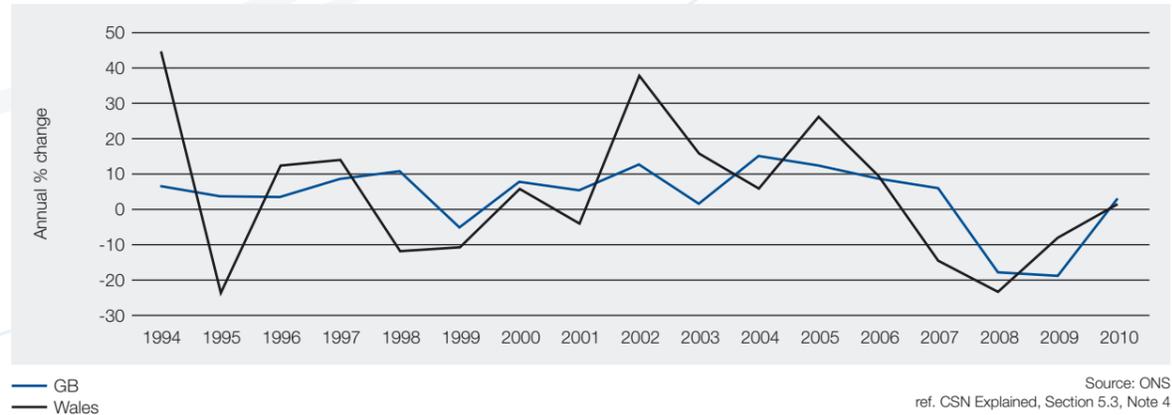
The prospects for house price growth remain muted. According to Communities and Local Government, house prices in Wales averaged just under £151,000, 2.5% up on the previous year but still over 8% down on their 2007 peak. With first-time buyers still finding it difficult to put together the deposits lenders currently require and thus thin on the ground, house prices are estimated to have drifted downwards slightly in 2011. As demand is likely to remain muted into the medium-term, only modest house price growth is predicted for the 2012 to 2016 period.

### Economic indicators - Wales (£ billion, 2006 prices - unless otherwise stated)

	Actual	Forecast					
		Annual % change, real terms					
	2010	2011	2012	2013	2014	2015	2016
Real household disposable income	36.1	-3.8	-0.4	0.8	0.7	1.3	1.6
Household spending	36.2	-2.3	-0.1	1.9	2.1	2.4	2.8
Working age population (000s and as % of all)	1768.2	58.5%	58.7%	59.4%	60.0%	60.4%	60.9%
House prices (£)	150953	-1.9	1.6	2.0	2.4	2.3	2.4
LFS unemployment (millions)	0.12	0.12	0.13	0.12	0.12	0.11	0.10

Source: ONS, DCLG, Experian

## New construction orders growth 1994-2010 - Wales vs. GB



### 2.6 New construction orders – overview

After three years of strong decline, the level of new orders in Wales stabilised in 2010, at £2.11bn in current prices, 1.5% up on the previous year. New orders for private housing more than doubled, although they still remained 30% below their 2005 peak. The public housing and commercial sectors experienced a more moderate upturn, of 32% and 12% respectively.

In contrast, new orders for industrial construction fell by 69% to just £74m in 2010, their lowest level since the current regional construction data series began in 1985. The infrastructure sector experienced a fall in new orders of 29% in 2010, although they were coming back down from their third highest level since 1985 in 2009. Public non-housing new orders peaked in 2006 and have been on a generally downward path since then.

### 2.7 New construction orders – current situation

The stabilisation of new orders in 2010 would in the normal course of events probably presaged the start of recovery and an upturn in their level in 2011. However, new orders in the first half of 2011 have totalled only £766m, 25% down the same period of 2010 and 30% below their level in the previous half-year. The outturn in the second quarter of the year, at £237m was the weakest since the fourth quarter of 1987.

New orders levels were down across the board, with the heaviest falls in the private housing, industrial and commercial sectors. Private housing new orders in the first half of 2011 totalled just £142m, 32% down on the same period of 2010 and 57% below the outturn in the previous half-year. Somewhat surprisingly, the least depressed sector in terms of new orders in the first half of 2011 was the public non-housing one, with levels down only 4% compared with the previous half year and actually 7% up compared with the same period of 2010.

### New work construction orders - Wales (£ million, current prices)

	Actual 2010	Annual % change				
		2006	2007	2008	2009	2010
Public housing	180	-0.4	61.8	-15.1	54.0	32.3
Private housing	537	-3.3	-9.3	-61.4	-8.2	125.6
Infrastructure	305	-45.9	-39.6	57.3	11.5	-28.9
Public non-housing	483	53.9	-16.0	14.8	-18.2	-14.7
Industrial	74	-34.6	67.1	-48.1	48.2	-68.8
Commercial	527	62.8	-23.9	-33.5	-30.1	12.1
<b>Total new work</b>	<b>2,107</b>	<b>9.5</b>	<b>-14.5</b>	<b>-23.3</b>	<b>-8.0</b>	<b>1.5</b>

Source: ONS ref. CSN Explained, Section 5.3, Note 4

## 2.8 Construction output – short-term forecasts (2012–2013)

Regional Office for 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 were only available for the first two quarters of 2011.

Construction output in Wales in the first six months of 2011 totalled £2.26bn in current prices. This represented a 5% increase on the previous six months and a 15% rise on the same period of 2010. R&M performed better than new work in the first half of the year, the former up 17% against the previous half-year compared with only a 1% rise for the latter. The strongest of the new work sectors were the housing and infrastructure ones.

The Welsh construction industry is estimated to have performed reasonably well in 2011, with an increase in output in real terms of around 6%. However, almost all this growth consists of a bounce-back in R&M activity in 2011 after a substantial fall in 2010. The overall size of the Welsh construction market still remains over 19% below its 2007 peak despite this improvement.

The orders data for the first half of 2011 suggests that the 2011 upturn will be short-lived. Output is predicted to fall by 4% in 2012, with a modest recovery in 2013, giving an annual average growth rate over the two years of -1.6%.

The profile of capital funding for social housing set by the Welsh Government shows a fall of 12% in 2012/13 compared with 2011/12 and an even sharper decline of 21% to £48.1m in 2013/14. This will inevitably lead to falling social house building activity in the short term.

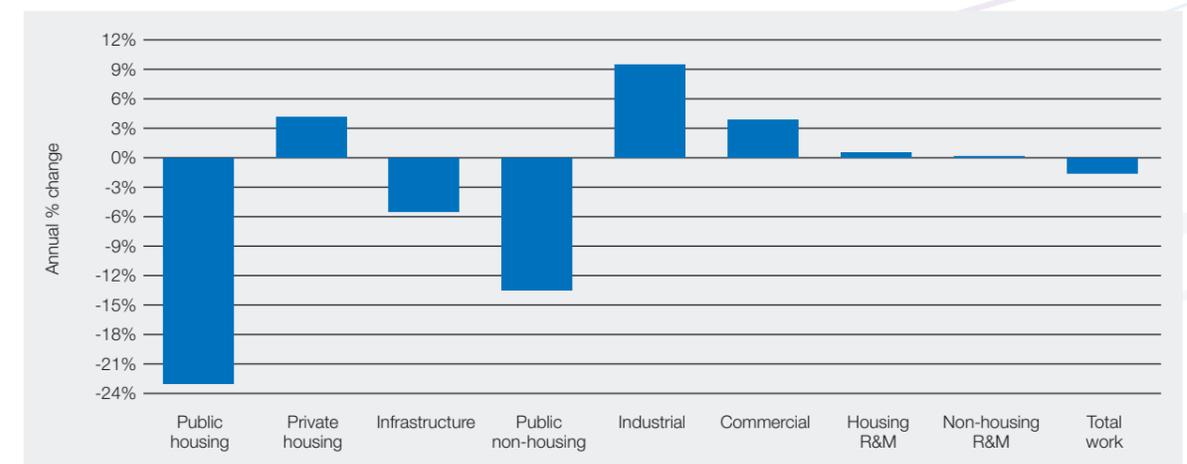
In contrast, modest growth is predicted for the private housing sector. Good growth in 2010 and 2011 has repaired some of the damage done to the sector during the 2008/09 recession, although output levels still remain well below the previous peak. The poor economic environment and still tight credit conditions are likely to constrain further growth to modest levels in the short term, given that demand remains weak.

The fastest growing sector in the short term is expected to be the industrial construction one. However this is largely as a result of a 'bounce-back' effect from very low levels. Even with a projected annual average growth rate of 9.4% for 2012 and 2013, the outturn in the latter year, of £169m in 2005 prices, will be substantially below the 20 year average (1991-2010) of £291m.

At the other end of the scale, public non-housing output is forecast to fall by an annual average rate of 13.5% in 2012 and 2013. The capital budget for both the health and education sectors is due to fall by 17% between 2011/12 and 2013/14.

The strong growth seen in the R&M sectors in 2011 is unlikely to be repeated going forward, given that this was largely compensating for the losses suffered by the sector in 2010. Phase 1 of the Arbed programme, designed to improve the energy efficiency of the Welsh housing stock, has now completed. Over £30m of investment was made, half from the public purse and half from the private sector and more than 6,000 homes received improvements, 79% in the social housing sector and 21% in the private sector.

### Annual average construction output growth 2012-2013 - Wales



Source: Experian ref. CSN Explained, Section 5.3, Notes 1 and 2

### Construction output - Wales (£ million, 2005 prices)

	Actual	Forecast annual % change			Annual average
	2010	2011	2012	2013	2012-13
Public housing	170	21%	-20%	-26%	-23.0%
Private housing	560	13%	2%	6%	4.1%
Infrastructure	642	2%	-13%	2%	-5.5%
Public non-housing	580	-10%	-16%	-11%	-13.5%
Industrial	141	0%	9%	10%	9.4%
Commercial	847	-5%	0%	8%	3.8%
<b>New work</b>	<b>2,940</b>	<b>1%</b>	<b>-6%</b>	<b>2%</b>	<b>-2.4%</b>
Housing R&M	551	22%	5%	-4%	0.5%
Non-housing R&M	342	26%	0%	0%	0.1%
<b>Total R&amp;M</b>	<b>893</b>	<b>24%</b>	<b>3%</b>	<b>-2%</b>	<b>0.4%</b>
<b>Total work</b>	<b>3,833</b>	<b>6%</b>	<b>-4%</b>	<b>1%</b>	<b>-1.6%</b>

Source: Experian ref. CSN Explained, Section 5.3, Notes 1 and 2

### 2.9 Construction output – long-term forecasts (2012–2016)

Construction output in Wales is projected to expand at an annual average rate of 1.3% over the five years to 2016, a similar rate of growth to that predicted for the UK as a whole (1.4%). New work is expected to do slightly better than R&M (1.3% compared with 1.1%), but the difference is marginal. By 2016 construction output in Wales is predicted to reach £4.33bn in 2005 prices, still 14% below its 2007 peak.

The new housing sectors are expected to move in different directions, with public housing output falling, especially in the first part of the forecast period, and private house building increasing, albeit at a relatively modest rate. The public housing sector will be affected by public expenditure cuts over the majority of the forecast period, although the bulk of the decline will be in the early years. By 2016 public housing output will have fallen to around £113m in 2005 prices on these forecasts, not much more than half the 2011 peak of around £205m, but still well above the 20-year average (1991-2010) of £84m.

The private housing sector will continue in recovery mode to 2016, although growth is likely to be only moderate given economic growth below trend and credit conditions that are unlikely to return to pre-recession levels. By far the biggest project in the pipeline delivering a large amount of residential construction is the £230m Barry Waterfront redevelopment, for which plans were approved by Vale of Glamorgan Council in July 2011. As well as retail, leisure, health and education facilities, the scheme is expected to deliver up to 2,000 new homes, a mix of both private and affordable, over the next ten years. The development is projected to begin in early 2012, with the first phase of development completed by the end of 2013. In a housing market currently delivering only 5,000-6,000 new units a year, this project will have some impact on the sector on its own.

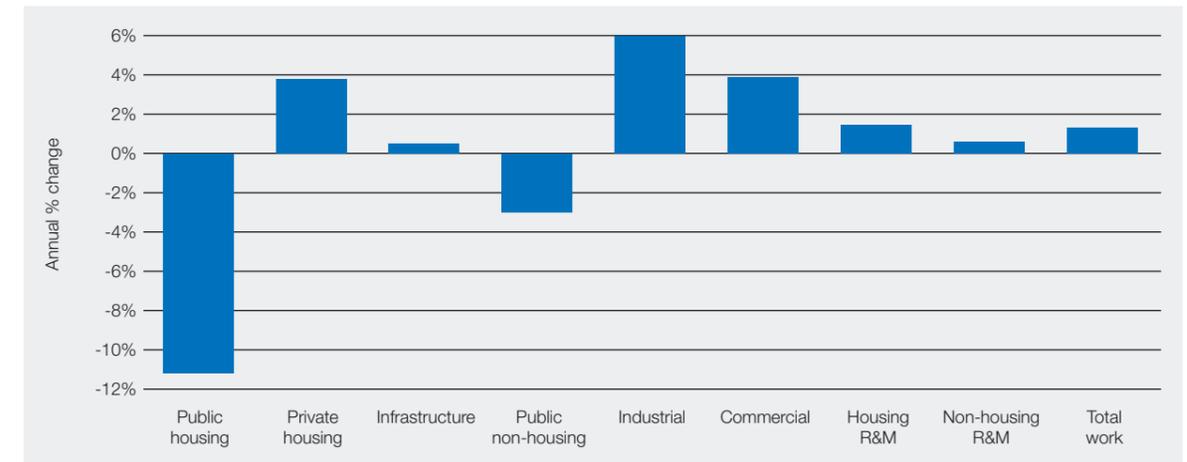
Only marginal growth is projected for the infrastructure sector, of just 0.5% a year on average, although this weak performance is largely due to projected falls in activity in 2012. The largest roads project in Wales is the A465 improvement one, which is due to upgrade some 40km of the route between Abergavenny and Hirwaun by 2020. Two parts of this scheme have already been completed and a third, the £140m section between Brynmawr to Tredgar has seen a contract awarded with work to start next year.

The Welsh Government recently announced that a further £90m of funds would be available to invest in infrastructure in its widest sense, including nearly £12m for transport, £17m for health and £32m for education.

The £32m extra for education comes as part of capital investment programme £1.4bn as part of the Welsh Government's 21st Century Schools programme. This is due to build on the investment already provided under the Transitional Funding Programme and is currently planned to start in 2014/15. It is programmes such as these and the Welsh Government's support for both health and education capital expenditure within the confines of its overall capital departmental expenditure limits (DEL), that is leading to a smaller fall in public non-housing output in Wales than across the UK as a whole (a 3% annual average decline in Wales compared with 9.1% for the UK).

Of the labour intensive R&M sectors, the housing one is predicted to do better than the non-housing one. Phase 2 of the Arbed programme is now underway and will be seeking to improve a similar number of homes as phase 1 (around 6,000), although spread over a longer timescale of three years. Funding for phase 2 will come from European Union Structural Funds and the Welsh Government.

### Annual average construction output growth 2012-2016 - Wales



Source: CSN, Experian ref. CSN Explained, Section 5.3, Note 2

### Construction output - Wales (£ million, 2005 prices)

	Estimate	Forecast annual % change					Annual average
	2011	2012	2013	2014	2015	2016	2012-16
Public housing	205	-20%	-26%	-5%	1%	-3%	-11.2%
Private housing	635	2%	6%	5%	4%	2%	3.8%
Infrastructure	654	-13%	2%	3%	3%	9%	0.5%
Public non-housing	520	-16%	-11%	-3%	8%	9%	-3.0%
Industrial	141	9%	10%	4%	5%	2%	6.0%
Commercial	808	0%	8%	5%	4%	3%	3.9%
<b>New work</b>	<b>2,964</b>	<b>-6%</b>	<b>2%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>1.3%</b>
Housing R&M	673	5%	-4%	2%	3%	1%	1.4%
Non-housing R&M	431	0%	0%	1%	1%	1%	0.6%
<b>R&amp;M</b>	<b>1,104</b>	<b>3%</b>	<b>-2%</b>	<b>2%</b>	<b>2%</b>	<b>1%</b>	<b>1.1%</b>
<b>Total work</b>	<b>4,068</b>	<b>-4%</b>	<b>1%</b>	<b>3%</b>	<b>4%</b>	<b>3%</b>	<b>1.3%</b>

Source: CSN, Experian ref. CSN Explained, Section 5.3, Notes 2

### 2.10 Beyond 2016

Wales and Scotland continue to lead the way in terms of addressing the retrofitting needs of the domestic built environment. The Arbed programme is intended to continue to at least 2020 with up to £1bn invested from various sources, including the Green Deal, in reducing the carbon emissions of domestic properties.

On the supply side of the energy equation, the biggest project in the pipeline remains the proposed new nuclear power station at Wylfa, Anglesey. Recent research by Experian and ConstructionSkills suggests that work on this project could begin as early as 2015, last well into the early 2020s, with the construction element worth around £3.75bn.

The 21st Century Schools Programme is another that should start within the current forecast period, but last for many years beyond. The Welsh Government is looking to local authorities to plan projects now with a view to accessing up to £700m of capital funding from Government with the remainder of the £1.4bn coming from other sources. Work can then be brought forward as and when resources become available. The programme is due to last for seven years from a start date of 2014/15

# 3. Construction employment forecasts for Wales

## 3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41-43, 71.1, and 74.9) in Wales for 2010, the forecast total employment in 26 occupations and in the industry as a whole between 2012 and 2016. A full breakdown of occupational groups is provided in Section 5 of CSN explained.

Construction employment in Wales is projected to reach around 111,300 in 2016, 12% up on its estimated 2011 level. This represents an annual average employment growth rate of 2.2%, well above the UK average of 0.6%. Part of this difference is the fact that Welsh construction employment will be coming back up from a lower base than the UK. The peak to trough fall in employment in Wales was 28%, compared with just 10% in the UK. Furthermore, the good growth in output in 2011 in Wales, a significantly better performance than across the UK as a whole, will feed into employment in 2012 with its usual lagged effect.

### Total employment by occupation - Wales

	Actual	Forecast	
	2010	2012	2016
Senior, executive, and business process managers	2,400	2,220	2,170
Construction managers	6,430	6,080	7,020
Non-construction professional, technical, IT, and other office-based staff	10,100	11,470	10,890
Wood trades and interior fit-out	13,080	14,900	17,900
Bricklayers	4,640	4,480	4,850
Building envelope specialists	3,870	4,400	4,390
Painters and decorators	3,610	4,070	4,300
Plasterers and dry liners	2,620	2,970	3,440
Roofers	630	600	670
Floorers	1,370	1,540	1,510
Glaziers	1,610	1,580	1,530
Specialist building operatives nec*	2,100	2,390	2,860
Scaffolders	1,800	2,040	2,540
Plant operatives	2,090	2,020	1,720
Plant mechanics/fitters	950	850	900
Steel erectors/structural	1,800	1,730	2,010
Labourers nec*	5,360	5,180	5,860
Electrical trades and installation	7,500	8,540	8,290
Plumbing and HVAC trades	7,160	7,080	7,870
Logistics	2,550	2,460	2,740
Civil engineering operatives nec*	3,750	4,270	3,870
Non-construction operatives	1,000	1,130	1,150
Civil engineers	1,250	1,420	1,430
Other construction professionals and technical staff	4,810	5,240	6,110
Architects	530	600	600
Surveyors	3,800	4,250	4,700
<b>Total (SIC 41-43)</b>	<b>86,420</b>	<b>92,000</b>	<b>98,480</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>96,810</b>	<b>103,510</b>	<b>111,320</b>

Source: ONS, CSN, Experian ref. CSN Explained, Section 5.3, Notes 5 and 6  
NEC\* - Not elsewhere classified

The largest absolute increases in employment are predicted for wood trades and interior fit-out personnel (4,360) and other construction professional and technical staff (1,210). The large absolute growth for the wood trades and interior fit-out category is no real surprise as this occupational aggregate is by far the largest in Wales, accounting for nearly 14% of construction employment in 2010. In relative terms the strongest growth in demand is likely to be for special building operatives nec\* and scaffolders, with the former increasing by 32% from its 2011 base and the latter by 37% by 2016.

It is interesting to note that some of the more 'traditional' construction trades, such as bricklayers, have only modest employment growth rates over the five year to 2016, indicating ongoing changes in the processes used in the industry.

## 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, although robust data on training provision is being developed by ConstructionSkills. 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.

The ARR for the 26 occupations within Wales' construction industry is illustrated in the table. The figure of 4,280 is indicative of the average requirements per year for the industry, as based on the output forecasts for the region. This takes into account 'churn' i.e. the flows into and out of the industry, excluding training flows.

The ARR for Wales is equivalent to 4.1% of projected base 2012 employment, well above the UK average of 1.9%. This high ARR rate is partly due to the relatively strong employment demand expected in Wales and to the fact that it suffers from high net outflows, both to other industries and to other parts of the UK, in particular to the South West and North West English regions.

### Annual recruitment requirement by occupation - Wales

	2012-2016
Senior, executive, and business process managers	-
Construction managers	-
Non-construction professional, technical, IT, and other office-based staff	550
Wood trades and interior fit-out	470
Bricklayers	380
Building envelope specialists	<50
Painters and decorators	50
Plasterers and dry liners	-
Roofers	-
Floorers	-
Glaziers	70
Specialist building operatives nec*	220
Scaffolders	50
Plant operatives	400
Plant mechanics/fitters	<50
Steel erectors/structural	-
Labourers nec*	420
Electrical trades and installation	-
Plumbing and HVAC trades	-
Logistics	170
Civil engineering operatives nec*	-
Non-construction operatives	-
Civil engineers	250
Other construction professionals and technical staff	530
Architects	120
Surveyors	540
<b>Total (SIC 41-43)</b>	<b>2,840</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>4,280</b>

Source: CSN, Experian ref. CSN Explained, Section 5.3, Notes 5 and 6  
NEC\* - Not elsewhere classified

On an absolute level, the largest requirements for construction-specific occupations are for surveyors (540) and other construction professional and technical staff (530), but on a relative basis architects and civil engineers are likely to be most in demand (23% and 20% of base 2012 employment). The implication of these figures is that Wales could suffer from a shortfall of construction professionals over the next five years unless these excess requirements are addressed.

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.

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

## 4. Comparisons across the UK

The North West (-0.9%) along with the West Midlands (-1.1%) are the only regions projected to see a decline in their annual average growth rate over the next five years. For the UK the yearly growth rate is 1.4%. The best performing region is expected to be the East of England with a rate of 2.9%.

Over the forecast period, we seem to be seeing the emergence of a north/south divide, with the greater south east (the South East, Greater London and the East of England) faring best, and the northern English regions faring worst. In between are the devolved nations, who, although they have their overall expenditure limits set by Westminster, through their devolved administrations have more control on what it will be spent than the English regions. Already the devolved administrations in Scotland and Northern Ireland have redirected a proportion of resource funding to the capital expenditure account, which should benefit the construction industry in these areas.

There are a number of reasons for the emergence of this north/south divide. The first is the more constrained outlook for public expenditure going forward. While declines in public housing activity are expected to be fairly similar across the board, with one or two exceptions, the profile for the public non-housing sector is very different. Output in this sector hit a new historic high in 2010 and since 2007 had grown by over 72% in real terms, primarily driven by work under the BSF programme. Wales was not part of the BSF programme, thus has seen much slower growth in public non-housing output between 2007 and 2010, estimated at around 6% in real terms. Thus the sector has much less far to fall in Wales over the forecast period.

Second, major infrastructure projects are tending to be greater South East centric at present. Infrastructure activity in the UK is at a historic high, exceeding its previous peak in 1993 during the building of the Channel Tunnel. This level of activity is being driven largely projects in the South East corner of England – Crossrail, Thameslink, M25 widening, London Gateway port, to name a few. That is not to say that there are not projects elsewhere, there are, but they are tending to be of a lesser size. The relatively weak performance of the Welsh infrastructure sector is largely due to a lack of big infrastructure projects, at least in the short term. By 2015, nuclear new build works could be on site in Anglesey, which would start to boost output in the sector.

Third, growth in the commercial sector is likely to be stronger in the greater south east than elsewhere in England. The offices market has already been strengthening in London and along the M4 corridor/Thames Valley, while excess capacity issues remain a problem across many regional centres. The northern English regions also have many currently mothballed retail and leisure developments for which it is difficult to see an economic imperative to restart, at least in the short term.

Wales is predicted to have the strongest growth in employment, despite only moderate growth in output. This is because its employment levels will be coming back from a lower base than the rest of the UK, it will benefit from a positive effect on employment in 2012 of reasonably robust output growth in 2011, and most of its growth is focussed in the more labour intensive repair and maintenance sectors. Not surprisingly, employment growth is also stronger than the UK average in the South East, Greater London and the East of England.

Relatively strong employment growth coupled with high net outflows gives Wales a large annual recruitment requirement, put at 4,280 a year on average over the five years to 2016. This represents 4.1% of projected base 2012 employment, significantly higher than the UK average of 1.9%. London has the lowest rate, at 0.5% despite it being the largest construction market in both output and employment terms.

Wales is predicted to have the **strongest growth in employment**, despite only moderate growth in output.

Annual average output growth by nation/region 2012-2016



Source: CSN, Experian ref CSN Explained, Section 5.3, Note 2

Annual recruitment requirement (ARR) by nation/region 2012-2016



Source: CSN, Experian

YYH



Relatively strong employment growth coupled with high net outflows gives Wales a large annual recruitment requirement, put at 4,280 a year on average over the five years to 2016.

## 5. CSN explained

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

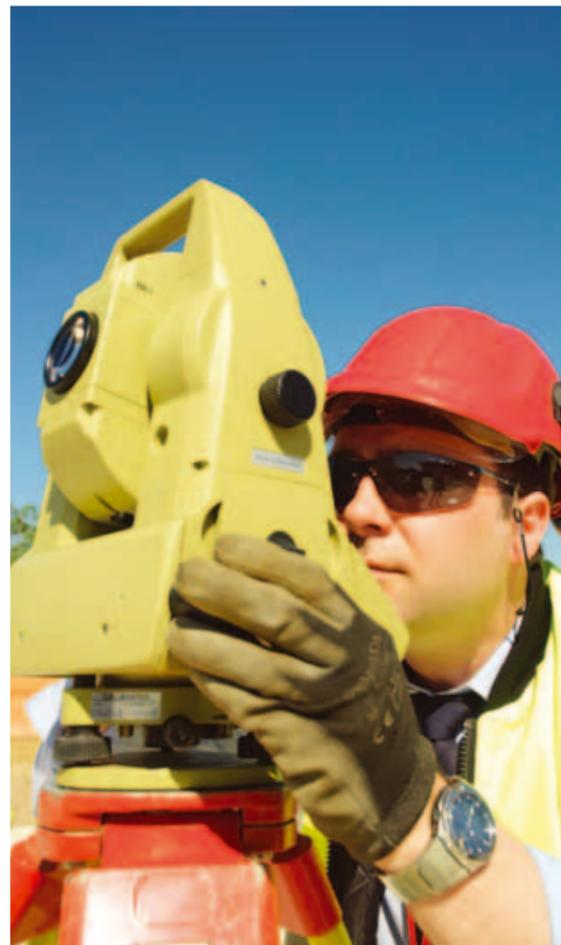
Section 5.1 gives an overview of the underpinning methods that are used by the CSN, working in partnership with Experian, to produce the suite of reports at both a UK, national and regional level.

Section 5.2 provides a glossary to clarify some of the terms that are used in the reports, while section 5.3 has some further notes that relate to the data sources that are used for the various charts and tables. Section 5.3 also outlines what is meant by the term footprint, when talking about the areas of responsibility that lie with a Sector Skills Council.

Section 5.4 explains the sector definitions used within the report and provides examples of what is covered in each.

Section 5.5 gives a detailed breakdown of the 26 occupational groups into the individual standard occupational classification (SOC) codes that are aggregated to provide the employment and recruitment requirement.

Section 5.6 then concludes by giving details about the range of LMI reports, the advantages of being a CSN member and the contact details should people be interested in joining.



## 5.1 CSN 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.

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 once a year and sets the national scene, effectively forming a backdrop for the Observatories.

At the heart of the CSN are a number of forecasting models which generate forecasts of employment requirements within the industry for a range of occupational groups. The models are designed and managed by Experian under the independent guidance and validation of the Technical Reference Group, comprised of statisticians and modelling experts.

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

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

The **annual recruitment requirement (ARR)** is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with public funding agencies, Further Education, Higher Education and employer 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 models are dynamic and reflect the general UK economic climate at any point in time. To generate the labour demand, the models make use of a set of specific statistics for each major type of work that determine the employment, by trade, needed to produce the predicted levels of construction output. The labour supply for each type of trade or profession is based upon the previous 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:

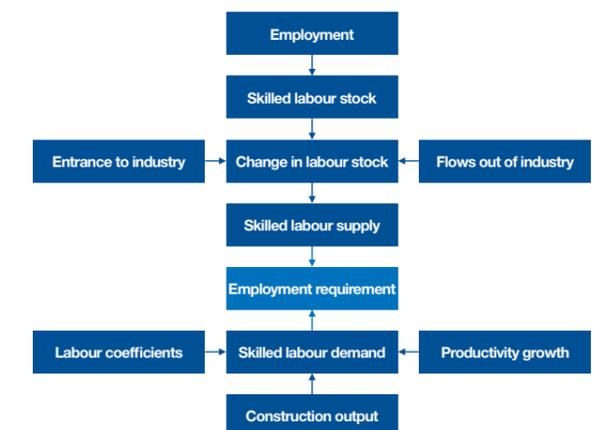
- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

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.



## 5.2 Glossary of terms

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



## 5.3 Notes and footprints

### Notes

- 1 Except for Northern Ireland, output data for the English regions, Scotland and Wales are supplied by the Office for National Statistics (ONS) on a current price basis. Thus national deflators produced by the ONS have been used to deflate to a 2005 constant price basis, i.e. the effects of inflation have been stripped out.
- 2 The annual average growth rate of output is a compound average growth rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.
- 3 Only selected components of gross value added (GVA) are shown in this table and so do not sum to the total.
- 4 For new construction orders comparison is made with Great Britain rather than the UK, owing to the fact that there are no orders data series for Northern Ireland.
- 5 Employment numbers are rounded to the nearest 10.
- 6 The tables include data relating to plumbers and electricians. As part of SIC 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

ConstructionSkills is responsible for SIC 45 Construction and part of SIC 74.2 Architectural and Engineering activities and related technical consultancy.

The table summarises the SIC codes (2003) covered by ConstructionSkills:

	SIC Code	Description
<b>ConstructionSkills</b>	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

\* AssetSkills has a peripheral interest in SIC 74.2

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 shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. 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.

AssetSkills has a peripheral interest in SIC 74.2.

### 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.

## 5.4 Definitions: types and examples of construction work

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

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

### Private sector housing

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

### Infrastructure - public and private

#### Water

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

#### Sewerage

Sewage disposal works, laying of sewers and surface drains.

#### Electricity

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

#### Gas, communications, air transport

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

#### Railways

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

#### Harbours

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

#### Roads

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

### Public non-residential construction<sup>1</sup>

#### Factories and warehouses

Publicly owned factories, warehouses, skill centres.

#### Oil, steel, coal

Now restricted to remedial works for public sector residual bodies.

#### Schools, colleges, universities

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

#### Health

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

#### Offices

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

#### Entertainment

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

#### Garages

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

#### Shops

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

#### Agriculture

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

#### Miscellaneous

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

### Private industrial work

Factories, warehouses, wholesale depots, all other works and buildings for the purpose of industrial production or processing, oil refineries, pipelines & 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<sup>2</sup>

#### Schools and universities

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

#### Health

Private hospitals, nursing homes, clinics.

#### Offices

Office buildings, banks.

#### Entertainment

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

#### Garages

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

#### Shops

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

#### Agriculture

All buildings and work on farms, horticultural establishments.

#### Miscellaneous

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

### New work

#### New housing

Construction of new houses, flats, bungalows only.

#### All other types of work

All new construction work and all work that can be referred to as improvement, renovation or refurbishment and which adds to the value of the property.<sup>3</sup>

### Repair and maintenance

#### Housing

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

#### All other sectors

Repair and maintenance work of all types including planned and contractual maintenance.<sup>4</sup>

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

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

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

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

## 5.5 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  
 Motor mechanics, auto engineers, 5231  
 Labourers in process and plant operations nec\*, 9139  
 Tool makers, tool fitters and markers-out, 5222  
 Vehicle body builders and repairers, 5232  
 Auto electricians, 5233  
 Vehicle spray painters, 5234  
 Tyre, exhaust and windscreen fitters, 8135



### Steel erectors/structural

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

### Labourers nec\*

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

### Electrical trades and installation

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

### Plumbing and heating, ventilation, and air conditioning trades

Plumbers and HVAC trades, 5314  
 Pipe fitters, 5216  
 Labourers in building and woodworking trades (6%), 9121  
 Construction trades nec\* (5%), 5319

## 5.6 CSN website and contact details

### 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

### 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, enquiries relating to the work of the CSN, or to register your interest in joining the CSN as a member, please contact us at:

[csn@cskills.org](mailto:csn@cskills.org)



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<http://www.cskills.org/contact-us/offices.aspx>

**Cskills website**

<http://www.cskills.org/>

**CSN webpage**

<http://www.cskills.org/supportbusiness/businessinformation/csn/index.aspx>

