

Construction Skills Network

Wales 2013-2017

Labour Market Intelligence





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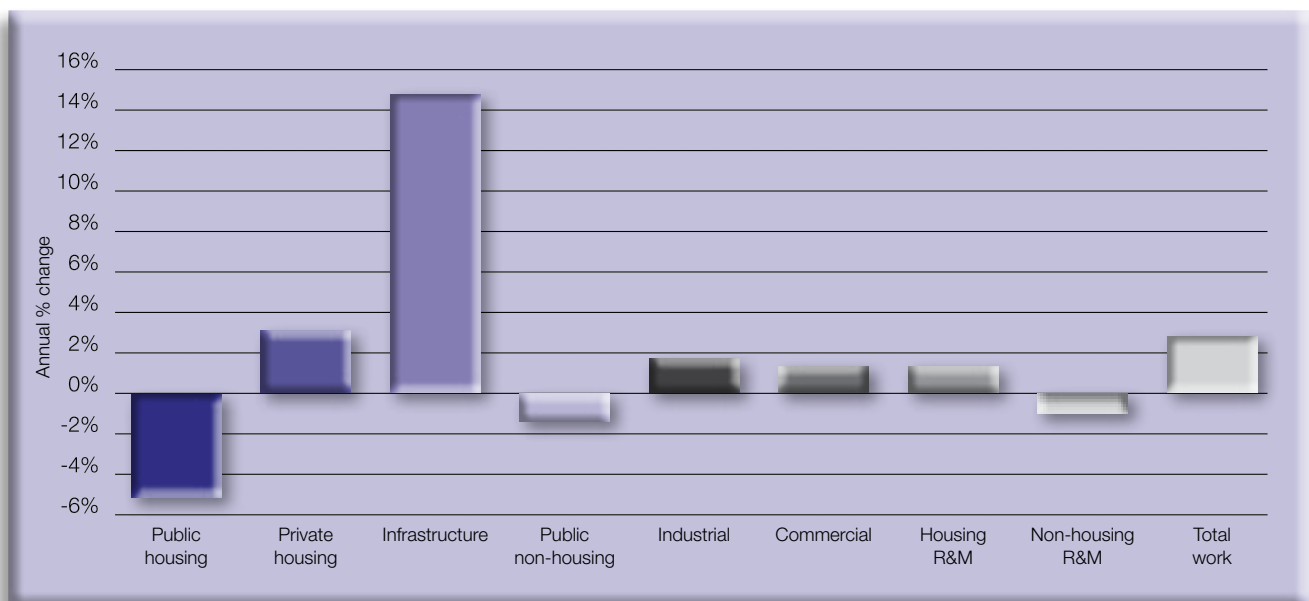
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1. Summary – Wales

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

Annual average construction output growth 2013-2017 – Wales



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



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

Key findings

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

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

The main driver of the strong performance from the Welsh construction industry over the forecast period is the planned new nuclear power plant at Wylfa in Anglesey. The project was cast into doubt when Horizon, the developer, was put up for sale, but its recent purchase by Hitachi has put it back

on track. Hitachi's technology still needs to go through the generic design assessment, but it is still expected that work on the nuclear power station will start during the current forecast period. Without this project, the average annual growth rate for construction in Wales falls to just 0.6% over the five years to 2017.

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

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

Regional comparisons 2013-2017

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

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

2. The outlook for construction in Wales

2.1 Construction output in Wales – overview

Revised figures from the Office for National Statistics (ONS) indicate that construction output in Wales is likely to have grown slightly in 2010, rather than the decline that was reported last year, albeit growth is estimated at a marginal 1%. 2011 is estimated to have been a better year, with growth in Welsh construction of 6%, higher than the UK average of 2%.

Both the new housing sectors saw good growth, of 13% and 17% respectively, taking the former to a new historic high, but the remainder of the new work sectors experiencing declining levels of activity, with the industrial construction sector particularly weak (-21%).

However, the main engine of growth in 2011 was the repair and maintenance (R&M) sectors, which recovered most of the ground lost in a poor 2010.

Construction output 1995-2011 – Wales



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

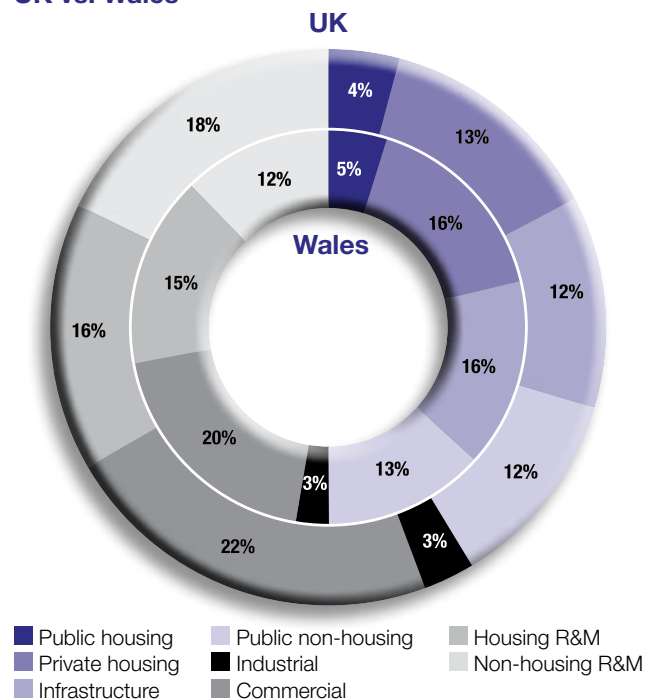
2.2 Industry structure

The diagram, construction industry structure 2011 – 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.

There were some structural differences between the Welsh and UK construction industries in 2011, with the private housing sector accounting for a 3% larger share of Wales' construction output than across the UK as a whole, and infrastructure proportionally 4% larger, although the latter was down from 5% in 2010. The non-housing R&M sector remains a less important market in Wales than the UK, accounting for a 6% smaller share in the former, although this was down from 8% in 2010.

The surprise in recent years has been the volatility of repair and maintenance (R&M) output allocated to Wales by the ONS. This may be due to the increasing use of framework agreements for large social housing renovation projects and therefore the fact that rising levels of work may be undertaken by large contractors based outside Wales. The biggest change in 2011 compared to the previous year was an increase in non-housing R&M's share of total output from 9% to 12%.

Construction industry structure 2011 – UK vs. Wales



Source: ONS, Experian

2.3 Economic overview

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

2.4 Economic structure

Gross Value Added (GVA) in Wales totalled £43.9bn in 2009 prices in 2011, a 0.5% decline on 2010. This compares poorly with UK GVA growth of 1.1% in the same period and means that Wales' share of total UK GVA fell from 3.6% to 3.4%.

Public services GVA declined by 3.6% in 2011 but it was not the worst performing sector, that dubious distinction going to finance and insurance with a 5.3% drop. In contrast manufacturing GVA expanded strongly, by close to 5%.

Public services' GVA fall in 2011 was the sector's third consecutive annual decline, but it still remains the largest part of the Welsh economy, taking a 23.8% share of total GVA, down from 24.3% in 2008. The second largest sector in Wales is the professional and other private services one, taking a 19.3% share of total GVA in 2011, although it remains less important to the Welsh economy than in the UK as a whole, where it took a 22.7% share.

In contrast, manufacturing is a much more important element of the Welsh economy, taking a 16.6% share of GVA in 2011, compared with 10.9% across the UK as a whole, although this is still well down on its 2000 share of 20.6%.

Economic structure – Wales (£ billion, 2009 prices)

Selected sectors	Actual 2011	Forecast <i>Annual % change, real terms</i>					
		2012	2013	2014	2015	2016	2017
Public services	10.5	0.8	-0.4	0.1	0.3	0.6	0.9
Professional and other private services	8.5	1.5	0.7	1.6	2.1	2.4	2.4
Manufacturing	7.3	-0.9	1.7	2.1	1.5	1.1	0.9
Wholesale and retail	4.5	-0.4	0.5	1.8	2.2	2.3	2.2
Accommodation, food services and recreation	2.2	3.5	2.4	2.9	2.6	2.1	2.0
Total Gross Value Added (GVA)	43.9	-0.5	0.3	1.3	1.7	1.9	1.9

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

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 2017, half a percent below the UK average of 1.9%.

The strongest performing sectors are expected to be accommodation, food services and recreation, with 2.4% annual average growth, and information and communications, and finance and insurance, both with 2%. Not surprisingly growth in public services is weak, at an annual average rate of just 0.3%.

However, growth over the 2013-2017 period comes after a poor 2012, with GVA in Wales dropping by an estimated 0.5%, the same magnitude of decline as was seen in 2011. This is in line with the UK average and has largely been predicated on the effects on the UK economy of the latest resurgence of the sovereign debt crisis in Europe.

After sharp falls in 2011, real household disposable income (RHD) and consumer spending are estimated to have stabilised in 2012. Both indicators are projected to go into a slow return to growth over the forecast period, but even by 2017 increases will hover around the 2% mark or a little above, well down on the heady days of the early 2000s.

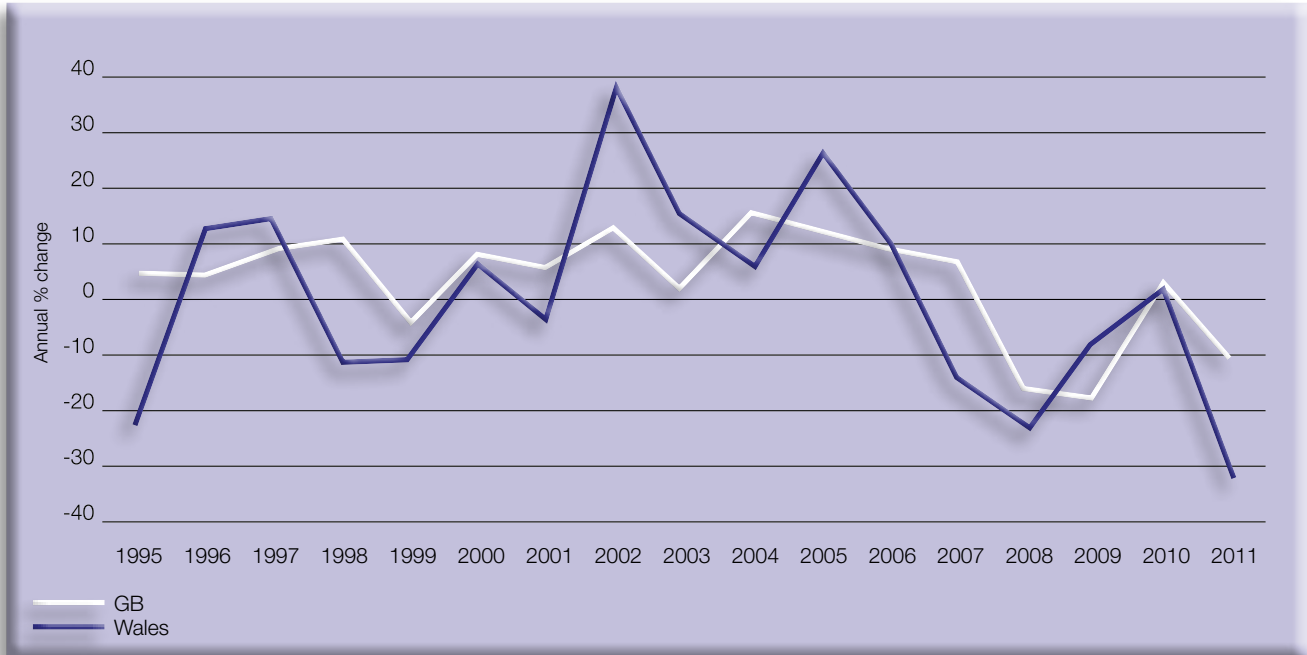
The unemployment rate is expected to peak in 2013 at around 9.3%, a year later than forecast in 2011. Employment growth has been remarkably strong in 2012 given the weakness of the economy, although much of this has been in part-time rather than full-time working, but some correction in this trend is expected as we move into 2013. The working age population as a share of total population in Wales is expected to steadily increase over the forecast period, in contrast with the UK as a whole where it is projected to remain at best stable.

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

	Actual 2011	Forecast <i>Annual % change, real terms</i>					
		2012	2013	2014	2015	2016	2017
Real household disposable income	38.7	0.5	0.8	1.5	1.6	1.6	2.1
Household spending	37.5	0.0	0.6	1.6	2.0	2.1	2.3
Working age population (000s and as % of all)	1797.8	59.5%	59.9%	60.3%	60.6%	60.8%	61.0%
House prices (£, current prices)	150,120	0.8	0.6	0.8	1.5	1.7	2.0
LFS unemployment (millions)	0.13	3.91	3.89	-7.19	-8.21	-5.68	-7.78

Source: ONS, DCLG, Experian

New construction orders growth 1995-2011 – Wales vs. GB



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

There was little change in house prices in Wales on an annualised basis in 2011, according to data from the ONS, and future increases are projected to remain under 1% a year for the next three years. Even by 2017 house price growth in Wales is forecast to be only 2% per annum.

2.6 New construction orders – overview

After a year of stability in 2010, new construction orders in Wales plunged again in 2011, by 32% to £1.42bn in current prices. This is only 41% of their 2006 peak and the lowest level since 1993. To a certain extent it is unfair to compare current levels of orders with the previous peak and it would be fairer to compare with what could be called a normal level of new orders. However, this raises the question of what is 'normal'? Calculation of a 'normal' figure is complicated by

the fact that new construction orders at a regional level are only available in current prices, therefore if they include the effects of inflation, they are likely to increase in the longer term. However, the simple fact that they were at their lowest level since 1993 would suggest that new orders in 2011 were significantly below what could be described as normal.

The only sector that did not see a fall in new orders in 2011 was industrial construction, with a flat profile. For all the other new work sectors the decline was in excess of 20%, with that for the public housing sector the worst at -45%, although this was after two very good years of growth.

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

	Actual 2011	Annual % change				
		2007	2008	2009	2010	2011
Public housing	99	61.8	-15.1	54.0	32.3	-44.8
Private housing	322	-9.3	-61.4	-8.2	125.6	-40.1
Infrastructure	190	-39.6	57.3	11.5	-28.9	-37.6
Public non-housing	380	-16.0	14.8	-18.2	-14.7	-21.3
Industrial	73	67.1	-48.1	48.2	-68.8	-0.1
Commercial	358	-23.9	-33.5	-30.1	12.1	-32.0
Total new work	1,424	-14.5	-23.3	-8.0	1.5	-32.4

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

2.7 New construction orders – current situation

The first half of 2012 has been much better, with the level of new orders up by 60% half-year-on-half-year and 37% higher than in the corresponding period of 2011. The strongest growth was in the industrial sector where orders more than doubled on an annual basis, although this was from a very low level and therefore changes are magnified in percentage terms. The infrastructure and commercial sectors also saw marked increases, with the level of new orders up by 80% and 61% respectively, half-year-on-half-year. However this increase has to be viewed in the context of the declines reported in the previous section, that is new orders are generally coming back up from a very low base.

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

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

Construction output in Wales in the first half of 2012 totalled £1.94bn in current prices, 12% down on the previous half year and 13% below the corresponding period of 2011. Output was particularly weak in the public and private housing sectors (-21% and -25% respectively half-year-on-half-year) and the infrastructure one (-38% on the same measure). While activity was up in the industrial, commercial and non-housing R&M sectors, growth was not especially strong.

With the second half of the year not expected to have been significantly better than the first half, construction output in Wales is estimated to have declined by around 13% in real terms in 2012. The new work sector is likely to have performed worse than R&M, with an estimated drop of 15% in the former and 7% in the latter.

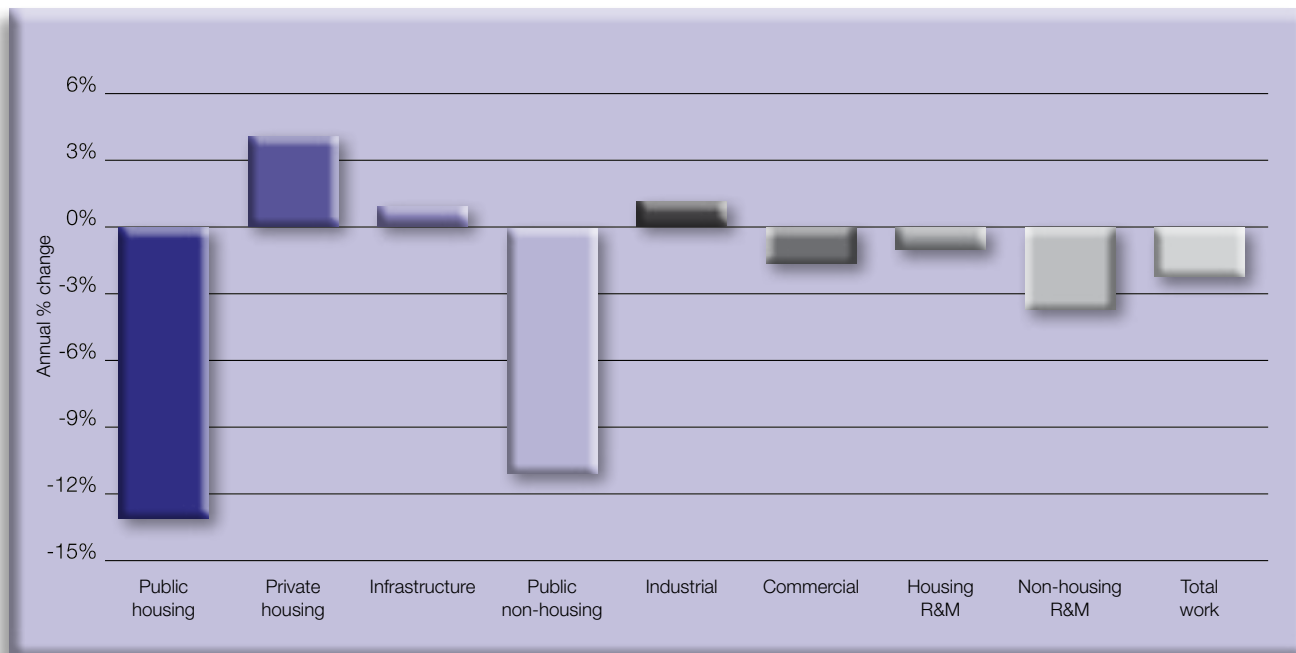
A further year of contraction is expected for the Welsh construction industry in 2013, with a decline of 5% forecast, before growth returns in 2014, albeit only a weak 1%. This return to growth is likely to be driven by the new work sectors, with output forecast to rise by 2% in 2014, with a marginal decline of 1% expected for R&M activity.

The public housing sector is expected to be the worst performing in Wales in the short term, with an average decline of 13.3% forecast in both 2013 and 2014. However, this reflects a double-digit fall in 2013, with output expected to stabilise in 2014. Capital funding in Wales for new social housing is due to drop by around 12% between 2012/13 and 2013/14, although it will stabilise thereafter.

Public non-housing output is also expected to fall markedly in the short-term, with an average annual decline of 11.1% in 2013 and 2014. The capital budget for health is due to fall in 2013/14, to around £217m, from £246m in the previous year, but pick up slightly to £225m in 2014/15. The capital budget for education is also expected to decline, dropping to £154m by 2014/15 from £178m in 2012/13.

With an average annual decline of 1.5% forecast for 2013 and 2014, short term prospects for the Welsh commercial construction market are weak. There are some big commercial construction projects in the planning stages in the principality, but the question is when will they get on site? The largest is the proposed £200m redevelopment of Talbot Green town centre, with a mixture of retail, leisure and office premises. In the short term, ongoing weakness in the wider economy will provide little incentive for investment in new developments, with retail and leisure facilities in particular affected by muted consumer spending. A more sustained improvement in economic conditions over the next couple of years, along with better prospects for disposable incomes, should provide the basis for starting new developments.

Annual average construction output growth 2013-2014 – Wales



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

Construction output – Wales (£ million, 2005 prices)

	Actual	Forecast annual % change			Annual average
	2011	2012	2013	2014	2013-14
Public housing	187	-20%	-25%	0%	-13.3%
Private housing	627	-23%	1%	7%	4.1%
Infrastructure	602	-33%	1%	1%	0.8%
Public non-housing	518	-13%	-18%	-4%	-11.1%
Industrial	106	22%	-1%	3%	0.9%
Commercial	763	-1%	-5%	2%	-1.5%
New work	2,802	-15%	-6%	2%	-2.3%
Housing R&M	601	-13%	-2%	1%	-0.9%
Non-housing R&M	469	0%	-5%	-2%	-3.5%
Total R&M	1,071	-7%	-4%	-1%	-2.1%
Total work	3,873	-13%	-5%	1%	-2.2%

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

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

Over the five years to 2017, construction output in Wales is projected to rise at an average annual rate of 2.7%, substantially above the UK average of 0.8%. The new work sector is expected to see markedly stronger growth than R&M output, with average increases of 3.6% and 0.3%, respectively. This strong performance is almost entirely due to work starting on the new nuclear reactor at Wylfa in 2016, hence the strong performance of new work output, and without this project, the principality's average annual growth rate falls to 0.6% over the five-year period.

Not surprisingly, the best performing sector over the forecast period is the infrastructure one, with average growth of 14.3% per year. This reflects particularly strong growth towards the end of the forecast period, when work is expected to have started at Wylfa in Anglesey. Current information from the Nuclear Industry Association (NIA) suggests that enabling works could start at Wylfa in 2015, with main construction works due to start in 2016. Initial information following the purchase of Horizon by Hitachi suggested that there could be some delay to the project given that Hitachi's technology will still need to go through a generic design assessment before work can commence, but more recent developments suggest that construction will still start during our current forecast period. Elsewhere in the infrastructure sector, the Welsh Government's November 2012 publication shows capital Departmental Expenditure Limits (DELs) for roads, rail and air services picking up in both 2013/14 and 2014/15. Wales is also looking at innovative ways in which funding can be accessed such as the Local Government Borrowing Initiative.

Growth is also expected in the private housing sector, with output forecast to rise at an average rate of 3.1% per year over the five years to 2017. The sector had begun to regain some of the ground lost in recent years, but an estimated decline of 23% took it back to relatively low levels of output again. Demand is currently constrained by weak economic performance and concerns over job security, along with pressures on disposable incomes. These conditions are expected to improve over the next couple of years, providing some boost to demand. In addition, the Welsh Government

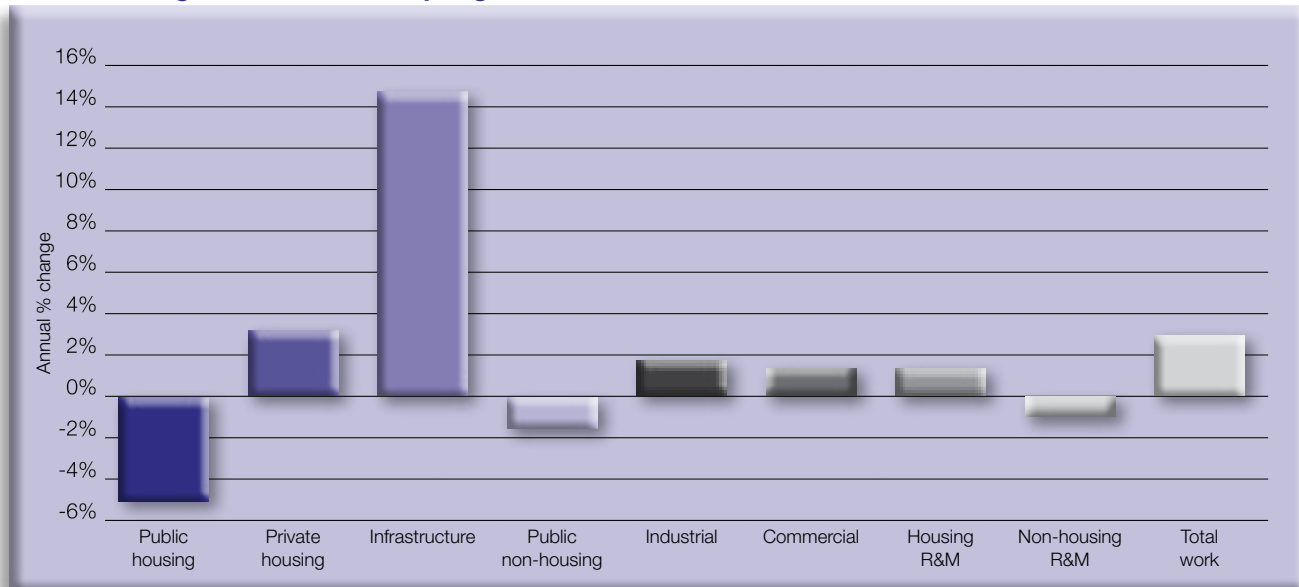
is planning in 2013 to launch a home-grown version of the English NewBuy scheme, where lenders are able to offer up to 95% mortgages to those looking to buy a new build property, in an effort to support new house building.

The commercial and industrial construction sectors are forecast to see only modest average annual growth at best, with increases of 1.4% and 1.8% per year, respectively. Both sectors are expected to return to growth in 2014 and see moderate increases in the remaining years of the forecast period. On the commercial construction side, there are nearly £1bn worth of developments in the pipeline but the issue is when they will come to fruition in light of the weakness in the wider economic environment. A more sustained recovery and returning export demand should stimulate investment in both manufacturing and commercial developments.

Prospects for the public non-housing sector remain downbeat, with an average decline of 1.6% per year forecast for the 2013-2017 period. However, this reflects a particularly weak performance in the short term, with growth expected to return to the sector in 2015. The big programme of education investment going forwards is the £1.4bn 21st Century Schools, although it will not start until 2014/15. However, industry sources have indicated that the programme contains only £130m of additional money over

The best performing sector over the forecast period is infrastructure, with average growth of 14.3% per year

Annual average construction output growth 2013-2017 – Wales



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

Construction output – Wales (£ million, 2005 prices)

	Estimate 2012	Forecast annual % change					Annual average 2013-17
		2013	2014	2015	2016	2017	
Public housing	149	-25%	0%	1%	1%	2%	-4.9%
Private housing	482	1%	7%	4%	2%	2%	3.1%
Infrastructure	401	1%	1%	14%	47%	14%	14.3%
Public non-housing	451	-18%	-4%	5%	6%	5%	-1.6%
Industrial	129	-1%	3%	4%	2%	2%	1.8%
Commercial	758	-5%	2%	4%	3%	3%	1.4%
New work	2,370	-6%	2%	6%	12%	6%	3.6%
Housing R&M	521	-2%	1%	3%	3%	2%	1.4%
Non-housing R&M	472	-5%	-2%	1%	1%	1%	-0.9%
R&M	993	-4%	-1%	2%	2%	2%	0.3%
Total work	3,363	-5%	1%	5%	9%	5%	2.7%

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

its seven-year lifetime than will have been spent over the seven years to its start. Therefore, it will provide only a weak boost to output.

On the health side, the biggest project currently on site is the £106m Ysbyty Glan Clwyd redevelopment in Rhyl which is due to complete in 2018, having started in 2011. There are three projects in the pipeline worth over £100m each, the £273m new specialist critical care centre at Torfaen, the £120m refurbishment of Prince Charles Hospital in Merthyr Tydfil and the £108m new mental health unit at Llandough Hospital in Cardiff. All three schemes are expected to start in 2013 or 2014.

2.10 Beyond 2017

The latest information from the NIA suggests that enabling works for Wylfa nuclear power station in Anglesey could start as early as 2015, with main construction due to start towards the end of 2016. Work should continue beyond the current forecast period, with full power at the site not

expected until the beginning of 2023. It will therefore provide a stream of output for the construction sector into the 2020s.

Plans for a tidal barrage across the Severn Estuary were abandoned in 2010 as the cost was deemed to be too high. However, the Government has recently asked for proposals for the £30bn scheme to be re-examined, with funding possibly coming from investors rather than the taxpayer. It is thought that it could generate 5% of the UK's electricity and be operational for up to 120 years.

Wales and Scotland remain committed to investment in retrofitting the domestic housing stock, and there is the potential for this work, along with investment in microgeneration measures to provide a substantial boost to construction output beyond the current forecast period. In Wales, the Arbed scheme is ongoing – the first phase was completed in 2011 – with up to £1bn expected to be invested from a number of sources to 2020.

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 2011, the forecast total employment in 26 occupations and in the industry as a whole between 2013 and 2017. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

Construction output in Wales is expected to return to growth in 2014, but the lag between output and employment is projected to affect employment to the end of the forecast period. However, employment in the principality is forecast to stabilise in 2016 and 2017, reaching 92,910 by the end of the forecast period. However, falls in the early years of the forecast period mean that Welsh construction employment is expected to decline by 1.5% per year on average over the five years to 2017.

The largest construction-specific occupation in Wales in 2011 was wood trades and interior fit-out, which took a 13% share of total construction employment, followed by plumbing and heating ventilation and air conditioning (HVAC) trades with an 8% share. This is a similar profile to the UK as a whole, although the shares for those occupations were a little different at 11% and 6%, respectively.

Despite overall declines in construction employment in Wales, there are a number of occupations which are forecast to see employment rise over the forecast period, albeit only weally. The strongest increase is expected for plasterers and dry liners with an average annual growth rate of 1.4%, followed by surveyors (1%) and plant mechanics/fitters with an average increase of 0.9% per year. In contrast the most marked falls are for specialist building operatives nec with an annual average decline of 4.3% and painters and decorators, and steel erectors (-3.2% each).

Total employment by occupation – Wales

	Actual 2011	Forecast	
		2013	2017
Senior, executive, and business process managers	3,590	3,560	3,540
Construction managers	5,250	5,300	5,510
Non-construction professional, technical, IT, and other office-based staff	7,530	7,620	7,720
Wood trades and interior fit-out	13,240	12,720	12,330
Bricklayers	4,460	4,250	3,980
Building envelope specialists	4,500	4,330	4,150
Painters and decorators	6,460	5,670	5,140
Plasterers and dry liners	1,720	1,820	1,940
Roofers	1,040	940	880
Floorers	1,340	1,280	1,180
Glaziers	2,350	2,270	2,300
Specialist building operatives nec*	3,520	2,950	2,590
Scaffolders	490	480	500
Plant operatives	1,710	1,580	1,420
Plant mechanics/fitters	1,550	1,530	1,640
Steel erectors/structural	2,460	2,250	2,020
Labourers nec*	5,800	5,220	4,870
Electrical trades and installation	5,650	5,330	4,770
Plumbing and HVAC trades	8,370	7,940	7,440
Logistics	1,250	1,190	1,140
Civil engineering operatives nec*	2,430	2,340	2,310
Non-construction operatives	3,350	3,010	2,710
Civil engineers	3,180	3,210	3,150
Other construction professionals and technical staff	7,120	6,770	6,590
Architects	1,020	1,040	1,090
Surveyors	1,840	1,860	2,000
Total (SIC 41-43)	88,060	83,580	80,080
Total (SIC 41-43, 71.1, 74.9)	101,220	96,460	92,910

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

3.2 Annual recruitment requirements (ARR) by occupation

The ARR is a gross requirement that takes into account workforce flows into and out of construction, due to factors such as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, due to the inconsistency and coverage of supply data. Therefore, the 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 2,950 is indicative of the average requirements per year in the industry, as based on the output forecasts for the devolved nation. 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 3.1% of projected base 2013 employment, substantially higher than the UK average of 1.2% and the strongest of all the regions and devolved nations. This is traditionally the case as Wales tends to suffer from net outflows of construction workers to other industries and other regions, especially the South West and North West. To illustrate this, Wales has an annual average net outflow of more than 4,300, the fourth largest after the South East (6,700), the North West (4,800) and the East of England (4,500). Therefore it has larger net outflows than many regions that are much bigger than it in output and employment terms. If we look at a region of comparable

size, the North East, that only has an annual average net outflow of 1,600. The larger the net outflow, the bigger the replacement needed.

In absolute terms, the largest requirements for trade occupations are for labourers nec (460), bricklayers (380) and wood trades and interior fit-out (330). However, in terms of base 2013 employment, plant operatives (12.7%), bricklayers (8.9%), and labourers nec (8.8%) are expected to be most in demand.

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

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

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

Annual recruitment requirement by occupation – Wales

	2013-2017
Senior, executive, and business process managers	110
Construction managers	190
Non-construction professional, technical, IT, and other office-based staff	400
Wood trades and interior fit-out	330
Bricklayers	380
Building envelope specialists	250
Painters and decorators	-
Plasterers and dry liners	50
Roofers	-
Floorers	50
Glaziers	100
Specialist building operatives nec*	-
Scaffolders	<50
Plant operatives	200
Plant mechanics/fitters	-
Steel erectors/structural	-
Labourers nec*	460
Electrical trades and installation	50
Plumbing and HVAC trades	140
Logistics	80
Civil engineering operatives nec*	<50
Non-construction operatives	-
Civil engineers	<50
Other construction professionals and technical staff	<50
Architects	-
Surveyors	<50
Total (SIC 41-43)	2,850
Total (SIC 41-43, 71.1, 74.9)	2,950

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

4. Comparisons across the UK

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

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

The profile of employment changes across the regions and devolved nations is different to that of output over the period to 2017. The relationship between overall output and employment is not straightforward given that some sectors are much more labour-intensive than others, and the relative

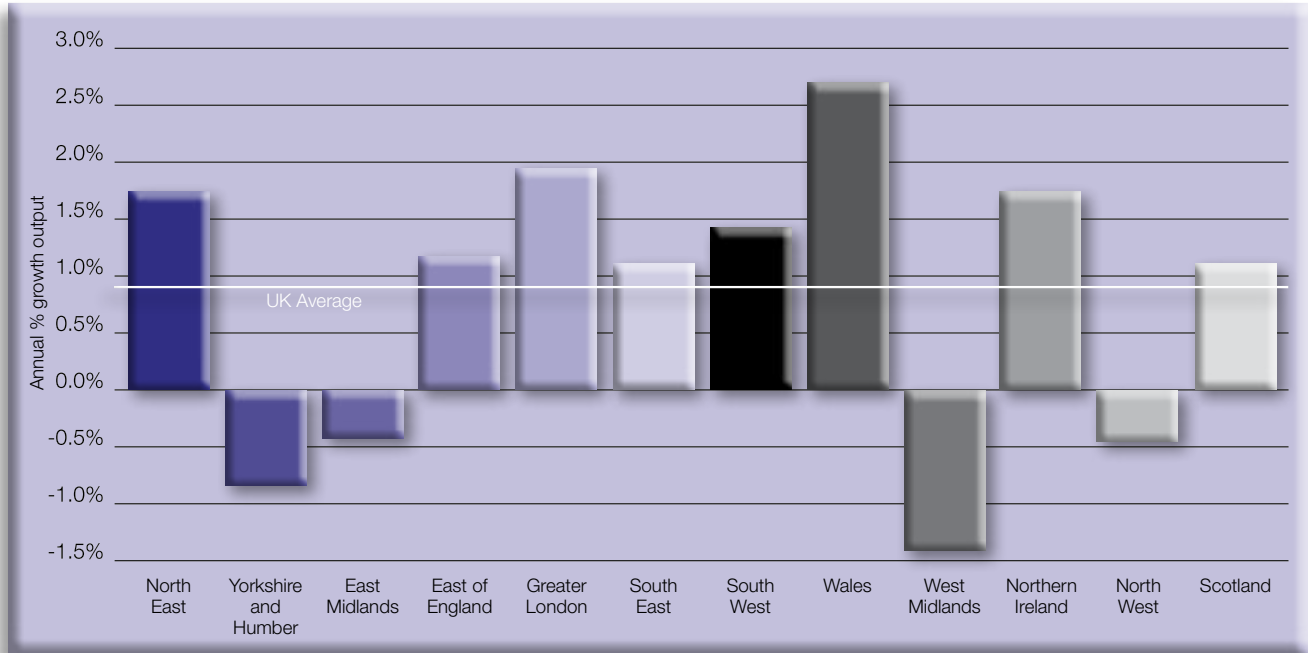
performances of the sectors within overall output impacts on the prospects for employment across the UK. For example, Wales' output growth is largely predicated on the new nuclear power station at Wylfa and new nuclear build is one of the least labour intensive areas of the construction industry. Greater London and the East of England are the only two regions predicted to see employment growth over the forecast period, and even here it is very weak.

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



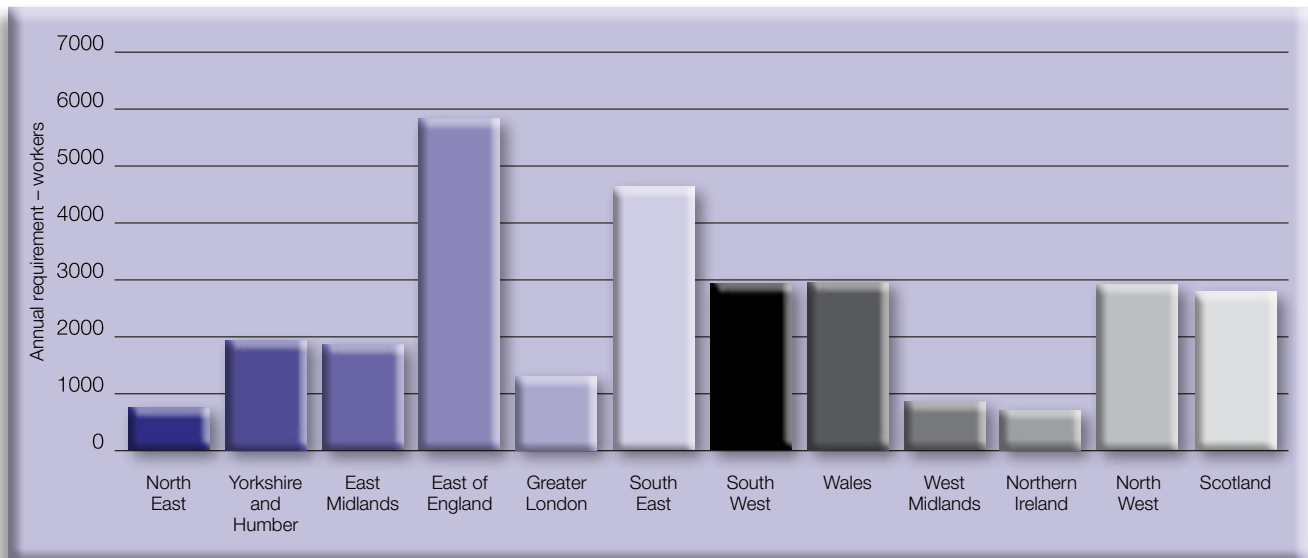
Construction employment in Wales is forecast to stabilise in 2016 and 2017, reaching 92,910 by the end of the forecast period

Annual average output growth by region 2013-2017



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

Annual recruitment requirement (ARR) by region 2013-2017



Source: CSN, Experian



CSN Explained

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

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

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

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

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

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



1. CSN Methodology

Background

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

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

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

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

The model approach

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

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

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

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

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

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

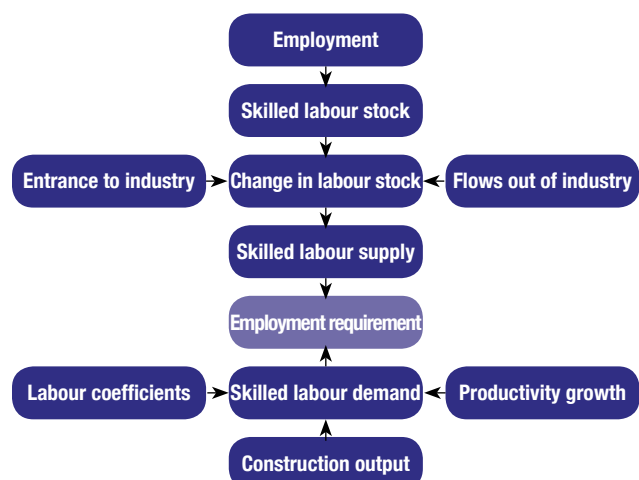
The main reason for outflow is likely to be transfer to other industries.

Flows into the labour market include:

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

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

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



2. Glossary of Terms

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



3. Notes and Footprints

Notes

- 1 Except for Northern Ireland, output data for the English regions, Scotland and Wales are supplied by the Office for National Statistics (ONS) on a current price basis. Therefore national deflators produced by the ONS have been used to deflate to a 2005 constant price basis, i.e. the effects of inflation have been stripped out.
- 2 The annual average growth rate of output is a compound average growth rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.
- 3 Only selected components of gross value added (GVA) are shown in this table and so do not sum to the total.
- 4 For new construction orders comparison is made with Great Britain rather than the UK, owing to the fact that there are no orders data series for Northern Ireland.
- 5 Employment numbers are rounded to the nearest 10.
- 6 The tables include data relating to plumbers and electricians. As part of SIC 43, plumbers and electricians working in contracting are an integral part of the construction process. However, it is recognised by CITB-ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC codes, including SIC 43.2.
- 7 The employment and ARR tables show separate totals for SIC 41-43 and SIC 41-43, 71.1 and 74.9. The total for SIC 41-43 covers the first 22 occupational groups on the relevant tables and excludes civil engineers, other construction professionals and technical staff, architects and surveyors. The total for SIC 41-43, 71.1 and 74.9 includes all occupations.

Footprints for Built Environment SSCs

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

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

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

SummitSkills

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

Coverage – Building Services Engineering.

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

AssetSkills

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

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

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

Energy and Utility Skills

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

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

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

* AssetSkills has a peripheral interest in SIC 71.1

4. Definitions: types and examples of construction work

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

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

Private sector housing

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

Infrastructure – public and private

Water

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

Sewerage

Sewage disposal works, laying of sewers and surface drains.

Electricity

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

Gas, communications, air transport

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

Railways

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

Harbours

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

Roads

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

Public non-residential construction¹

Factories and warehouses

Publicly owned factories, warehouses, skill centres.

Oil, steel, coal

Now restricted to remedial works for public sector residual bodies.

Schools, colleges, universities

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

Health

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

Offices

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

Entertainment

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

Garages

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

Shops

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

Agriculture

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

Miscellaneous

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

Private industrial work

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

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

Private commercial work²

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 property³.

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 maintenance⁴.



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

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

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

5. Occupational Groups

Occupational group

Description, SOC (2000) reference.

Senior, executive and business process managers

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

Construction managers

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

Non-construction professional, technical, IT, and other office-based staff (excl. managers)

IT operations technicians, 3131
IT user support technicians, 3132
Estimators, valuers and assessors, 3531
Finance and investment analysts/advisers, 3534
Taxation experts, 3535
Financial and accounting technicians, 3537
Vocational and Industrial trainers and instructors, 3563
Business and related associate professionals nec*, 3539
Legal associate professionals, 3520
Inspectors of factories, utilities and trading standards, 3565
Software professionals, 2132
IT strategy and planning professionals, 2131
Estate agents, auctioneers, 3544
Solicitors and lawyers, judges and coroners, 2411
Legal professionals nec*, 2419
Chartered and certified accountants, 2421
Management accountants, 2422
Management consultants, actuaries, economists and statisticians, 2423
Receptionists, 4216
Typists, 4217
Sales representatives, 3542
Civil Service administrative officers and assistants, 4112

Local government clerical officers and assistants, 4113
Accounts and wages clerks, book-keepers, other financial clerks, 4122
Filing and other records assistants/clerks, 4131
Stock control clerks, 4133
Database assistants/clerks, 4136
Telephonists, 4141
Communication operators, 4142
General office assistants/clerks, 4150
Personal assistants and other secretaries, 4215
Sales and retail assistants, 7111
Telephone salespersons, 7113
Buyers and purchasing officers (50%), 3541
Marketing associate professionals, 3543
Personnel and industrial relations officers, 3562
Credit controllers, 4121
Market research interviewers, 4137
Company secretaries (excluding qualified chartered secretaries), 4214
Sales related occupations nec*, 7129
Call centre agents/operators, 7211
Customer care occupations, 7212
Elementary office occupations nec*, 9219

Wood trades and interior fit-out

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

Bricklayers

Bricklayers, masons, 5312

Building envelope specialists

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

Painters and decorators

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

Plasterers and dry liners

Plasterers, 5321

Roofers

Roofers, roof tilers and slaters, 5313

Floorers

Floorers and wall tilers, 5322

Glaziers

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

Specialist building operatives nec*

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

Scaffolders

Scaffolders, staggers, riggers, 8141

Plant operatives

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

Plant mechanics/fitters

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

Steel erectors/structural

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

Labourers nec*

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

Electrical trades and installation

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

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

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

Logistics

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

Civil engineering operatives nec*

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

Non-construction operatives

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

Civil engineers

Civil engineers, 2121

**Other construction professionals
and technical staff**

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

Architects

Architects, 2431

Surveyors

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

* not elsewhere classified

6. CSN website and contact details

The CSN website – www.cskills.org/csn

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

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

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

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

The website also contains further information about:

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

The CSN website can be found at:

www.cskills.org/csn

CSN members area

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

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

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

CSN members therefore have:

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

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

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

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

Contact details

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

csn@cskills.org



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